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INFLATION IN THE EU COUNTRIES AS COMPARED TO SELECTED STATES IN THE WORLD

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Key words: inflation, integration, globalisation.

Abstract

Level and convergence of inflation rate in the EU states was examined with the use of three groups of countries. The first group was composed of the 12 richest and most developed countries of the world that do not belong to the EU. Another control group included the 12 poorest countries of the world, and the third one included the so-called "former" European Union states. The conducted analysis of the period 1980–2006 indicated that the reduction of inflation rate was faster and stronger in rich countries – both as regards EU members and those that remain outside this integration group – than in poor countries. Although a long-term convergence of inflation in the EU countries is the highest, the existing differences show that the main cause of its reduction is the neo-liberal concept of maintaining a constant low rate of price increase as one of the conditions ensuring a stable rate of economic growth.

INFLACJA W KRAJACH UNII EUROPEJSKIEJ NA TLE WYBRANYCH PAŃSTW NA ŚWIECIE

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Słowa kluczowe: inflacja, integracja, globalizacja.

Abstrakt

Poziom i zbieżność stopy inflacji w krajach Unii Europejskiej zbadano w trzech grupach krajów. Pierwsza to 12 najbogatszych i najbardziej rozwiniętych krajów świata, które nie należą do UE. Druga grupa, kontrolna, to 12 najbiedniejszych krajów świata i trzecia – 15 tzw. awnych krajów Unii Europejskiej. Analiza lat 1980–2006 wykazała, że stopa inflacji obniża się szybciej i silniej w krajach bogatych, zarówno należących do UE, jak i pozostających poza tym ugrupowaniem integracyjnym, niż w krajach biednych. Długookresowa zbieżność inflacji w krajach UE jest wprawdzie największa, ale istniejące różnice wskazują, że główną przyczyną jej obniżania jest neoliberalna koncepcja utrzymania trwałego niskiego tempa wzrostu cen jako jednego z warunków stabilnego tempa wzrostu gospodarczego.

Introduction

The theory of integration distinguishes a horizontal integration, consisting in including an increasing number of countries into a commonly realized policy, and a vertical integration. The vertical integration consists in increasing the range and the scope of relations between the countries. A theory regarding integration of states which apply the market economy system distinguishes five stages of the process of integration between countries (HELLER, GALKO 2005, p. 67).

- free trade area,
- customs union,
- common market,
- economic and monetary union,
- full economic union.

Currently, the most advanced integration group is the European Union, now at the stage of building an economic and monetary union. The European Union Treaty, signed in Maastricht on February 7, 1992 (the Treaty was effective on November 1, 1993) specified the basic characteristics of the Union, its Central Bank, national budgetary procedures within the Union, procedures governing the decision making processes in the Community institutions, criteria that the EU countries should meet in order to join the Economic Union, as well as the schedule of its formation (*Unia Europejska*. 2002). The European Union Council, at the summit in Copenhagen in 1993, specified the criteria for countries wanting to join the European Union. It was established that countries that have already been, or will be in the future, associated with the EU will be accepted to join the Union provided that they submit such an application and are able to satisfy the political and economic conditions of membership. One of these criteria is the obligation to participate in the formation of the Economic and Monetary Union. These countries are obliged to conduct such budgetary and monetary policy that would satisfy the convergence criteria of Maastricht as regards deficit, public debt and inflation (POPIUK-RYSIŃSKA 1998, p. 116, DOLIWA-KLEPACKI 2001, p. 82). After the summit in Copenhagen, candidate states, while submitting their application for membership, committed themselves to make the necessary adjustments to join the Economic and Monetary Union.

According to the traditional theory of optimum currency areas of R. Mundell, countries can create an optimum area if they are able to handle asymmetric shocks. One of the most important optimization criteria is the convergence of inflation (CZARCZYŃSKA, ŚLEDZIEWSKA 2007, p. 153). Similar preferences of unemployment and inflation rates, understood as substitution values and diversification of products as a criterion of optimum currency area,

were proposed by Kenen as early as in 1969. Analyses of issues related to the inflation level were presented by CORDEN (1972), FLEMING (1971) and GRAUWE (1975). This condition means *ceteris paribus* a higher possibility of maintaining the balance of current payments in case of more rigid exchange rates within a given area, with a similar inflation rate, as compared to a differentiated one. The lack of external balance often results from the differences between national inflation rates, caused by disproportions in structural development, various level of trade “aggression” within the Union, as well as different preferences in conducting a national monetary policy (CZARCZYŃSKA, ŚLEDZIEWSKA 2007, p. 164). Therefore, having in view the macroeconomic safety and the protection of a common currency against excessive inflation, only those states that have a good economic situation which is similar (convergent) to the situation of other members of the zone can be admitted to the Euro zone. Member states, when signing the Maastricht Treaty, committed themselves to a relatively high unification of inflation level.

