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EDYTA DWORAK*

Analysis of knowledge-based economy impact on economic development in the European Union countries

Abstract

Directions of changes in the world economy occurring in recent years show the transition from industrial era economy to knowledge-based economy. Increasing investments in fixed assets is no longer a sufficient way of ensuring permanent economic growth. Research-development activity, innovation and human capital become decisive factors of development. As an essential determinant of the innovativeness level of individual economies are considered expenditures on research and development designed to conduct basic, applied research and development activities as well as effects of these research appearing in the form of innovations. The objective of the article is to analyze correlative connections between the two main variables describing knowledge-based economy, that is between the share of R&D expenditures in GDP and R&D expenditures per capita, and the remaining characteristics of knowledge – based economy. Another aim of the article is to assess the impact of these two variables on the basic macroeconomic indicators in the European Union countries, and, connected with them, to analyze the impact of knowledge–based economy on economic development of these countries.

* Ph. D., University of Łódź

1. Introduction

Directions of changes in the world economy occurring in recent years show the transition from industrial era economy to knowledge-based economy. Increasing investments in fixed assets is no longer a sufficient way of ensuring permanent economic growth. Research-development activity, innovation and human capital become decisive factors of development (Rodrigues 2003, p. 3-30; Neef, Siesfeld, Cefola eds. 1998, p. 34; Smith 2002, p. 23). The process of transition to knowledge-based economy is seen in the increase of competitive superiority of countries and regions specializing in manufacturing technologically advanced products. Innovativeness is then considered as one of essential factors deciding about the rate and quality of economic growth (Rooney, Hearn, Ninan 2005, p. 25-28; Stevens 1998, p. 45-54). Consequently the main subject of research conducted in highly developed countries is searching sources of innovativeness and constructing innovation potential which become a basis for creating knowledge–based economy (Miedziński 2001, p. 210; Foray, 2000, s. 57). As an essential determinant of the innovativeness level of individual economies are considered expenditures on research and development designed to conduct basic, applied research and development activities as well as effects of these research, appearing in the form of innovations (Stec 2009, p. 45-46).

The objective of the article is to analyze correlative connections between the two main variables describing knowledge-based economy, that is between the share of R&D expenditures in GDP and R&D expenditures per capita, and the remaining characteristics of knowledge–based economy. Another aim of the article is to assess the impact of these two variables on the basic macroeconomic indicators in the European Union countries, and, connected with them, to analyze the impact of knowledge–based economy on economic development of these countries.

2. Methodology of research

In the research of knowledge–based economy numerous variables describing its particular areas are used. And so eg. the basis of variables of Knowledge Assessment Methodology (Żelazny 2006) is statistical database provided by the World Bank in the framework of the "Knowledge for Development Program –K4D" which consists of more than 80 variables describing knowledge-based economy on macroeconomic scale. Here four principal pillars are distinguished: (A) Economic Incentive and Institutional

Regime, (B) Education and Training, (C) Innovation and Technological Adoption, (D) Information and Communication Infrastructure.

Another research of knowledge–based economy - the European Innovation Scoreboard (EIS) - is a special method created by the European Union the aim of which is to assess achievements, trends, strong and weak points of individual economies in the field of innovations. Till the year 2005 this method was based on the analysis of 17 indicators describing four areas of knowledge– based economy (European Innovation Scoreboard 2007, 2008). Since 2008 the European Innovation Scoreboard has been an analysis of 32 indicators of innovation activity grouped in three dimensions: (A) Innovation Carriers, (B) Activity of Enterprises and (C) Outputs (European Innovation Scoreboard 2008, 2009).

The following method of knowledge–based economy measurement, also elaborated by the European Commission, the Global Innovation Scoreboard, comprises the analysis of 9 indicators describing innovation activity and technological capacities of a researched economy. In this method indicators were grouped in the following pillars: (A) Firm Activities and Outputs, (B) Human Resources and Infrastructures and (C) Absorptive Capacity.

The research, the outputs of which are presented in this article, was conducted on the basis of a comprehensive Eurostat database describing knowledge–based economy grouped in three pillars: (A) Science and Technology, (B) Education and Training and (C) Information Society. The analysis of variables included in the mentioned pillars comprises the years 2000-2007. Accepting as the beginning of the analyzed period the year 2000 is connected with publishing the Lisbon Strategy which recognized as the main direction of development of the European Union making the Union economy by 2010 the most competitive economy in the world, based on knowledge which is characterized by a higher than now degree of social cohesion and gives more jobs. It can be stated that accepting by the EU countries the Lisbon Strategy began the process of building economies based on knowledge although the notion of this economy had appeared already in 1996 in the documents of OECD (The Knowledge-Based Economy 1996, p. 30-31). As far as the end of analysis in 2007 is concerned it should be stated that published by Eurostat statistics in majority do not cover later years, moreover at the moment of conducting the analysis some of time series were finished in 2006. Then for lacking variables their approximate values in 2007 were accepted on the basis of the trend function, which was possible thanks to sufficiently long time series (data since the year 1996 were considered). Regarding the incompleteness of data

concerning Cyprus, Malta and Luxemburg[1] the analysis was limited to 24 countries of the European Union.

The analysis of cause and effect correlations in the field of knowledge - based economy was conducted by means of Pearson` s linear correlation coefficient- the use of which was well- founded by the quantitative character of the examined variables and the lack of clear deviations from normality of variables distribution or linearity of relations among them. To compare Spearman`s analysis using the non-parametric coefficient of rank correlation was conducted, resistant to failure of the mentioned assumptions. The obtained results were very close to the results obtained through parametric methods. As the applied coefficient are widely known their detailed characteristic was left out.

3. Assessment of correlative connections between characteristics of knowledge-based economy in the European Union countries

For each country dependence of the main variables characterizing knowledge-based economy and the share of R&D expenditures in GDP and R&D expenditures per capita was examined[2]. Table 1 shows dependences between the share of R&D expenditures in GDP and the remaining variables describing knowledge-based economy in the researched countries of the European Union.

[1] The countries are so small that their outputs can be recognized as weakly representative for the whole European Union.

[2] The R&D expenditures are treated as an essentials measure of R&D activity and even as the main determinant of the innovativeness level of economies. See: Science and Technology in 2007, Central Statistical Office, Warsaw 2008, p. 31.

Table 1. The correlation between the share of R&D expenditures in GDP and the remaining variables describing knowledge-based economy in the European Union countries* in the years 2000-2007

The share of R&D expenditures In GDP	AT	B	BLG	CZ	DN	EST	FL	F	EL	ES	NL	IRL	LIT	LTV	D	PL	PT	RU	SLK	SLV	SE	HU	UK	IT
Human resources in science&technology as a percentage of labour force	++	--		++++	+	+++		--	-	++++		++++	+	+	+		++		---		---		+++	+++
Exports of high technology products as a percentage of total exports	--	+++				--	-	++		----	+++	---	++	+++	---				--	-		-	-	----
Employment in knowledge-intensive service sectors as a percentage of total employment	+	-	-	++++	+		+++	---		++++		+++		+	+++	-	+	+					++	
European high-technology patents per million inhabitants				++++	+	++		+			++	---			---							---	---	--
Gross domestic R&D expenditures (GERD) financed by industry as a percentage of GERD	+++	+++		++		+++	--					----			+			---	++++	++				+

Employment in high-and medium-high technology manufacturing sectors as a percentage of total employment				++++			---	+		----	++	----	---						----		+		-	
Government R&D expenditures as a percentage of GDP	++		++	++++		++++	+	++		++++	++	++++	++	++		+	++	++++	++++				++	
Patent applications to the European Patent Office per million inhabitants	++++	--		+				---		++++	++	++		++++		---	+++	+++	---					++++
Number of mobile phone subscriptions (1000)	++++			++	++	++++	+++	-		++++	--	++++	++++	+++	++		+++	++++	----		-	+	+++	++++
Mathematics, science &technology graduates per 1000 of population aged 20 -29	--			----		+++			-		++	----	----	---	++	---		---	++ ++		+++	--		
School expectancy	++++			++		++	+++			++	--	++++	++++			-		+++	----				--	+++
Median age in years	+	--		++		+++	++			++++		++++	+++	+	--			++	----					
Public expenditures on education as a percentage of GDP	---					----					-		---				--		+					
Four-years-olds in education (participation rate - %)	++++				+++	++++	++++			-		----	++++	+++	+++			+	----		---			---
Students per 1000 inhabitants		---		+++		++++	++++	--		----	---		++++	+	++	---	---	+++	----		--			+++

Foreign languages learnt per pupil		-			+								++	++				+++					-	+++
Annual expenditures on public &private educational institutions per pupil/student	---			++		----		++				++++	---				--		+				+	++++
Participation in education	----			---		----	-	++		++			---	--	--	+	-		++++		++	-	+++	
18-years-olds in education	++	--				+++	++++			++		+++	++++	+		-		+++	----				-	+
Science &technology graduates per 1000 of population aged 20-29	++++			++++	+	+					--		++++		+		++		----		---		-	
Internet access per 100 inhabitants	---			----			---	--		-	+++		--		++	-	-		+++	-	+++		++	
High-technology trade per capita in 1000 euro	++								-	++		---		++					--					

* Malta, Cyprus, Luxemburg were left out in the analysis.

++++ positive correlation, statistically significant ($p<0,05$); the correlation coefficient >0,9;

+++ positive correlation, statistically significant ($p<0,05$); the correlation coefficient (0,8;0,9);

++ positive correlation, statistically significant ($p<0,05$); the correlation coefficient (0,7;0,8);

+ positive correlation, essential with $0,05<p<0,10$; the correlation coefficient (0,5;0,7);

---- negative correlation, statistically essential ($p<0,05$); the correlation coefficient <-0,9;

--- negative correlation, statistically essential ($p<0,05$); the correlation coefficient (-0,9;-0,8);

-- negative correlation, statistically essential ($p<0,05$); the correlation coefficient (-0,8;-0,7)

- negative correlation, essential with $0,05<p<0,10$; the correlation coefficient (-0,7;-0,5)

Source: own calculations based on Eurostat data.