In the long term, the Philips curve is vertical, which means that there is no substitutability between inflation and unemployment. The Maastricht Treaty, to some extent, provides administrative protection against the risk that national politicians, using an administrative method, may choose suboptimal actions (a decrease in unemployment rate at the cost of high inflation). The point here is not compliance with measurable criteria of convergence, but also the independence of the central bank, bestowed by the Treaty (both on the Union level and on the national level), the basic aim of which is to maintain a stable level of prices. The autonomy of the central bank provides an efficient solution, reducing inflation both in theory and in practice (BRZOZOWSKI, GIERALTOWSKI, MILCZAREK, SIWIŃSKA-GORZELAK 2006, p. 163). Apart from this, the Stability and Growth Pact in an administrative way governs the rules of fiscal policy, which is intended to eliminate the pressure from this policy on the increase in inflation.

Fears that joining the Euro zone would result in higher inflation turned out to be groundless (MONGELLI, VEGA 2006, ANGELONI et al. 2006). Convergence criteria from Maastricht and the Stability and Growth Pact impose an obligation of maintaining stable macroeconomic conditions. In addition, the states outside the Euro zone comply with these rules (Denmark, United Kingdom and Sweden).

However, it is not the fact of joining the Euro zone that results in low and unified inflation. Integration cannot be discussed in isolation from the phenomenon of globalisation. The current phenomenon of globalisation is inseparably related to the liberalization of international trade, freedom of capital, people and information flow. The process of economical globalisation is, as a matter of fact, the expansion of capital over the state borders, while

observing at the same time the principles of liberalized free market. There is a group of countries, in which the shortage of capital resources provides a considerable restraint to development. This capital could be used, but a numerous group of its potential recipients competes for the access to its resources. The owner and the holders of its resources direct them to the areas where they can bring about appropriate profits (HELLER 2003, p. 22). Besides potential profits, also the safety of involved means is taken into consideration. Inflation is one of the most serious dangers for money holders, since it reduces the real value of money. Consequently, a country beset with high inflation is not attractive for investors. A free flow of goods and services can contribute to "importing" inflation along with import of goods and services. If exchange rates are made more rigid, inflation – apart from the fact that it causes imbalances in the monetary market – will deteriorate export competitiveness. It can be expected that in an increasingly globalised world, inflation preferences would begin to even out.

What is also important is the individual approach of specific countries to the problem of inflation. In the long term, inflation is a monetary phenomenon – in the sense that it exists when it is established or even tolerated by monetary authorities (ANGELONI et al. 2006). Of course, inflation is not established by anybody *ex ante*, yet monetary authorities, while using a monetary policy, strive to reach the assumed aim. It is particularly clear with the strategy of direct inflation target, where a targeted inflation rate (assumed in advance) constitutes a monetary anchor, while the aim of monetary and fiscal policy is to reach a planned inflation objective (CORBO, SCHMIDT-HEBEL 2002, p. 7).

Better developed countries have departed from the policy of developed interventionism, based on the Keynesian policy, in favour of the application of policy recommended by neo-liberal trends. At the beginning of the eighties, "founders of anti-inflation policy in the United Kingdom and, to a more limited extent, in the USA (and afterwards in most OECD countries) were inspired by the achievements of a new classical economy, and at the same time explicitly renounced from any relations with the Keynesian thought" (WOJTYNA 2000, p. 135).

Neo-liberal trends, such as monetarism of Milton Friedman, take the view that the best they can do is to ensure a low and stable inflation, ideally a "zero" one (FRIEDMAN 1994, p. 271). A conception of rational expectations leads to more radical anti-Keynesian conclusions: governments can influence nominal variables, such as inflation rate, but they are helpless toward real variables (BLAUG 2000, p. 725). Criticism of discretionary economic policy, initiated by Friedman, has been sustained by a new classical macroeconomy, which is of the opinion that the only certain effects of discretionary policy are inflation and an increase in uncertainty in business processes. Finn Kydland and Edward

Prescott, using the hypothesis of rational expectation and game theory, prove that the best economic policy is based on steady principles and reliability (GODŁÓW-LEGIEDŹ 2005, p. 562), and inflation-targeting policy is also ranked as such. In the 1990s, the application of inflation-targeting policy became common in developed countries (the first was New Zealand in 1990), which is related to stable and reliable money. Policy targeted at price stability results from the conviction that it contributes, to a high extent, to the improvement of living standards of citizens and has a positive effect on the economy, which particularly refers to economical growth and employment. Institutional solutions, such as an independent central bank, the basic aim of which is to ensure the stability of prices, serve this purpose (SZELAĞ 2003, p. 12).

In the light of quoted ideas and opinions, it should be interesting to examine the effect of the economic integration within the European Union on the process of lowering and unifying inflation rates in its member states.

Aim, scope and methodology of research

The aim of the research was to compare the average inflation rate and its dispersion in 15 countries of the European Union with the richest and the poorest countries of the world that do not belong to the EU. An annualised unweighted mean rate of inflation based on CPI was used for this purpose. Dispersion was measured with the application of a standard deviation and a coefficient of variation, which were calculated separately for the three examined groups of countries in subsequent years.

Two research hypotheses were formulated:

Hypothesis 1: In 1980–2006, the best developed countries demonstrated a global tendency to reduce inflation rate and to maintain it at a low level, regardless of EU membership.

Hypothesis 2: The European integration process improves the unification of inflation among member states, but a dominating factor is the level of development of 15 countries, the so-called “old” EU.

The time frame of the research covers the period of 1980–2006. The choice of 1980 as a starting point is dictated by the fact that the European Currency System became effective on March 13, 1979 (BOROWIEC 2001, p. 27). In addition, such a long period of time covers several stages of integration, i.e. customs union, common market, economic and monetary union and direct stages, such as an incomplete common market.

Three groups of countries were compared in order to examine whether the proceeding unification of inflation rate among the countries of the European Union is the effect of proceeding integration or constitutes a global tendency.

The first group consists of the 15 countries that formed the European Union in 1995. Austria, Finland and Sweden joined the EU in 1995, but as early as in the 1970s, agreements were concluded with those states (also other members of EFTA) that anticipated creation of a zone of free trade in industrial goods within a few years (DOLIWA-KLEPACKI 2001, pp. 107–108). In the case of Spain and Portugal, the process of integration began earlier than the date of their formal admission to the EEC. The convergence criteria of Maastricht were also mandatory for other countries, the ones that negotiated the possibility of maintaining their national currencies. As follows from this, the research on the process of inflation rate formation should also cover Denmark, Sweden and the United Kingdom. Consequently, the 15 states which formed the EU in 1995 were treated as one integration group for the whole period covered by the research.

The second group is composed of the 12 richest and most developed countries of the world, which are not members of the EU. A selection criterion for this group was the highest Gross National Income per capita, according to the data provided by the International Monetary Fund and non-membership in the European Union. This group included: Canada, Japan, USA, Australia, New Zealand, Norway, Switzerland, Hong Kong, Singapore, Taiwan, Korea and Israel.

The third control group is composed of 12 countries which, according to the International Monetary Fund, had the lowest national income per capita, and for which the data concerning inflation were available. They include Burundi, Malawi, Ethiopia, Guinea Bissau, Myanmar, Sierra Leone, Rwanda, Niger, Madagascar, Uganda, Gambia and Tanzania.

The research used a database of the International Monetary Fund, *World Economic Outlook 2007*.

Results

In the case of all examined groups of states, the decade of the 1980s had a higher inflation rate in comparison to the later period. A decreasing trend is observed in all examined groups. In the short term, prices depend on the result of numerous forces, but in the long term, monetary authorities are responsible for the level of inflation. In the period covered by the study, a global tendency towards lower inflation rates can be noticed. According to the monetarists, a new classical economy and a supply economy with stable currency creates a basis for stable functioning of national state economies and long-term economic growth. In the group of the poorest states examined, the average rate of inflation was significantly higher than in both groups of the richest countries under analysis.

The average level of inflation was the highest in the poorest countries group throughout the period of analysis. The exception was 1984, when the average inflation in the group of the richest states that do not belong to the EU was 34.4% and exceeded the average rate of inflation in the poorest countries (22%). Within 27 years under examination, the average inflation rate in the group of the poorest countries ranged from 7.7% (in 2006) to 52% (in 1987). Rich countries which are not members of the EU reported the lowest average growth of price level in 1999 (0.9%), and the highest in 1984 (34.4%). The average inflation rate in the EU ranged from 1.5% in 1999 to 11.9% in 1981. An arithmetic mean is a value sensitive to extreme values, and particularly to high ones. Until 1987, averaged results in the richest countries outside the EU are inflated by Israel (the maximum inflation rate was 368% in 1984). Israel is one of the most developed countries in its region, actively participating in globalisation processes, even aspiring to membership in the EU. Those arguments weigh in favour of including Israel in the research. Figure 1 presents an unweighted mean rate of inflation in selected groups of countries (including Israel).