On the basis of values of the correlation coefficient between the share of R&D expenditures in GDP and the remaining variables describing knowledge-based economy in the researched countries of the European Union two groups of countries can be distinguished:

1. the countries in which appears a strong correlation (the correlation coefficient >0,9) between the share of R&D expenditures in GDP and the remaining variables describing knowledge- based economy; to this group belong: the Czech Republic, Estonia, Ireland, Lithuania, Romania, Austria and Italy;
2. the countries in which a strong connection between the share of R&D expenditures in GDP and the remaining variables characterizing knowledge-based economy does not occur; these countries are: Bulgaria, Belgium, Slovenia, Greece, Poland, Hungary.

It is worth mentioning that in case of Poland occurs a moderate positive correlation (significant with $0,05<\alpha<0,10$) between the share of R&D expenditures in GDP and the share of R&D expenditures in GDP, financed from the state budget (Government R&D expenditures as a percentage of GDP) (r=0,640), and the participation in education, measured by the share of students in public institutions in the total amount of students (r=0,628). However, the influence of R&D expenditures of industry is insignificant which is confirmed by the slight inclination of Polish enterprises to take up innovation activity. It is worrying that the majority of remaining characteristics of knowledge-based economy do not correlate positively which may indicate the fact that taken up activities do not make coordinated innovative policy of the state. Statistically essential is negative ($p<0,05$) and there is a strong connection of the share of R&D expenditures in GDP relating to such variables as: the number of patent applications in European Patent Office per million of inhabitants (r= - 0,872), the number of students per 1000 of inhabitants (r= -0, 835), and also the number of graduates in mathematics as well as science and technology fields (r= -0,871).

Table 2 presents correlation between R&D expenditures per capita and the remaining variables characterizing knowledge–based economy in the 24 European Union countries.

Table 2. The correlation between R&D expenditures per capita and the remaining variables describing knowledge-based economy in the European Union countries* in the years 2000-2007

R&D expenditures per capita	AT	B	BLG	CZ	DN	EST	FL	F	EL	ES	NL	IRL	LIT	LTV	D	PL	PT	RU	SLK	SLV	SE	HU	UK	IT
Human resources in science&technology as a percentage of labour force	++	+++		++++	++++	+++		----	+++	++++	++	++++	+++	+++	+++	++	+++		++++	+++	++	++	+++	++++
Exports of high technology products as a percentage of total exports	---	-	++++	+	--	-	---	----	--	----	-	----	+++	++++	----	+			+				-	----
Employment In knowledge-intensive service sectors as a percentage of total employment				++++			+++	+++	+++	++++	+++	++++		+	++++	++	++	++		++++		++	++	+++
European high-technology patents per million				++++		++	---	--			--	---			----						---		---	
Gross domestic R&D expenditures (GERD) financed by industry as a percentage of	+++		+++	++		+++	--					----			+++	++++	+	----	---	++				+++
Employment in high- and medium-high technology manufacturing sectors as a percentage of total employment				++++	-			---	+	----	----	----	---		-	+++			+++		--		-	

Government R&D expenditures as a percentage of GDP	++		---	++++		++++		--		++++	--	++++		++++	--		+++	++++	----			+++	++	
Patent applications to the European Patent Office per million inhabitants	++++		+++	++	++++			+++	+++	++++	-	++		++++	++++		++++	++++	+++	+++	++			++++
Number of mobile phone subscriptions (1000)	++++	++++	++++	+++	++++	++++	++++	++++	+++	++++	++++	++++	++++	+++	+++	++	+++	++++	++	+++		++++	+++	++++
Number of mobile phone subscriptions per 100 inhabitants	++++	++++	++++	+++	++++	++++	++++	++++	+++	++++	++++	++++	++++	++++	++++	++	+++	++++	++	++		++++	+++	++++
Maths, science &technology graduates per 1000 of population aged 20 -	--	++	++	----	---	++++			+		----	----	----	---	+++			---	----		+++	---			
School expectancy	++++		++++	+++	+++	+	++++		+++	+++	++++	++++	+++		+++	++		+++	++++	+++		++++	--	+++
Median age in years	+		+	+++	+++	+++	++++		+	++++		++++	+++	+	---			+++	++++	++++		+++		
Public expenditures on education as a percentage of GDP	---				--	---			++++		+++		----		-		--		---	---	---			
Four-years-olds In education (participation rate -	++++				++++	++++	++++			-		----	++++	++++	+++	+++		++	++++	++++		++	-	-
Students per 1000 inhabitants		+		++++	+++	+++	++++	+	+++	----	++++		++++	+	++		---	++++	++++	+++		++++		+++
Foreign languages learnt per pupil		-	++		+++								+++	++	++	---		+++	++	++++		+++	-	++++
Annual expenditures on public &private educational institutions per	---			+++	--	----		----	++++		+	++++	----		--		--		---	---	---		+	

Participation in education	----		----	---	--	---	----	----		++			----	--	----	--	--		---		++	----	+++	
18-years-olds in education	++	+	+++			++	+++	----		+++	+++	++++	+++	++		+		+++	+++	+++		+++	-	++++
Science &technology graduates per 1000 of population aged 20-	++++			++++		+	+++		++++		++++		++++		++++	+++	++		++++	+		+++	-	+++
Internet access per 100 inhabitants	---		---	----	-		----	+++		-	----		-		+++		-		-	---	--	---	++	---
High-technology trade per capita in	++	+++	+				+++	---	-	++	++	---		+++					++			+++		

* Malta, Cyprus, Luxemburg were left out in the analysis.

Notations same as in table 1

Source: own calculations based on Eurostat data.

As it results from the above table (table 2), in the majority of researched European Union economies there is a strong positive correlation (the correlation coefficient >0,9) between the R&D expenditures per capita and the remaining variables characterizing knowledge –based economy. It concerns particularly the following countries: the Czech Republic, Slovakia, Germany, Italy, Estonia, Spain, Ireland, Lithuania, Slovenia, Hungary, Latvia, Romania, Greece, Finland and Austria.

Whereas Poland is in the group of countries in which this tendency is not too clear regarding the majority of variables. To this group also belong the following countries: Belgium, France and Great Britain. In case of Poland the principal tendencies can be characterized in the following way:

a) a very strong and statistically significant correlation concerns only the relation between R&D expenditures per capita and the share of R&D expenditures financed by industry in the total of expenditures (r=0,916);
b) a strong positive correlation occurs between R&D expenditures per capita and the share of employed persons in high- and medium – high technology manufacturing sectors in the total of employed persons (r=0,880), the share of 4-year- olds in education (r=0,871) and the number of science and technology graduates aged 20-29 per 1000 persons (r=0,822) and also the number of mobile phone subscriptions per 100 inhabitants (r=0,793), the share of human resources in science and technology in the total of workforce (r=0,773), the share of employed people in knowledge intensive service sectors in the total of employed persons (r=0,755) and the number of years of education – school expectancy(r=0,712);
c) a strong negative and statistically essential correlation occurs between the R&D expenditures per capita and the number of foreign languages per pupil (r= - 0,865) and the participation in education (r=- 0,873).

In the case of remaining variables R&D expenditures per capita correlate in the statistically insignificant degree. The statistically insignificant, and moreover negative, connection between R&D expenditures per capita and the share of R&D expenditures in GDP is surprising. In the absolute approach R&D expenditures per capita actually increase (in comparison with the year 2000 there was a growth of about a half [3]), however, in spite of the high rate of GDP growth in Poland, the share of these expenditures in GDP decreased in recent years (in 2007 this indicator amounted only to the level of about 0,56%), comparable with

[3] In 2000 the R&D expenditures per capita amounted in Poland to 31 euro and in 2007 rose to 46, 3 euro. See: Eurostat.

Slovakia and Bulgaria, and more than 7 times lower in comparison with Sweden or Finland).

The conducted analysis of correlations of the share of R&D expenditures in GDP and R&D expenditures per capita with the remaining variables describing knowledge–based economy leads to the conclusion that a group of economies may be distinguished in which both the share of R&D expenditures in GDP and R&D expenditures per capita are strongly positively correlated with the remaining variables characterizing knowledge–based economy. To this group belong: the Czech Republic, Estonia, Lithuania, Romania and Austria. Poland, however, belongs to the group of economies in which the analyzed relations are rather weak.

4. Estimation of correlative connections between characteristics of knowledge–based economy and basic macroeconomic variables in the European Union countries

Besides the analyses of correlations between variables describing knowledge-based economy, an attempt was undertaken to study the impact of two variables describing knowledge–based economy i.e. the share of R&D expenditures in GDP and R&D expenditures per capita on basic macroeconomic indicators. These correlations are shown in table 3.