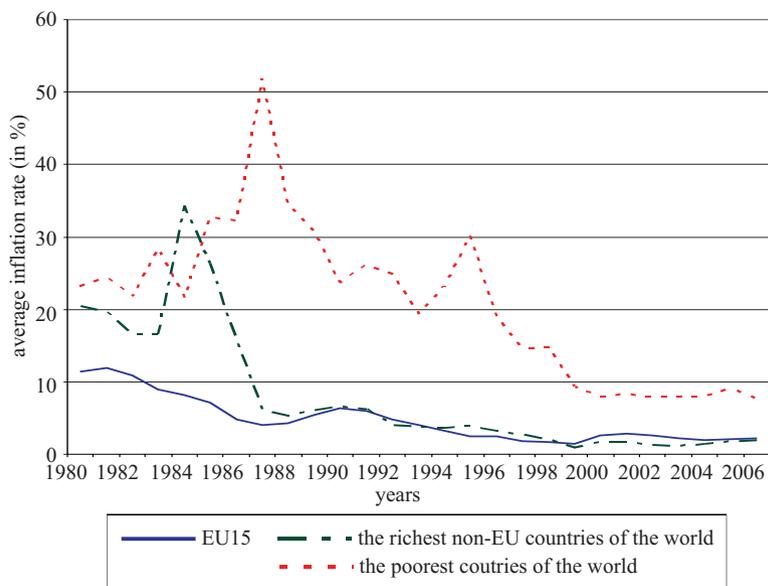


Fig. 1. Average inflation

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

Figure 2 omits Israel. After eliminating this country from the study, the average inflation rate in the group of rich countries that are not EU members does not exceed 12.2% and does not significantly differ from the average in the EU,

while in the 1980s and at the beginning of the 21st century it is even lower. Differences in the average level of inflation between the two groups of rich countries (EU members and non-EU members) are not large, and in the last decade they do not exceed 1.5 per cent. Israel carried out an efficient anti-inflation campaign and in the other half of the examined period, the rate of inflation in this country does not significantly differ from the results obtained by other developed countries.

However, the average unweighted rate of inflation in the group of the poorest countries is significantly much higher. In the 21st century, the poorest states have been able to maintain inflation rates below 10% (the average in 2000–2006 is 8.2%), however it is still about 6 percentage points higher than in both groups of rich states. The results obtained support hypothesis 1. Highly developed countries, both belonging to the EU and remaining outside this group, had a similar decrease in inflation levels during the period under examination. Therefore, the EU membership did not result in lowering the level of inflation among the richest European states to a much higher extent than occurred in the group of the 12 richest countries of the world, which did not form the European Union.

In order to measure diversity inside the groups of states under examination, a standard deviation was calculated for individual years. Standard deviation that decreases over time proves the growth of inflation convergence

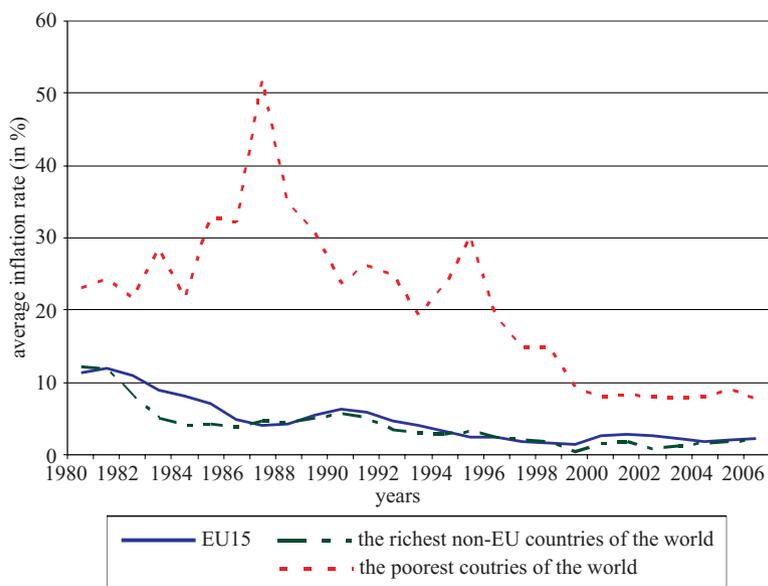


Fig. 2. Average inflation excluding Israel

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

in all groups under examination. The scale of this phenomenon is also important. In the EU countries, standard deviation decreased from 5.5 in the 1980s to 0.7 at the end of the period under examination. Among the rest of the richest countries, standard deviation of inflation grew in the first half of the 1980s (taking Israel into consideration), reaching the value of 105, and afterwards, successively decreasing, reaching the value of slightly over 1 at the end of the period under examination.

If we omit Israel, beset with a very high inflation in the 1980s, the maximum value of standard deviation is 7.2 in 1980 (Fig. 3).

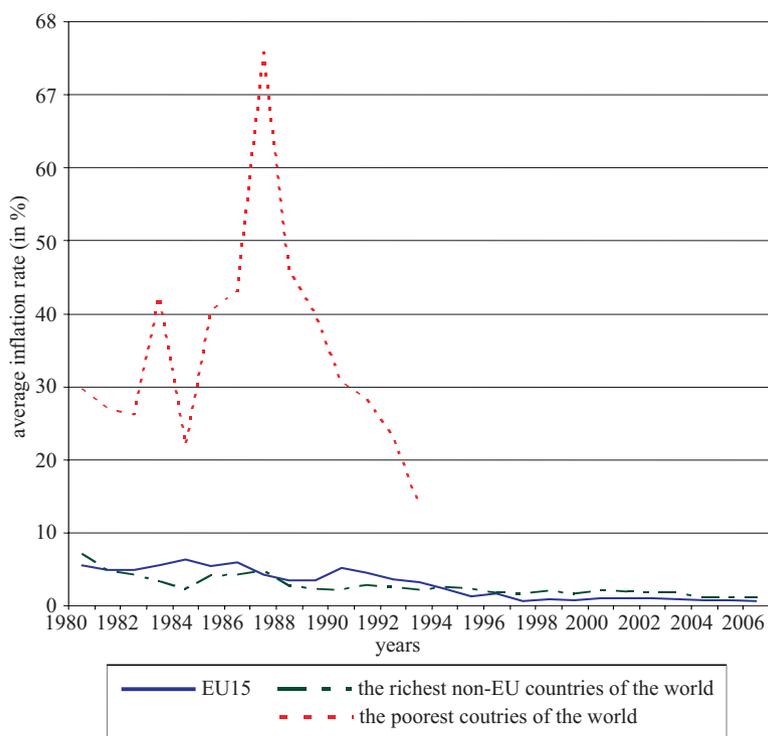


Fig. 3. Standard deviation of inflation

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

Inflation dispersion, measured with the use of standard deviation in both groups of rich states, does not significantly differ. In addition, the rate of its decrease is similar.

Definitely stronger diversification of the inflation rate is observed in the group of the poorest countries under examination. The value of standard deviation ranges from 75 in 1987 to 4.5 in 2005. It is only starting in 1988 that

a decrease of standard deviation, i.e. an increase in inflation convergence can be noticed, but for the whole period under analysis, a much higher level of diversification is observed in comparison to the other two groups. This means that the process of European inflation had no effect on increasing or accelerating the unification of inflation. What seems to be more significant is the adoption of a neo-liberal policy, which is characteristic of rich countries.

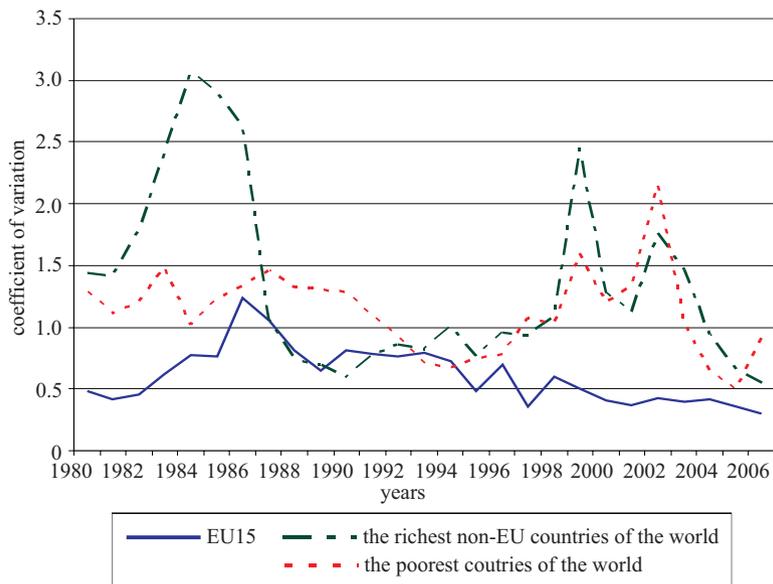


Fig. 4. Coefficient of inflation variation

Source: Own work on the basis of the data provided by the International Monetary Fund, *World Economic Outlook 2007*.

Standard deviation is a measurement of absolute differentiation. It can have a high value for the last of the examined groups, since it is characterized by the highest average inflation. Therefore, the coefficient of variation was also calculated, as it provides an absolute measurement (Fig. 4).

No decreasing tendency of the coefficient of variation is observed in the two groups of countries that do not belong to the EU, both as regards the richest and the poorest ones. Additionally, in both of these groups, the value of this coefficient is two or three times higher than in the EU states. The growth in the coefficient of variation in the group of the richest countries is the result of deflation which occurred in 1999–2003 in two countries (Japan and Hong Kong). After eliminating Japan and Hong Kong, which were troubled with deflation, the average value of the coefficient of variation in 1980–2006 is 1.14,

while in 1990–2006 it is 0.79, which means that it is still higher than for the group of EU members (0.69 and 0.54, respectively). For the EU countries, the value of the coefficient of variation grows to 1986, reaching a maximum value of 1.23, to successively drop afterwards and reach the value of 0.3 in the last year under examination. The coefficient of variation starts to decrease in 1987. In that year, the Single European Act became effective, which boosted the process of building the common market (GAWLIKOWSKA-HUECKEL, ZIELIŃSKA-GŁĘBOCKA 2004 p. 76). This means that intensification of integration, which is necessary to enter its subsequent level – a common market – initiates unification of monetary policy results. In almost the whole period under examination, the value of the coefficient of variation is lower for the European Union countries than for the remaining ones, therefore, the relative unification of inflation is higher.