Table 3. Correlation between the share of R&D expenditures in GDP and R&D expenditures per capita and basic macroeconomic indicators in the European Union countries* in the years 2000-2007

	AT	B	BLG	CZ	DN	EST	FL	F	EL	ES	NL	IRL	LIT	LTV	D	PL	PT	RU	SLK	SLV	SE	HU	UK	IT
the share of R&D expenditures in GDP																								
Total investment as a percentage of GDP	--			----		+++		---		++++		++++	++++	++++		++		++++					+++	+++
Public investment as a percentage of GDP	---			++				----		++++			+++	+++		-	--	++++	+++			++		
GDP per capita in PPS (EU27=100)	--	+		+++	--	++++		+++	--	++++		++++	++++	+++	--			+++	----			+		----
Growth rate of real GDP per inhabitant (%)				+++										++++					----					
Labour productivity per hour worked (GDP In PPS EU15=100)				+++	-	++++		++	--	++++	-	+++	++++	+++	+	-	++	+++	----		----	++		----
General government gross fixed capital formation (as a percentage of GDP)	---			++				----		++++			+++	+++		-	--	++++	+++			++		
GDP growth rate				++++										++++					----	+				
Labour productivity per person employed (EU27=100)	-			+++	-	++++			--			+++	++++	+++		--	+++	++++	----		--	++		----
Employment rate	+					++++				++++	-	++++	+++	+++					--	+				++++
Business investment as a percentage of GDP				---		+++		--	-	++++	---	++++	++++	+++				++++				---	++	
GDP per capita at current prices	++++	-		++++		++++	++	--		++++	---	++++	++++	+++	++		+++	++++	----		---	+	+++	++++

R&D expenditures per capita																								
Total investment as a percentage of GDP	-	+	++++	----		+++		++		++++		+++	++++	++++			-	++++			+++		+++	+++
Public investment as a percentage of GDP	---	-	+	++					---	++++			++++	++++	-	+	---	++++	---	+++	+			
GDP per capita in PPS (EU27=100)	--	---	++++	++++	----	++++		---	+++	++++		++++	++++	++++	--	++		++++	++++	+++		+++		----
Growth rate of real GDP per inhabitant (%)				+++								-		+++					++++	+++		--		
Labour productivity per hour worked (GDP In PPS EU15=100)		---	++++	+++	---	++++		++		++++	+	+++	++++	++++	+		++	+++	++++			+++ +		----
General government gross fixed capital formation (as a percentage of GDP)	---	-	+	++					---	++++			++++	++++	-	+	---	++++	---	+++				
GDP growth rate			++	+++										+++					++++	+++		--		--
Labour productivity per person employed (EU27=100)	-	---	+++	++++	---	++++			+			++++	++++	++++			+++	++++	++++	+++		+++		----
Employment rate	++	+++	++++			++++	+++	+++	++++	++++		++++	++++	++++	+++	+++			++++	++++		+++		++++
Business investment as a percentage of GDP		+	++++	----	++	++		+	++	++++		++	++++	+++				++++			+++	---	++	
GDP per capita at current prices	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++++	++	++++	++++	++++	++++	+++	+++ +	+++	++++

* Malta, Cyprus, Luxemburg were left out in the analysis.

Notations same as in table 1

Source: own calculations based on Eurostat data.

The analysis of the data presented in table 3 leads to the conclusion that the strongest positive correlation (the correlation coefficient higher than 0,9) between the two analyzed variables describing knowledge–based economy (the share of R&D expenditures in GDP and R&D expenditures per capita) and macroeconomic indicators appears in case of Latvia – the increase in the share of R&D expenditures in GDP and R&D expenditures per capita causes statistically significant and very strong growth of all analyzed macroeconomic variables in this country. A similar situation is in case of Lithuania. It shows a strong connection between economic development in these two Baltic countries with development of knowledge–based economy, especially with the level of innovativeness measured by R&D expenditures. The positive direction of the discussed relations is worth emphasizing as it confirms a positive influence of knowledge–based economy on development of these two dynamically making up for the economic distance countries (to compare, in 2000 in relation to the average of the 27 EU-countries, GDP in Latvia amounted hardly to 36,7%, while in 2007 it was already 57,9%; also in case of Lithuania there appeared a rise of GDP from 41,5% in 2000 to 59,5% in 2007 – table 4).

The comparison of changes occurring in R&D activity and GDP in relation to the Union average in Lithuania, Latvia and Poland places our country far behind them (table 4). While in Poland R&D expenditures (measured by the share in GDP) decreased, they increased both in Lithuania and Latvia – in the period of 8 years about 40%. As far as expenditures per capita are concerned, the rise of them was much lower in Poland. As it results from the data presented in table 4, the dynamic growth of R&D expenditures in Latvia and Lithuania caused a faster growth of GDP per capita in these countries that in 2000 had noted its lower level than Poland.

Table 4. R&D expenditures and GDP in the selected European Union countries in the years 2000-2007

Years	R&D expenditures in GDP in %			R&D expenditures per capita			GDP per capita UE27=100		
	Poland	Latvia	Lithuania	Poland	Latvia	Lithuania	Poland	Latvia	Lithuania
2000	0,64	0,44	0,59	31,0	15,8	20,8	48,2	36,7	39,3
2001	0,62	0,41	0,67	34,6	16,0	26,2	47,6	38,7	41,5
2002	0,56	0,42	0,66	30,7	17,7	28,7	48,3	41,2	44,1
2003	0,54	0,38	0,67	27,1	16,2	31,9	48,9	43,3	49,1
2004	0,56	0,42	0,75	29,8	20,1	39,7	50,6	45,7	50,5
2005	0,57	0,56	0,75	36,3	31,5	45,8	51,3	48,6	52,9
2006	0,56	0,70	0,79	39,6	49,0	56,0	52,3	52,5	55,5
2007	0,56	0,63	0,82	46,3	55,1	68,7	53,7	57,9	59,5

Source: Eurostat.

On the basis of the so far conducted considerations the appearance of clear regularity can be stated – the influence of knowledge–based economy on economic development of the country is especially clearly seen in case of the new member countries. These countries make up for the civilization distance in relation to the "old" Union countries, thus the inflow of resources on innovations makes economic development in these countries more and more dynamic. Among the 15 "old" EU member countries a similar situation takes place in Ireland and Spain while the detailed analysis for the 12 new members shows that among these countries Bulgaria, Slovenia and Poland take the least advantage of knowledge–based economy development. However, taking into consideration the degree of knowledge–based economy development, such a result should not surprise.

It is worth emphasizing that in a few countries there is a strong positive correlation (the correlation coefficient>0,9) between one of the analyzed variables of knowledge–based economy, i.e. R&D expenditures per capita and the majority of the researched macroeconomic variables. To such countries belong: Bulgaria, Slovenia and Slovakia.

On the other hand in countries of a high degree of advancement in knowledge–based economy, eg. Sweden, Finland, Holland and Great Britain these variables affect basic macroeconomic indicators in a marginal degree.

Moreover, in such countries as: Belgium, Greece, Denmark or Austria the discussed correlations are negative – the increase in the share of R&D expenditures in GDP and R&D expenditures per capita is connected with a drop in basic macroeconomic variables.

As far as Poland is concerned it should be noted that the analyzed correlations are weak, same as in case of relations between variables describing knowledge-based economy. Thus a decreasing share of R&D expenditures in GDP causes a significant (in the statistical meaning) drop in the share of complete investments in GDP, an increase of work efficiency per person in relation to the Union average, an increase in the share of public investments in GDP, an increase of work efficiency per hour in relation to the Union average for the "old" countries of the EU as well as an increase in government`s share of total fixed capital formation in GDP. In turn growing R&D expenditures per capita cause an essential rise of the employment rate (the correlation coefficient-(0,8;0,9)), an increase in GDP per capita in market prices, in GDP per capita (PPS EU27=100), in the share of public investments in GDP and an increase in general government gross fixed capital formation expressed as a percentage of GDP.

In the context of the so far conducted considerations a worrying in the Polish economy decrease in the share of R&D expenditures in GDP should be shown. As far as R&D expenditures per capita are concerned, it should be emphasized that there appears in Poland a statistically meaningful and positive correlation between this variable describing knowledge-based economy and some of macroeconomic indicators, although in the majority of cases it is weak (the correlation coefficient – (0,7;0.8)).

5. Concluding remarks

The analysis of correlations between variables describing knowledge-based economy and basic macroeconomic indicators in the countries of the European Union lets formulate the conclusion that in many economies these variables are strongly positively combined which may prove a high degree of cohesion of economic policy in these countries. Poland does not belong to the mentioned group of countries, as it is characterized by the low level of R&D expenditures in GDP and per capita (moreover the share of R&D expenditures in GDP has been decreasing in recent years), the low level of positive correlation both between the share of R&D expenditures in GDP and R&D expenditures per capita and the remaining variables of knowledge–based economy as well as between those expenditures and macroeconomic indicators.

Thus the argument seems plausible that the conducted innovation policy is not cohesive and does not influence significantly on basic macroeconomic categories, and the Polish economy in a small degree takes advantage of possibilities brought by development of innovativeness. It is well known that the domestic R&D expenditures in relation to GDP ranging on the level below 1% (in Poland in 2007 – about 0,57% of GDP) threaten in a long period with weakening of driving force of economic development and social progress. Moreover, it is obvious that these expenditures are slightly converted into effects, occurring in the form of innovative solutions applied in practice. It is evidenced among others by the share of development activity (closeness to market), in Poland amounting to ca 38%, so lower than in many countries of the European Union. The following cause of such weak impact of R&D expenditures on the Polish economy is financing overbalance of R&D activity from budget resources and a relatively small share of enterprises in this financing (Piech 2006; Zienkowski 2004).

To sum up it should be stated that the principal issue is giving clear priority in economic policy to R&D expenditures financed both by the state budget and from resources belonging to enterprises as well as working out and conducting by the state cohesive and active innovative policy coordinated with economic policy.

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Streszczenie

ANALIZA WPŁYWU GOSPODARKI OPARTEJ NA WIEDZY NA ROZWÓJ EKONOMICZNY KRAJÓW UNII EUROPEJSKIEJ

Kierunki przemian w gospodarce światowej, zachodzących w ostatnich latach, wskazują na przechodzenie od gospodarki ery industrialnej, opartej na ekonomii skali, do gospodarki wiedzochłonnej, opartej na potencjale technologicznym i innowacyjnym. Zwiększanie inwestycji w środki trwałe nie jest już wystarczającym sposobem na zapewnienie trwałego wzrostu gospodarczego. Czynnikami decydującymi o rozwoju stają się działalność badawczo - rozwojowa (B+R), działalność innowacyjna oraz tzw. kapitał ludzki. Za istotną determinantę poziomu innowacyjności poszczególnych gospodarek uznaje się nakłady na badania i rozwój, przeznaczane na prowadzenie badań podstawowych, stosowanych i prac rozwojowych, jak i efekty tych badań, występujące w postaci innowacyjnych rozwiązań stosowanych w praktyce.

Celem artykułu jest analiza związków korelacyjnych między dwiema głównymi zmiennymi opisującymi gospodarkę opartą na wiedzy, tj. między udziałem nakładów na B+R w PKB i nakładami na B+R per capita, a pozostałymi charakterystykami GOW, jak również ocena wpływu tych dwu zmiennych na podstawowe wielkości makroekonomiczne w krajach Unii Europejskiej, a co za tym idzie analiza wpływu gospodarki opartej na wiedzy na rozwój gospodarczy tych krajów.

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KRZYSZTOF LEWANDOWSKI*

Implementation of community cohesion policy in Italy and its role in elimination of regional disparities

Abstract

The objective of this paper is to present the contribution of Community regional policy funds to achieving socio-economic cohesion of Italian regions eligible under Objective 1, as well as to discuss future development barriers and opportunities of these regions. The paper also provides a description of Italy's adjustment to the Community policy, the funds exploited by cohesive regions during the 2000-2006 programming period and their efficiency in the elimination of regional disparities.

1. Introduction

Italy is a country with regions diversified in economic and civilization terms. The gap between the industrialized, affluent North and the poor, agricultural South, called Mezzogiorno[1], is evident and persistent despite substantial financial transfers designed to boost the socio-economic development of this part of Italy. The funds are provided by the national budget and by the Community structural funds.

In the late 1980s and early 1990s the Italian cohesion policy changed dramatically. The policy of extraordinary interventions in the South was

* Ph. D., University of Łódź

[1] Mezzogiorno (Italian South) denotes the area comprising the following regions in the South of Italy: Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia, Sardinia and Sicily.

abandoned and the area of interventions was expanded, as they were no longer limited to the South but covered all problem areas in Italy. This change was brought about by the reform of the Community structural funds in 1988. Due to the inconsistence between Italian and Community policies, the objectives, principles, instruments and procedures were adjusted through neutralisation of pressure groups and activation of a coalition of participants, comprising of representatives of the government and regional administration. These were the factors which enabled the policy change.

2. Italy's adjustment to the Community regional policy

Italy's attempts to adjust the organization of Community initiatives to its own administration (and not vice-versa) is a unique practice among EU member countries (SVIMEZ 1996,p.254) Despite the huge funds obtained, Italy was the only country whose actions were qualified as inconsistent with Community policies. Analysis concerning the first (1988-1993) and the second (1994-1999) programming periods revealed a number of problems related to the timing and procedures of implementation of the operational plans, which testified to Italy's little interest in international structural policy (Moffa 2005, p.139).

In the 1980s, after *La Cassa per il Mezzogiorno* (Fund for the South) had been terminated, the Italians debated the option to abandon extraordinary intervention and considered how to replace the discontinued fund, which had been engaged in the management of public assistance addressed to the most impoverished regions of the South. Little attention was paid to the possibility of making use of Community financial instruments, while the key role was still to be played by special instruments, primarily including government initiatives.

This disinterest was in opposition to the modifications in the Community Cohesion Policy and to a substantial increase in funding, allowing the Community policy to play a significant role in national programming for underdeveloped areas (in the South of Italy). On the one hand, it is true that the funds in the Community budget allocated to the regional policy remained disproportionately small, given the ambitions objectives, until the late 1980s, and the cohesion policy was mainly financed by *La Cassa per il Mezzogiorno*. On the other hand, it should be noted that country-level initiatives at that time could be supported by Community funds, and the member states tended to increase their budget funding to enhance regional development.

Presumably, Italy underestimated the methodology promoted by the Community rather than the funds allocated to the regional policy. Otherwise, it

would be difficult to explain why during the reform of the cohesion policy (with substantially increased outlays) a member state characterized by considerable regional disparities should not actively participate in the European cohesion policy. Indeed, before the third programming period the Italian government had been only marginally involved in negotiations between the member states and the European Commission, and it owes the substantial subsidies it was granted to other, more negotiation-oriented member states, such as Spain.

2.1. Underlying causes of policy inconsistence

Analysis of the inconsistence of Italy's policies with the European Union cohesion policy should consider the fact that when the member states decided to reform the structural funds, Italy predominantly used extraordinary interventions due to their simplicity.

To understand the unique position of Italy, it is necessary to compare essential elements of the Italian cohesion policy pursued before and after the liquidation of *La Cassa per il Mezzogiorno.* The turning point was the reform of structural funds in 1988, which introduced four primary principles presented in Delor's packet: concentration, additionality, programming and partnership.

The first criterion was the **principle of concentration** with a key role of the methodology used to define underdeveloped areas over both periods (Cafiero 2000,p.84). Prior to the reform of the structural funds, the government's extraordinary interventions were based on territorial concentration and aimed to attain sustainable "economic and social development of southern Italy" (Article 1 of Act No 646/1950). This priority was not, however, accompanied by any programme documents outlining rigorous objectives in relation to territorial (selection of areas) or quantitative factors (GDP, employment rates, etc.). It was not until 1990 when, under the influence of Delor's reform, Italy finally identified the most backward regions based on standard indices.

The first important effect of this change was the definition of objectives to be accomplished, measured by the degree to which the gap was bridged. For example, as regards areas eligible under Objective 1, with GDP per capita of below 75% of the Community average, the primary goal was to attain average Community GDP per capita. Application of specific indices for areas requiring support was a breakthrough in the Italian cohesion policy, which led to two kinds of implications.

Firstly, the measures aimed to equalize living standards in underdeveloped areas ceased to be of extraordinary nature, that is, they became

regular interventions aimed to accomplish specific quantitative objectives. Secondly, the measures should be focused on underdeveloped areas or those affected by the problems revealed by official data from other regions (unemployment rates, declining production output, etc.).

The other effect of the European policy was the extension of interventions to all areas meeting the criteria, including a number of regions in the north or centre of Italy. They faced a different set of problems, but they were also affected by the restructuring of the industry (Chiri, Pellegrini 1995).

The remaining principles (additionality, programming and partnership) introduced innovative solutions to the programming of extraordinary interventions and therefore were difficult to apply.

The principle of additionality was generally not applied in the period of extraordinary interventions in the Italian cohesion policy, as the available funds were national and managed by the government or institutions established for that purpose (*La Cassa per il Mezzogiorno,* Agency for the South), and not by intermediary-level institutions.

The first modification introduced by the principle of subsidiarity was Community supervision, as the Community's financial participation in initiatives provided for control based on standard and repeatable criteria. The most important consequence was the development of "external bonds", which contravened the national policy pursued in the 1950s.

The principle of additionality was not appropriately implemented in Italy, which was the subject of a debate in the European Parliament in 1991. While reporting Community actions aimed at regional development in Italy, Gutierrez Diaz critically assessed the application of principles of the 1988 structural funds reform. While discussing the principle of subsidiarity, the Spanish Member of Parliament emphasized that: "The Community may not be indifferent to the utilization of funds in the member states, as it may happen, and it did actually happen in Italy, that the amount to be financed by jointly by the government and the regions, was almost entirely shifted to the disadvantage of the latter, which is inconsistent with the principle of solidarity" (Moffa 2005,p.145). Actually, during the first programming period (1989-1993), the Italian government deceitfully avoided the provision of co-financing. In that period the Community planned to support initiatives in Mezzogiorno amounting to Ecu 16 billion, half of which was supposed to be contributed by the Community budget and the rest by the country's public (40%) and private sectors (10%). As regards the public sector, nearly 22% of funds were supposed to be contributed by the government, while the regional share was 19%.

Taking advantage of its privileged position in relationships with community partners and its power to control financial flows, the Italian

government was able to reduce its share to as little as 4.1%, while the rest was covered by the regions. This led to significant consequences, as in a great number of cases the regions were not able to raise sufficient funds and the European Commission was forced to stop its share of financing. Thus, placing an added financial burden on the regional budgets, the Italian government blocked the possibility to obtain the funds that had been officially granted.

A number of Italian authors go as far as to assert that the principle was not at all applied. During the public finance crises and poor political interest in the situation of the less developed regions, European funds nearly entirely substituted government expenditures. Actually in the South of Italy critical infrastructure investments including electrification, gasification, the road and telecommunication network were not financed under ordinary (like in the North) but extraordinary interventions, which, in turn, were gradually integrated with Community funds (Viesti 2001).

The principle of programming constitutes the basis of the Community cohesion policy and was also provided for in the Italian legal system (Act no 717/1965), but did not apply to extraordinary interventions (Cafiero 1996, pp. 188 – 192). Actually, the national support policy was considerably dispersed and frequently incoherent (Cafiero 2000,p.80). Many authors emphasize that in its last stage of operation *La Cassa per il Mezzogiorno* employed a logic whereby public investments were used as instruments of demand rather than supply. Such an expenditure pattern resulted in a great number of projects that were unfinished, useless or used only for political purposes (Trigilia 1992).

The Community programming introduced in the late 1980s met with a specific context in Italy, as the Italian government did not implement any global programming that would determine priorities and directions for economic governance (Di Palma 1996). Moreover, the programming enforced verification and monitoring procedures, which were unknown in the period of extraordinary interventions.