However, taking into consideration the fact that in both groups of the richest countries (particularly in the second half of the period under examination) there is low inflation, diversification of its level can be regarded as low. A definitely higher inflation coefficient of variation is characteristic for the group of the poorest countries. Inflation convergence is higher among the richest countries than among the poorest ones. Additionally, the process of integration favours the convergence of inflation, although the analysis of statistical data does not indicate that the process of European integration played a key role here. In view of the foregoing, hypothesis 2 can be regarded as positively verified.

Summary

In the mid-1980s, a very characteristic and significant process began, which is particularly visible in highly developed countries. It was assumed at that time that one of the conditions of permanent and stable economic growth was a low rate of price growth. This neo-liberal trend resulted in the practice of rich (highly developed) countries to rapidly seek a lowering of the rate of price growth, followed by the relatively permanent maintenance of inflation at a low level.

As results from the research, diversification of inflation decreases inside all three groups of states under examination, as measured by the standard deviation. Differences in inflation dispersion between the EU countries and the richest, non-EU states are not significant. However, diversification of inflation level is significantly higher among the poorest countries of the world. Convergence of inflation, measured with a coefficient of variation, successively proceeds from 1987 among the EU countries. In comparison with the two

control groups, it can be claimed that integration may contribute to slightly higher absolute convergence of inflation.

The process of European integration, which includes 15 countries of the so-called “former” European Union, had no significant effect on the acceleration of inflation decrease. The result obtained is rather a worldwide trend, characteristic particularly for rich countries. The provisions of the Maastricht Treaty – as regards criterion of inflation convergence – may have been helpful, yet they did not play a highly significant role in the process of inflation convergence and keeping it at a low level.

However, if in the economically-backward countries these processes run at a much slower rate, it may turn out that in the group of the so-called 12 “new” EU members, the institutional effects of the Maastricht Treaty indeed played a larger role in reducing the rate of price increase. It is possible that imitation of institutional solutions that favour the stability of prices already during the candidate period helps to improve living standards for citizens and has a positive effect on the economy, in particular, on economic growth and employment.

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Table 1
Annex 1
Inflation in the richest non-EU countries in 1980-2006

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Canada	10.20	12.50	10.70	5.90	4.30	4.00	4.10	4.40	4.00	5.00	4.80	5.60	1.50	1.90
Japan	7.80	4.90	2.70	1.90	2.30	2.00	0.60	0.10	0.60	2.30	3.10	3.30	1.70	1.30
United States	13.50	10.40	6.20	3.20	4.40	3.50	1.90	3.60	4.10	4.80	5.40	4.20	3.00	3.00
Australia	10.20	9.60	11.20	10.10	3.90	6.70	9.10	8.50	7.30	7.50	7.30	3.20	1.00	1.80
New Zealand	17.10	15.50	16.10	7.40	6.10	15.40	13.20	15.80	6.40	5.70	6.10	2.60	1.00	1.30
Norway	10.90	13.70	11.30	8.40	6.30	5.70	7.20	8.70	6.70	4.50	4.10	3.40	2.30	2.30
Switzerland	4.00	6.50	5.70	2.90	2.90	3.40	0.80	1.40	1.90	3.20	5.40	5.90	4.00	3.30
Hong Kong	4.40	9.50	10.90	10.00	8.60	3.60	3.60	5.70	7.80	10.20	10.30	11.30	9.50	8.80
Singapore	8.50	8.20	3.90	1.00	2.60	0.50	-1.40	0.50	1.50	2.30	3.50	3.40	2.30	2.30
Taiwan	19.00	16.30	3.00	1.40	0.00	-0.20	0.70	0.50	1.30	4.40	4.10	3.60	4.50	2.90
Korea	28.70	21.40	7.20	3.40	2.30	2.50	2.80	3.00	7.10	5.70	8.60	9.30	6.20	4.80
Israel	111.70	105.80	109.60	143.00	368.70	268.90	147.60	20.30	14.70	17.80	17.20	19.00	11.90	10.90