A number of studies prove that procedures of concentration and co-deciding by different institutional levels or different instances of the same level were foreign to the Italian administration, also with respect to the last principle under analysis. Actually, the **principle of vertical partnership** (introduced along with the reform of 1988) and **horizontal partnership** (introduced in 1993) was brought to a national and sub-national environment that was not accustomed to such practices, as in Italy planning for regional development was within the competence of the Ministry for the South (*Ministero per il Mezzogiorno*). The Ministry determined directions of action and had exclusive competence with respect to working with Community institutions, while the regions, deprived of organizational and operational capacity, were unable to

prepare expert opinions concerning their development requirements and priorities.

Despite the introduction of the above principle, initially the regions' role in planning was marginal, as they did not have sufficient experience in Community programmes management, which required constant coordination between the Commission, the state, the regions and local units or between various offices and departments of the same institution. Moreover, it was observed that in the phases of planning and implementation of operational programmes and plans (national and regional), business and social organizations rarely cooperated, which was against Community recommendations. Empirical studies reveal that only entrepreneur organizations, trade unions and some associations participated in consultations, but never in a concerted manner to utilize available funds.

Generally, during the first programming periods the low institutional efficiency of the Italian public administration, particularly in the South, persisted, which translated into poor performance in the European cohesion policy and the "Italization" of the Community principles.

2.2. Italian institutions and Community programming

Practice proves that the public administration responsible for Community programming issues undertakes tasks crucial for the efficient implementation of programming. An excessive dispersion of government institutions engaged in structural funds management largely contributed to the weakness of the Italian policy manifested by the inability to effectively develop programme priorities and objectives for spending funds.

Initially, the institutions designated to implement Community policies were the various ministries responsible for investment sectors (Ministry of Agriculture, Ministry of the Budget, Ministry of Industry), while the Department for Community Policies (*il Dipartimento per le Politiche comunitarie*) was established as late as in 1987. Its responsibilities encompassed legal tasks, orientation and promotion of initiatives as well as verification of actions aimed to implement community policies. The management of national community funds and the formulation of the Community cohesion policy came within the competence of the Ministry of the Budget, subsequently supported by the Regional Policy Observatory (*L'Osservatorio per le politiche regionali*) and then by the National Central Office (*Cabina di regia nazionale*).

The Observatory, established as an instrument for monitoring the course and efficiency of interventions in the less developed areas and Community policies, operated only for a short time. Two years after it had been established, it was replaced by the National Central Office, whose tasks included the coordination of different entities responsible for programming and management of Community interventions and public (national and Community) resources allocated to the development of the less developed areas. This institution, however, played a marginal role as it faded into insignificance soon after its statute had been formulated and the Department for Development and Cohesion Policies (*Il Dipartimento per le politiche di sviluppo e coesione, Dps*) took over its functions. These sweeping organization changes resulted in disorganized cohesion policy.

It was not until 1995 when coordination in the formulation of the cohesion policy became homogenous in terms of organization, following the establishment of a unit for cohesion policy (*Servizio per le politiche di coesione*) within the Ministry of the Budget. This development proved to be functional and accelerated the implementation of the 1994-1999 Community Support Framework. The role adopted by the Dps turned out to be crucial for the Europeanization of the cohesion policy, as this institution performed a central function in defining the intermediate and final objectives of programming and the modes of cooperation between regional and national institutions (Graziano 2004, pp. 88 – 94).

3. Cohesion Policy in the 2000-2006 programming period

This programming period was marked by considerable changes in the cohesion policy, which strengthened the position of particular regions and of the Committee of the Regions. The adoption of the new Community Support Framework for the years 2000-2006 initiated the constant process of financial management regionalization, as the regions were granted over 70% of the funds available, which is 20 percentage points more than in the previous periods.

As compared to 1998, the Italian policy was modified, which involved institutional changes (establishment of the Department for Development and Cohesion Policy), increased decentralization of funds and programming competence to the advantage of the regions, long-term programming, interest in enhanced quality of public investments and their evaluation, reform of public administration along with the redefinition of new institutional cooperation rules.

Generally, direct regional management of a large portion of the funds was the most innovative but also problematic aspect as regards the 2000-2006 programming period, because the regions were granted considerable powers in terms of the regional policy.

In the 2000-2006 programming period, EUR 28.8 billion were allocated to Italy from Community funds, at 2004 prices. Together with the national funds designated for co-financing projects, the total funds available amounted to EUR 63.3 billion, of which 45.9 billion were designed for Objective 1 regions. Community funds were to be spent until the end of 2008, but due to the financial crisis that period was prolonged until 30 June 2009.

The data obtained from the *Ragioneria dello Stato* monitoring revealed that until the end of 2008 more funds were contracted than initially programmed. As regards expenditures under Objective 1, EUR 55 billion were contracted at the end of February, which accounted for 120% of the funds granted, and effective spending was as high as 93.6%. As regards national operational programmes (PON), the average volume of liabilities and expenditures was 117% and 98.2% respectively. As regards regional operational programmes (POR) this value amounted to 92.3%, but in Campania only to 86.8% (SVIMEZ 2009, p.15).

In the 2000-2006 programming period so-called boundary projects (*progetti sponda*) were frequently implemented in Italy. Originally, they were financed from different funds and then included in Community programming projects due to their cohesion. This was the effect of strict time guidelines imposed by the Community to implement projects and the government was concerned the that implementation of a number of projects might fail. In late 2008 the share of such projects was nearly 44.5% in the funds spent under Objective 1(SVIMEZ 2009, p.13).

Table 1. Utilization of Community funds under Objective 1 by the priority axes as of 31.08.2009 (EUR)

Priority axis	Total contribution 2000 – 2006 A	Funds contracted B	Payments effected C	B/A %	C/A %
Natural resources	7 658 273 320	10 270 959 589	8 217 051 208	134.1	107.3
Cultural resources	2 516 942 608	2 887 570 629	2 448 777 323	114.7	97.3
Human resources	8 284 924 451	9 565 982 556	8 263 254 076	115.5	99.7
Local development systems	14 742 174 130	18 663 929 860	14 995 295 740	126.6	101.7
Towns	2 040 500 957	3 012 345 928	2 166 021 909	147.6	106.2
Service networks and hubs	9 775 078 228	12 002 536 867	10 737 371 484	122.8	109.8
Technical assistance	883 139 495	898 596 784	868 269 410	101.8	98.3
TOTAL	**45 901 033 190**	**57 301 922 212**	**47 696 041 150**	**124.8**	**103.9**

Source: Ministero dell`Economia e delle Finanze, 2009, p. 11.

Table 1 reveals that the most substantial resources were allocated to implementing measures under Axis 4: Local Development Systems (*Sistemi locali di sviluppo*) and Axis 6: Service Networks and Hubs. The measures under Axis 4 encompassed local development programmes aimed to promote local development including support for local production systems, enhancement of competitiveness, improvement of product quality, innovativeness and support for exports.

The objective of the measures under Axis 6: Service Networks and Hubs (*Reti e nodi di servizio*) encompassed the enhancement of competitive conditions for business development and the location of new initiatives to boost the competitiveness and efficiency of territorial economic systems. This was to be attained through actions improving the effectiveness of interventions and ensuring positive external effects, as well as through promotion of the sustainable development of the transport networks, ensuring the required level of national and international telecommunication networks, the participation of citizens and businesses in new economic, political and cultural processes favourable to their development, and restoration of social trust. Under this Axis, activities were undertaken in three sectors: transport, information and communications technology (information society), and safety.

The most efficient utilization of funds was observed under Axis 6 and 1 (natural resources) and 5 (towns). As regards the remaining three axes (cultural resources, human resources and technical assistance), the available funds were not fully utilized.

Table 2. Utilization of Community funds under Objective 1, by fund, as of 31.08.2009 (EUR)

Fund	Total contribution 2000 – 2006 A	Funds contracted B	Payments effected C	B/A	C/A
ERDF	32 934 841 958	42 456 542 201	34 515 083 122	128.90%	104.80%
ESF	6 717 807 093	7 644 319 169	6 667 924 111	113.80%	99.30%
FGF	710 358 361	718 290 893	651 513 275	101.10%	91.70%
EAGGF	5 538 025 778	6 482 769 949	5 861 520 643	117.10%	105.80%
TOTAL	**45 901 033 190**	**57 301 922 212**	**47 696 041 151**	**124.80%**	**103.90%**

Source: Ministero dell`Economia e delle Finanze, 2009, p. 11.

Table 2 demonstrates that in the 2000-2006 programming period, the European Regional Development Fund (72.4%) provided the largest allocations for the attainment of Objective 1, while assistance provided by the European Social Fund (14%) and the European Agricultural Guidance and Guarantee Fund (12.3%) was less substantial. The resources allocated by the Fisheries Guidance Fund were of marginal importance (1.3%).

Table 3. Utilization of Community funds under Objective 1 by the operational programmes as of 31.08.2009

Operational programme	Total contribution A	Funds contracted B	Payments effected C	B/A %	C/A %
NOP Research	2 267 330 812	2 648 281.555	2 290 805 112	116.8	101.0
NOP Safety	1 225 836 571	1 225 692 953	1 215044455	100.0	99.1
NOP Technical assistance and system actions	517 101 147	514 571 832	504 519 032	99.5	97.6
NOP Development	4 452 842 857	6 429 719 955	4 852 916 848	144.4	109.0
NOP Fisheries	277 383 357	247 657 164	233 380 541	89.3	84.1
NOP School for Development	830 014 571	898 033 649	819 267 984	108.2	98.7
NOP Transport	4 520 161 290	5 302 202 380	5 008 036 338	117.3	110.8
NOP Total	**14 090 670 605**	**17 266 159 488**	**14 923 970 310**	**122.5**	**105.9**
ROP Apulia	5 222 991 220	7 293 025 923	5 827 786 923	139.6	111.6
ROP Basilicata	1 696 070 000	2 132 594 889	1 780 154 766	125.7	105.0
ROP Calabria	4 034 497 392	5 144 952 184	4 094 553 753	127.5	101.5
ROP Campania	7 748 172 780	9 792 568 333	7 820 002 006	126.4	100.9
ROP Molise	467 997 190	552 085 599	477 705 735	118.0	102.1
ROP Sardinia	4 180 724 685	4 928 422 641	4 352 174 141	117.9	104.1
ROP Sicily	8 459 909 318	10 192 113 156	8 419 693 517	120.5	99.5
ROP Total	**31 810 362 585**	**40 035 762 724**	**32 772 070 841**	**125.9**	**103.0**
Objective 1 Total	**45 901 033 190**	**57 301 922 212**	**47 696 041 151**	**124.8**	**103.9**

Source: Ministero dell`Economia e delle Finanze, 2009, p. 11.