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Canada	0.20	2.20	1.60	1.60	1.00	1.70	2.70	2.50	2.30	2.70	1.80	2.20	2.00
Japan	0.70	-0.10	0.10	1.80	0.70	-0.30	-0.40	-0.80	-0.90	-0.20	0.00	-0.60	0.20
United States	2.60	2.80	2.90	2.30	1.50	2.20	3.40	2.80	1.60	2.30	2.70	3.40	3.20
Australia	1.90	4.60	2.60	0.30	0.90	1.50	4.50	4.40	3.00	2.80	2.30	2.70	3.50
New Zealand	1.80	3.70	2.30	1.20	1.30	-0.10	2.60	2.60	2.60	1.70	2.30	3.00	3.40
Norway	1.40	2.40	1.20	2.60	2.30	2.30	3.10	3.00	1.30	2.50	0.40	1.60	2.30
Switzerland	0.90	1.80	0.80	0.50	0.00	0.80	1.60	1.00	0.60	0.60	0.80	1.20	1.00
Hong Kong	8.80	9.00	6.30	5.80	2.80	-3.90	-3.70	-1.60	-3.00	-2.60	-0.40	0.90	2.00
Singapore	3.10	1.70	1.40	2.00	-0.30	0.00	1.30	1.00	-0.40	0.50	1.70	0.50	1.00
Taiwan	4.10	3.70	3.10	0.90	1.70	0.20	1.30	0.00	-0.20	-0.30	1.60	2.30	0.60
Korea	6.30	4.50	4.90	4.40	7.50	0.80	2.30	4.10	2.80	3.50	3.60	2.80	2.20
Israel	12.30	10.00	11.30	9.00	5.40	5.20	1.10	1.10	5.70	0.70	-0.40	1.30	2.10

Source: International Monetary Fund *World Economic Outlook 2007*.

Table 2
Annex 2
Inflation in the poorest countries of the world in 1980–2006

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Burundi	1.2	12.2	5.9	8.2	14.3	3.8	1.7	7.1	4.5	11.7	7	9	5.3	9.7
Malawi	19.2	12	9.5	13.8	19.7	10.6	14.2	25.1	33.8	12.5	11.9	8.2	23.2	22.8
Ethiopia	12.4	1.9	7.8	3.6	-0.3	18.4	5.5	-9.1	2.2	9.6	5.2	20.9	21	10
Guinea-Bissau	64.8	41.9	16.5	23.3	64.9	112.7	26.5	119.6	60.3	80.8	33	57.6	69.4	48.2
Myanmar	-0.1	1.4	5.2	5.9	5.2	6.3	14.7	17.6	24	23.8	21.9	29.1	22.3	33.6
Sierra Leone	12.9	23.4	26.9	68.5	66.6	76.6	80.9	178.7	34.3	60.8	110.9	102.7	65.5	22.2
Rwanda	7.2	6.4	12.6	6.6	5.4	1.7	-1.1	4.1	2.9	1	4.2	19.6	9.5	14.9
Niger	7.3	24.3	10.4	1.6	8.4	-1.1	-3.2	-6.6	0.6	-0.8	-2	1.5	-5.9	-0.3
Madagascar	18.3	30.5	31.9	19.5	9.7	10.6	14.5	15.5	26.3	9	11.8	8.5	14.6	10
Uganda	99.2	100	100	150	16.7	100	143.8	215.4	166.7	130.8	45.4	20.8	42.2	30
Gambia	5	7.9	8.2	10.6	22.1	18.3	56.6	23.7	11.5	8.3	12.2	8.6	9.5	6.5
Tanzania	30.2	30.3	25.7	28.9	27.1	36.1	33.3	32.4	47.7	20.6	22.6	28	21.9	23.6

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Burundi	14.7	19.4	26.4	31.1	12.5	3.4	24.3	9.3	-1.3	10.7	8	13.4	2.8
Malawi	34.7	83.1	37.7	9.1	29.8	44.8	29.6	27.2	14.9	9.6	11.6	12.3	9
Ethiopia	1.2	13.4	0.9	-6.4	3.6	4.8	6.2	-5.2	-7.2	15.1	8.6	6.8	12.3
Guinea-Bissau	15.2	45.4	50.7	49.1	8	-2.1	8.6	3.3	3.3	-3.5	0.8	3.4	1.9
Myanmar	22.4	28.9	20	33.9	49.1	10.9	-1.7	34.5	58.1	24.9	3.8	10.1	26.3
Sierra Leone	24.2	26	23.1	14.6	36	34.1	-0.9	2.6	-3.7	7.5	14.2	12.1	9.5
Rwanda	47.3	48.2	13.4	11.7	6.8	-2.4	3.9	3.4	2	7.4	12	9.2	5.5
Niger	35.5	10.9	5.3	2.9	4.5	-2.3	2.9	4	2.7	-1.8	0.4	7.8	0.1
Madagascar	39	49	19.8	4.5	6.2	8.1	10.7	6.9	16.2	-1.1	14	18.4	10.8
Uganda	5.8	6.8	7.5	7.7	5.8	0.2	5.8	4.5	-2	5.7	5	8	6.6
Gambia	1.7	7	1.1	2.8	1.1	3.8	0.9	4.5	8.6	17	14.2	3.2	1.5
Tanzania	37.1	24	20.5	15.4	13.2	9	6.2	5.1	4.6	4.4	4.1	4.4	5.8

Source: International Monetary Fund *World Economic Outlook 2007*.