The above data reveal that in the 2000-2006 programming period the two most important national operational programmes, Development and Transport, represented the highest rates of funds utilization, as they accounted for two thirds of total expenditures of the national programmes. On the other hand, the allocations granted under the national Operational Programme Fisheries were not used in full. As regards regional operational programmes, practically all regions spent the funds allocated to them or even more (except Sicily). Apulia and Basilicata were the most efficient.

4. The effects of the cohesion policy in Italy in the years 2000-2006

Analysis of data concerning the seven Italian Objective 1 regions demonstrates that over that period GDP per capita (being the most significant indicator) increased merely by 1.2% annually, which means that it was considerably lower than assumed (3.9%), and even fell below the EU-15 average (2%). Therefore, one could argue that despite the allocation of over EUR 48 billion, convergence has not been achieved in this area.

The results are even more disappointing given that Community funds accounted for nearly 3% of GDP in this part of Italy, which should theoretically considerably accelerate economic development.

Similarly, convergence was not observed in the labour market. The employment rate in the South (45.9% in 2005) was among the lowest in the European Union, including new member states. This rate was by 20 percentage points short of employment rate in other parts of Italy, and 25 percentage points short of the guidelines stipulated by the European Union in the Lisbon Strategy.

In the 2000-2006 programming period, the gap between the South and other Italian regions continued to widen. Although due to the liberalization of the labour market the employment rate in the South increased by nearly 3 percentage points, the increase in northern and central parts was as much as 6 percentage points.

Moreover, the employability rate decreased in absolute terms, which meant an increased number of persons who gave up looking for a job. The expectations that Community funds would reverse this disadvantageous trend did not come true.

Table 4. Employment rates in 1999 and 2006

Area	1999	2006
Mezzogiorno (Objective 1 regions)	43.0	45.9
Centre-North	59.4	65.0
EU 15	62.2	65.1
Lisbon Strategy Objective		70.0

Source: EU Structural Funds and Economic Development of Southern Italy, Vision & Value, London School of Economics, October 2007.

The above data lead to the conclusion that the structural programmes in southern Italy did not bring about the expected results. This concerns in particular Calabria, Campania, Apulia and Sicily, the regions with the largest population and economic potential (in terms of generated GDP) in the South.

What is noteworthy, as regards Objective 1 regions, those that despite making expenditures remain below 75% of the Community average were granted a bonus in the form of European Union support for the next 7 years, which was actually awarded to four large regions in southern Italy. Given the facts below, this paradox seems even more dramatic.

1/ The threshold of 75% of the Community average considerably dropped when new members joined the European Union, but the four Italian regions retained their status of underdeveloped areas.

2/ The problem of the 2000-2006 programming period is not the first failure as regards these regions. In Europe, they are a unique example of regions that remain underdeveloped despite huge public investments of public funds.

3/ Research suggests that public expenditure and structural funds may largely be embezzled and captured by organized crime.

5. Possibilities of development

A great number of studies on Mezzogiorno development opportunities report several factors which could contribute to larger convergence. They primarily include development of tourism, increased research expenditures, attraction of foreign investment and organized crime prevention.

Tourism – about two thirds of the coastal line and nearly 50% of Italian cultural heritage (Italy can boast the largest number of historic buildings on the UNESCO list) are located in the southern regions. This fact predestines these regions to become European leaders in tourism.

In the programming period, the opportunity to develop tourism was not used. The number of tourists per capita increased from 2.9 in 1999 to 3.3 in 2005, but it is still less than half of that recorded in northern and central Italy. In 2004, the South attracted 20.6% of Italian tourist traffic, 25% of domestic tourism and 14.2% of foreign tourism flows (SVIMEZ 2005, p. 453).

Table 5. Tourists per head

Region	1999	2005
Apulia	1.9	2.7
Basilicata	2.0	3.3
Calabria	3.1	3.9
Campania	3.4	3.3
Molise	1.7	2.3
Sardinia	5.6	6.2
Sicily	2.4	2.7
Objective 1 regions	2.9	3.3
Centre – North	6.8	7.5

Source: Vision & Value. LSE, p. 7.

Although climate conditions in the South ensure tourist activities throughout the year, 70% of visits are reported between June and September. Moreover, despite impressive natural and cultural resources, the region is perceived only as a holiday area, while business and conference tourism is practically non-existent. This may be caused by the insufficient transport and service infrastructure, including the small number of flight connections with European cities, the underdeveloped public transport and railway network (*e.g.* there are no electrified railways in Sardinia) and the underdeveloped motorway network (SVIMEZ 2009, p. 7).

Research and development – attempts to improve the share of R&D outlays in GDP failed in the programming period under analysis. In 2005, it was 0.77 for Objective 1 regions, below the average for Italy (1.1%) and considerably smaller than the value assumed for Italian Objective 1 regions (1.25% for 2006) or the objectives stipulated in the Lisbon Strategy (3% for 2010).

Interestingly, public outlays on R&D were more substantial in the South (0.55% of GDP) than in the North (0.51%). On the other hand, three of seven Objective 1 regions did not record any private R&D investments, and only in Campania business R&D expenditures exceeded 0.2% of GDP. This means that in the South, public R&D expenditures turned out to be inefficient subsidies.

Foreign direct investments – Objective 1 regions also falter in terms of attracting foreign direct investments. Although they are inhabited by over 30% of the Italian population, only 3.5% of foreign investments in Italy are located there, despite the factors which could potentially attract investors: substantial available labour force (including skilled labour), a large market, lower labour

costs compared to other regions or the possibility of participation in community programmes designed for Objective 1 regions.

This situation hardly changed in the programming period 2000-2006. Foreign investments were primarily located in northern Italy. While Lombardy absorbed 69% and Piemont 13% of foreign direct investments, southern regions absorbed as little as 1%. In the years 2000-2005, foreign direct investments accounted for 1.6% of GDP in north-western regions, 0.6% in central regions and 0.1% in the South.

Table 6. Direct foreign investments in selected Italian regions (in EUR thousands)

Region	FDI inflows in 2006	Share in total national
Apulia	247269	0.2
Basilicata	246100	0.2
Calabria	29963	0.0
Campania	245991	0.2
Sardinia	97674	0.1
Sicily	30135	0.0
Lombardy	104464729	68.9
Centre-South	152124329	99.3
Mezzogiorno	1016606	0.7
Italy	153140935	100

Source: Own work based on: Daniele, Marani 2008, p. 193.

Table 6 reveals a gap between northern and southern regions with respect to foreign direct investment inflows. These investments could considerably accelerate the development of Objective 1 regions, but so far foreign investors have shows little interest in the South. Their presence in those regions is not much better, as only 371 of 7100 foreign enterprises operating in Italy (5%) have their registered offices in the South.

Crime

Many economic, sociological and historical studies claim that organized crime is a substantial barrier to the development of the South (Catanzaro 1991, Centorino, La Spina, Signorino 1999, Fiorentini, Peltzman 1995). This is also often thought to be the underlying cause of the small interest of national and foreign investors in Objective 1 regions. In 1985, Sylos Labini, the renowned Italian economist, reported that money extortions result in moving production to other regions and discourage investment in the South (Sylos Labini 1985). Crime organizations influence the economy in various ways. Money extortions from entrepreneurs are the most visible example. The funds raised are used to finance other crime activities and control legal businesses. Moreover, crime

organizations force entrepreneurs to purchase goods or raw materials from specific suppliers, employ members of the crime world, or impose restrictions on sales.

In general terms, organized crime increases investment risk and costs, and consequently has a depressive effect on the whole economy. Apart from extortions and protection money, the protection provided by crime organizations leads to a situation where inefficient businesses are operated as a cover for illegal activity (Becchi, Rey 1994). By violence or corruption, crime organizations influence the functioning of the market and the institutional system through distorted allocation of resources and capturing of a portion of public funds, including Community funds. This undermines the functional capacity of the market and institutions, as well as the capacity for development of the local economy (Centorrino, Signorino 1993).

In the 2000-2006 programming period, the crime rate in Objective 1 regions remained high. Its measurement involved different categories of crime but primarily extortions, assassinations, arsons and participation in crime groups.

Table 7. Crimes reported in 2002-2005 in selected Italian regions per population; Indices (Italy=100)

Region	Extortions	Organized crime groups	Assassinations	Arsons
Apulia	150	119	200	146
Basilicata	87	222	29	94
Calabria	185	196	717	346
Campania	162	155	99	107
Sardinia	74	36	429	149
Sicily	143	177	186	166
Centre-North	76	74	34	71
Mezzogiorno	144	147	220	153

Source: Own work based on V. Daniele, U. Marini, 2008, p. 202.

Table 7 shows that in regions under Objective 1 the number of crimes analyzed is relatively larger compared to other regions but represents considerable diversity. The crime indices are extremely high in Campania, Sicily, Apulia and in particular in Calabria.

According to estimates, nearly 160 000 of entrepreneurs in Italy faced extortions, predominantly in the South. The number of entrepreneurs paying "protection money" is estimated at 70% in Sicily, 50% in Calabria, 40% in Campania and 40% in Apulia, which means that over 120 000 entrepreneurs are faced with this practice. If the protection money is not paid, crime organizations

strike by intimidation, property damage or even attempts on entrepreneurs' lives (Daniele, Marini 2008, p. 203).

Although organized crime changes over time and its expansion into the centre and north of Italy is under way, regional differences are still observed. The majority of Objective 1 regions are affected by crime to a substantial degree, which constitutes a peculiar type of comparative cost that may have a far-reaching, negative effect on the development of these areas.

6. Conclusions

Italy provides an interesting example of cohesion policy implementation. Despite its long tradition in conducting policies aimed at eliminating regional disparities (dating back to the 1950s) and huge expenditures, Italy's performance has been very poor.

In the 2000-2006 programming period, considerable progress in Italy's adjustment to the Community cohesion policy was observed and satisfactory results in the exploitation of EU funds were achieved. However, these actions did not translate into improved performance of the poorest Italian regions, which is an extremely unusual situation that has never occurred anywhere else in the European Union.

The underlying causes of the failure are complex. The analysis offered in this paper reveals poor results in acquiring direct foreign investments and developing tourism and modern technologies, which are prerequisites for economic success in many regions. Organized crime has also considerably hindered development and is largely responsible for deterring investment activities in the south of Italy.

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Streszczenie

REALIZACJA WSPÓLNOTOWEJ POLITYKI SPÓJNOŚCI WE WŁOSZECH I JEJ ZNACZENIE W WYRÓWNYWANIU DYSPROPORCJI REGIONALNYCH

Celem artykułu jest przedstawienie znaczenia, jakie środki wspólnotowej polityki regionalnej odegrały w osiąganiu spójności społeczno – gospodarczej przez włoskie regiony Celu 1 oraz pokazanie barier i szans rozwojowych dla tych terytoriów

w przyszłości. W części pierwszej przedstawiony został proces dostosowawczy Włoch do polityki wspólnotowej, głównie pod względem zgodności prowadzonej polityki z zasadami polityki regionalnej oraz dostosowań instytucjonalnych. W części drugiej przedstawiona została analiza porównawcza wielkości funduszy wykorzystanych przez regiony kohezyjne w okresie programowania 2000 – 2006 z założonymi wielkościami, a także próba odpowiedzi na pytanie, czy środki te w istotnej mierze wpłynęły na zmniejszenie się różnic miedzy biedniejszymi regionami Południa a bogatszymi Północy – Centrum. W ostatniej części pokazano możliwości i bariery rozwojowe, przed którymi stoją włoskie regiony kohezyjne.

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ZOFIA WYSOKIŃSKA*

Completion of the Common Internal Market of Recycling in the EU - Position of New Member States

Abstract

In the paper will be presented the analysis of ecological competitiveness in the EU ("old" and "new" Member States) recycling market within the process of the establishment of common standards related to the Prevention and Recycling of Waste. The paper examined advantages of common standards for Europe from the point of view of the completion of the common internal market of recycling within the EU Strategy promoting the sustainable growth.

1. Intruduction

The strategy of sustainable development is promoted by:

1. The enhancing of international cooperation in the production of environmental- friendly technologies and products with special reference to:
    - Pollution Management (air pollution control, wastewater management, solid waste management, noise and vibration abatement and recycling),
    - Cleaner Technologies and Products (cleaner/resource-efficient technologies and processes),
    - Resource Management (indoor air pollution control, water supply, recycled materials, renewable energy plant, heat/energy saving and

* Ph. D., Full Professor at the University of Łódź

management, sustainable agriculture and fisheries, sustainable forestry, natural risk management, eco-tourism).

2. Restructuring of the economy with special reference to sun-setting industries, offering old technologies of coal-based products, heavy metals, heavy chemicals etc.)[1].

We can consider the strong correlation between economic policy and environmental protection and the relationship between the adaptation to the international environmental standards and the competitiveness and better access to global and regional markets[2].

The total market size of the environment industry was estimated at US $ 600 billion by 2010. Most of the growth will continue to take place in developing countries and economies in transition, at an annual rate of 8 to 12 per cent[3]. In relative terms, this environmental market is not as big as the steel or agriculture markets, but roughly the same size as the pharmaceuticals and information technology markets[4]. The European eco-industries sector plays an important role in the global eco-market. The EU is estimated to have round one third of the world share of eco-industries and a 50% share of the world market in the waste and recycling industries[5].

In the recent years as world economies continue to expand, natural resources are being increasingly depleted, energy is becoming a key issue, and proper and effective waste management is an increasing challenge. Moving

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[1] Wysokinska, Z., "Foreign Trade in Environmental Products; The WTO Regulation and Environmental Programs, *Global Economy Journal;* Volume 5, Issue 3, Article 5, USA 2005, p. 2-3. http://www.bepress.com/gej/vol5/iss3/5; comp. also: Wysokinska Z., The International Environmental Goods and Services Market: an Opportunity for Poland, *Polish Journal of Environmental Studies*, Vol.18, No. 5 (2009), pp. 941-948

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[3] Trade and Environment Review 2003, UNCTAD, New York and Geneva, 2004, p.36; WTO, (2003); Report to the 5th Session of the WTO Ministerial Conference in Cancun, WT/CTE/8, 11 July, 2003, p. 7.

[4] As above.

[5] Accelerating the Development of the Market for Recycling in Europe, Report of the Taskforce on Recycling, Composed in preparation of the Communication "A Lead Market Initiative for Europe"{COM(2007) 860 final}, p. 2.

towards sustainable patterns of consumption and production are the cornerstones of development that is sustainable – not only in terms of energy but in terms of *all* resources we produce, consume and dispose.

There is significant market potential in recycling to increase efficiency and capacity, by encouraging innovation, and introducing more effective processes and improved technologies. This can help save costs, energy, and natural resources – and help Europe be less dependent on rising raw materials prices. Recycling belongs also to six most important sectors within the Lead Market Initiative for Europe[6]. This Lead Market proposes *a package of polices* (legislation, standards and labeling, public procurement, financing, knowledge sharing, and international action) that acting in synergy can foster recycling markets, increase more and better recycling, yield environmental and economic gains, and in the long run can improve Europe's competitive position[7].

2. Position of Europe in the world market of environmental related technologies

European Commission proposed recently the new economic strategy for Europe *"Europe 2020"*, including three key drivers for growth, to be implemented through concrete actions at EU and national levels:

- *smart growth (fostering knowledge, R+D, innovation, education and digital society),*
- *sustainable growth* (making our production more resource efficient while boosting R+D and competitiveness),
- *inclusive growth* (raising participation in the labour market, the acquisition of skills and the fight against poverty)[8].

In terms of specialization, patent data show that emerging economies (India, China, Israel, Singapore) and the United States focus their innovative efforts on high-technology industries (computers, pharmaceuticals) while continental Europe concentrates on medium-high-technology industries

[6] Recycling is one of the lead market among: *e*-health, protective textiles, sustainable construction, recycling, bio-based products, and renewable energies, compare: Lead Market Initiative for Europe; http://ec.europa.eu/enterprise/policies/innovation/policy/lead-market-initiative/#2#2.

[7] Accelerating the Development of the Market for Recycling in Europe, op cit, pp. 3-4.

[8] EUROPE 2020 A strategy for smart, sustainable and inclusive growth, Communication from the Commission, COM(2010) 2020, Brussels, 3.3.2010

(automobiles, chemicals)[9]. Europe followed by Japan is the world leader in environment-related technologies. The United States and Japan have a comparative advantage in biotechnology and nanotechnology patenting and in the relevant scientific fields, while the EU is the world leader in environment-related technologies (solid waste, renewable energy and motor vehicle abatement), with Germany playing a very active role. Japan is second to the EU in all three environmental technology fields[10]. However, while patenting in renewable energy and motor vehicle abatement has been increasing rapidly since the mid-1990s, patenting in solid waste technologies has declined[11].

3. Recycling market as one of the lead market in the EU

Recycling, understood as proper and effective waste management, and renewable energy, CO_2-neutral energy sources is one of the crucial lead market of the European Union[12]. This sector plays an underpinning role by:

- reducing waste going to disposal,
- reducing consumption of natural resources,
- improving energy efficiency.

The eco-industries sector in the EU has a turnover of around € 227 billion, corresponding to 2.2% of EU GDP. This includes waste treatment (€ 52 billion) and recycling (€ 24 billion, over 500,000 jobs). The recycling sector is made up of over 60,000 companies; the profile of which is: 3% large; 28% medium; 69% small. The demand and price for raw materials are increasingly affected by global forces, and there are indications that international trade in recycled material continues to grow. The EU is estimated to have round one third of the world share of eco-industries and a 50% share of the world market in the waste and recycling industries. There is significant market potential in recycling but barriers to market development need to be addressed. There is also potential to significantly improve efficiency and capacity, by encouraging innovation, and introducing more effective processes and improved technologies. This can help save costs, energy, and natural resources – and help Europe be less dependent on

[9] OECD Science, Technology and Industry scoreboard 16 2007 – ISBN 978-92-64-03788-5 – © OECD 2007, pp. 9-16.

[10] As above.

[11] As above, p. 14.

[12] Source: Lead Market Initiative for Europe,
http://ec.europa.eu/enterprise/leadmarket/leadmarket.htm

rising raw materials prices. The EU has a range of regulatory measures dealing with waste: a strategic approach to waste and resources; legislation regulating waste treatment; and management of specific waste streams such as end-of-life vehicles, and electrical and electronic equipment. European legislation plays a strong role in driving development and markets – for example, 2015 targets for vehicles will be 85% reuse/recycling and 95% reuse/recovery[13].