Table 3
Inflation in the EU15 countries in 1980–2006

Annex 3

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Austria	6.3	6.8	5.4	3.3	5.7	3.2	1.7	1.4	1.9	2.2	2.8	3.1	3.4	3.2
Belgium	6.7	7.6	8.7	7.7	6.4	4.9	1.3	1.5	1.2	3.1	3.5	3.2	2.4	2.8
Denmark	12.3	11.7	10.1	6.9	6.3	4.7	3.7	4	4.5	4.8	2.6	2.4	2.1	1.2
Finland	11.6	12	9.3	8.4	7	5.8	2.9	4.1	5.1	6.6	5	4.2	2.9	2.2
France	13.1	13.3	12	9.5	7.7	5.8	2.5	3.3	2.7	3.5	3.4	3.2	2.4	2.1
Germany	5.4	6.3	5.3	3.3	2.4	2.1	-0.1	0.2	1.3	2.8	2.7	3.5	5	4.5
Greece	6.6	7.6	8.7	7.7	6.3	19.3	23	16.4	13.5	13.7	20.4	19.5	15.9	14.4
Ireland	18.3	20.2	17.2	10.4	8.6	5.5	3	3.2	2.2	4	3.4	3.1	3.1	1.4
Italy	21.8	19.5	16.5	14.7	10.7	9.2	5.8	4.7	5.1	6.3	6.1	6.2	5	4.5
Luxembourg	6.3	8.1	9.4	8.7	5.6	2.5	0.3	-0.1	1.4	3.4	3.7	3.1	3.2	3.6
Netherlands	6.5	6.8	5.9	2.9	3.4	2.3	0	-1	0.5	1.1	2.5	3.1	3.2	2.6
Portugal	5.9	20	22.7	25.1	29.3	19.3	11.7	9.4	9.6	12.6	14.4	11.4	8.9	5.9
Spain	15.6	14.5	14.4	12.2	11.3	8.8	8.8	5.2	4.8	6.8	6.7	5.9	7.1	4.9
Sweden	17.5	12.1	8.6	8.9	8	7.4	4.2	4.2	5.8	6.4	10.5	9.3	2.3	4.6
United Kingdom	16.8	12.2	8.5	5.2	4.4	5.2	3.6	4.1	4.6	5.2	7	7.4	4.3	2.5

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Austria	2.7	1.6	1.8	1.2	0.8	0.5	2	2.3	1.7	1.3	2	2.1	1.7
Belgium	2.4	1.4	1.8	1.5	0.9	1.1	2.7	2.4	1.6	1.5	1.9	2.5	2.3
Denmark	2	2.1	2.1	2.2	1.8	2.5	2.9	2.4	2.4	2.1	1.2	1.8	1.9
Finland	1.1	1	1.1	1.2	1.4	1.3	3	2.7	2	1.3	0.1	0.8	1.3
France	1.7	1.8	2.1	1.3	0.7	0.6	1.8	1.8	1.9	2.2	2.3	1.9	1.9
Germany	2.7	1.7	1.2	1.5	0.6	0.6	1.4	1.9	1.4	1	1.8	1.9	1.8
Greece	10.9	2.7	7.8	3.7	4.5	2.1	2.9	3.7	3.9	3.4	3	3.5	3.3
Ireland	2.4	2.5	2.2	1.2	2.2	2.5	5.2	4	4.7	4	2.3	2.2	2.7
Italy	4.2	5.4	4	1.9	2	1.7	2.6	2.3	2.6	2.8	2.3	2.2	2.2
Luxembourg	2.2	1.9	1.4	1.4	1	1	3.2	2.7	2.1	2	2.2	2.5	2.7
Netherlands	2.7	2	1.4	1.9	1.8	2	2.3	5.1	3.9	2.2	1.4	1.5	1.7
Portugal	5	4	2.9	1.9	2.2	2.2	2.8	4.4	3.7	3.3	2.5	2.1	3.1
Spain	4.6	4.6	3.6	1.9	1.8	2.2	3.5	2.8	3.6	3.1	3.1	3.4	3.6
Sweden	2.2	2.6	1	1.8	1	0.5	1.3	2.7	1.9	2.3	1	0.8	1.5
United Kingdom	2.1	2.6	2.4	1.8	1.6	1.3	0.9	1.2	1.3	1.4	1.3	2	2.3

Source: International Monetary Fund *World Economic Outlook* 2007.