Recycling creates also a part of the most important environmental services' sectors in the European economy and it is observed its dynamic development especially since the year 2003, after the Eastern European enlargement in the year 2004[14]. Ecological competitiveness[15] in the recycling sector is created by firms from the EU-15 and from new members (EU 12). The highest position among the Eastern European new members achieved Poland, Czech Republic and Romania. It was about 6-7 times lower than the positions of leaders from the following "old" member states: United Kingdom, France, Italy and Germany, but comparable to the position of the Netherlands and Sweden- comp. graphs at. p. 9 of the paper. As it is presented on graphs at page 10 Poland, Czech Republic and Romania belong to countries in Europe with the highest emissions of carbon dioxide (CO2) to the atmosphere. These three CEE countries are followed by "old " members of the EU: Germany, United Kingdom, Italy, France and Spain- comp. p. 10.

As European society has grown wealthier it has created more and more rubbish. Each year in the European Union alone we throw away 3 billion tones of waste - some 90 million tones of it hazardous. According to *Eurostat* data this amounts to about 6 tones of solid waste for every man, woman and child. Most of waste is either burnt in incinerators, or dumped into landfill sites (67%). But both these methods create environmental damage. Landfilling not only takes up more and more valuable land space, it also causes air, water and soil pollution, discharging carbon dioxide (CO_2) and methane (CH_4) into the atmosphere and chemicals and pesticides into the earth and groundwater. This, in turn, is harmful to human health, as well as to plants and animals. By 2020, the OECD estimates,

[13] Accelerating the Development of the Market for Recycling in Europe, Report of the Taskforce on Recycling, Composed in preparation of the Communication "A Lead Market Initiative for Europe", {COM(2007) 860 final}, p. 2-3.

[14] Based on *Eurostat* data. Compare also graphs at p. 9 of the paper.

[15] Ecological competitiveness: *Ability of a firm or a nation to offer environmental products, especially technologies and services that meet the quality and environmental standards of the regional and world markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them*.- Own modification of the definition based on:http://www.businessdictionary.com/definition/competitiveness.html

we could be generating 45% more waste than we did in 1995. Obviously this trend must be reversed if we are to avoid being submerged in rubbish. But the picture is not all gloomy. The EU's *Sixth Environment Action Programme* identified waste prevention and management as one of four top priorities. Its primary objective was to decouple waste generation from economic activity, so that EU growth will no longer lead to more and more rubbish, and there are signs that this is beginning to happen. In Germany and the Netherlands, for example, municipal waste generation fell during the 1990s[16]. The EU is aiming for a significant cut in the amount of rubbish generated, through new waste prevention initiatives, better use of resources, and encouraging a shift to more sustainable consumption patterns.

The European Union's approach to waste management is based on three principles:

1. **Waste prevention**: This is a key factor in any waste management strategy. Waste prevention is closely linked with improving manufacturing methods and influencing consumers to demand greener products and less packaging.
2. **Recycling and reuse**: If waste cannot be prevented, as many of the materials as possible should be recovered, preferably by recycling. The European Commission has defined several specific 'waste streams' for priority attention, the aim being to reduce their overall environmental impact. This includes packaging waste, end-of-life vehicles, batteries, electrical and electronic waste.
3. **Improving final disposal and monitoring**: Where possible, waste that cannot be recycled or reused should be safely incinerated, with landfill only used as a last resort. Both these methods need close monitoring because of their potential for causing severe environmental damage[17].

4. The importance of the recycling sector in Europe within the EU Strategy on Prevention and Recycling of Waste-establishment of common standards

Recycling plays an underpinning role by reducing waste, by reducing consumption of natural resources and in-contributing to greater energy efficiency. In this broad and diverse area, a lead market potential is seen in electrical and electronic waste and the waste from the end-of-life of vehicles.

[16] http://ec.europa.eu/environment/waste/index.htm

[17] As above.

Recycling reduces waste going to disposal, consumption of natural resources and improves energy efficiency. It therefore plays an essential role in the move towards sustainable consumption and production. The recycling sector has a turnover of €24 billion and employs about 500 000 persons. It is made up of over 60 000 companies. The EU has around 50% of world share of the waste and recycling industries[18]. It is estimated that roughly 0.75% of EU GDP corresponds to waste management and recycling[19].

The Waste Framework Directive of the EU sets out a number of basic concepts that are important for recycling and recovery as a whole. The End-of-Life Vehicles directive 2000/53/EC (ELV), and a directive on Waste Electrical and Electronic Equipment 2002/95/EC (WEEE) are examples of EU product-specific legislation which provide a framework for the market development for a wide range of recycled products, and their associated technologies and industrial processes. The targets contained in these directives will further drive demand for recycling. The Review of the WEEE Directive, due in 2008 may look for ways to promote long term developments of recycling markets[20].

Promotion of recycling is oriented on: developing material-based recycling targets in conjunction with end-of-life product-based targets; making producers responsible for recycling; encouraging recycling businesses to use the best available technology. Recycling refers to the process of collecting used materials which is usually considered as ‘waste’ and reprocessing them. In this process these used materials are sorted and processed to be used as ‘raw materials’ for the production of new products. Some of the most common items that are recycled are plastic, glass, paper, batteries, aluminum etc. Importance of recycling for: saving energy; reduction of pollutions, saving natural resources, increasing economic and social benefits related to the creation of the new markets and new employment opportunities; saving space for waste disposal. Improving waste management is recognized as a major environmental challenge at international level. The European Commission’s proposal for a European Union strategy for sustainable development also highlights the need to break the link between economic growth, the use of resources and the generation of waste. The response for this need was the Integrated Product Policy (2003-2012). Promotion of recycling is oriented on: developing material-based recycling targets in conjunction with end-of-life product-based targets; making producers

[18] http://ec.europa.eu/enterprise/policies/innovation/policy/lead-market initiative /recycling/index_en.htm

[19] Lead Market Initiative for Europe. Mid-term progress report. Commission Staff Working Document, Brussels, 9.9.2009, SEC (2009) 1198 final, p. 45.

[20] Accelerating the Development of the Market for Recycling in Europe, op.cit., p. 3.

responsible for recycling; encouraging recycling businesses to use the best available technology. In 2005 around 95 million tones of waste have been recycled in the European Union. The amount of municipal solid waste increased in the years from 1996 to 2005 between 1.1% per year for as an average[21].

The EU Strategy on the prevention and recycling of waste is based on two major premises.

- Waste policy should focus on the environmental impact of using resources. Waste policy ties in with resources policy – and it is known from resources policy that the important issue is not scarcity of resources but the environmental impact of their use.
- Waste policy should take a life-cycle approach. Waste policy should also tie in with the Integrated Product Policy (IPP). It aims to reduce environmental impacts from products throughout their life-cycle, where possible using a market-driven approach[22].

The New Services Directive came into force across the EEA on the 28th December 2009. It is aimed at opening up the internal market for service provision in the EU. It applies to the 27 EU Member States plus Norway, Iceland and Liechtenstein (European Economic Area). The Directive aims to break down barriers to cross-border trade in services between Member States, making it easier for service providers to set up business and offer their services elsewhere within the European Economic Area (EEA). It will achieve this by removing regulatory and administrative barriers that make it difficult for service providers to trade across borders.

The removing of barriers in the recycling market in Europe is deeply connected with **the establishment of common EU waste standards and an common EU recycling market.** The issue of the development of common standards for recycling and recovery is central to tomorrow's waste policy in Europe.

Several Member States, and regional or local authorities, tend towards protectionism in the area of waste. This is why the blocking of shipments relates mostly to exports rather than imports. This reflex can be attributed to a number of factors.

- Firstly, waste infrastructure is expensive and once built requires fixed minimum volumes of waste to be efficient. Capacities may have to compete with similar but cheaper installations, or with other waste treatment

[21] Sander K., Climate Protection Potentials of EU Recycling Targets; 2008, http://www.eeb.org/publication/documents/RecyclingClimateChangePotentials.pdf

[22] http://ec.europa.eu/environment/waste/pdf/story_book.pdf, p. 19

techniques. The diversification of waste recovery and recycling practices in Member States and in industrial sectors, and the effects of enlargement, could increase these competitive pressures. In addition, some investment is based on overestimates of the amounts of waste that will be available in the future, and this creates tensions.

- Secondly, the combination of public and private interests involved in different aspects of the waste business varies from one Member State to another. Environmental arguments are sometimes used to disguise economic motives. The distinction between action to protect the environment and illegitimate economic protectionism is not always clear[23].

Advantages of common standards

- Common standards protect the environment in the whole of the EU. National standards apply only in the territory of the few Member States that have them. Any reduction in environmental benefits caused by a few Member States having to lower their high standards would be more than offset by the gain in coverage.
- Common standards could in the longer term enable us to reduce the complexity of the legislation that controls shipments of waste destined for recovery.
- Common standards would help to build a strong internal market for recycling and recovery. As with any economic activity, recycling and recovery activities would benefit from an open internal market.
- For a limited period, in specific cases where large amounts have been invested in facilities state of high environmental quality, it may be legitimate to steer waste towards them to ensure they receive sufficient quantities. But this should be the exception rather than the rule.
- If one fair standard is applied across the EU, there are few advantages to be gained from 'competition' in terms of environmental standards (e.g. Member State A sets a high standard and blocks export to Member State B – Member State B raises its standards in order to regain access to the waste).
- There is no evidence that an internal market for recovery disproportionately increases the environmental impact of the transport of waste. Research confirms that externalities related to transport are a minor fraction of the overall impact of treating the waste. Waste can be transported large

[23] As above, p. 24-25.

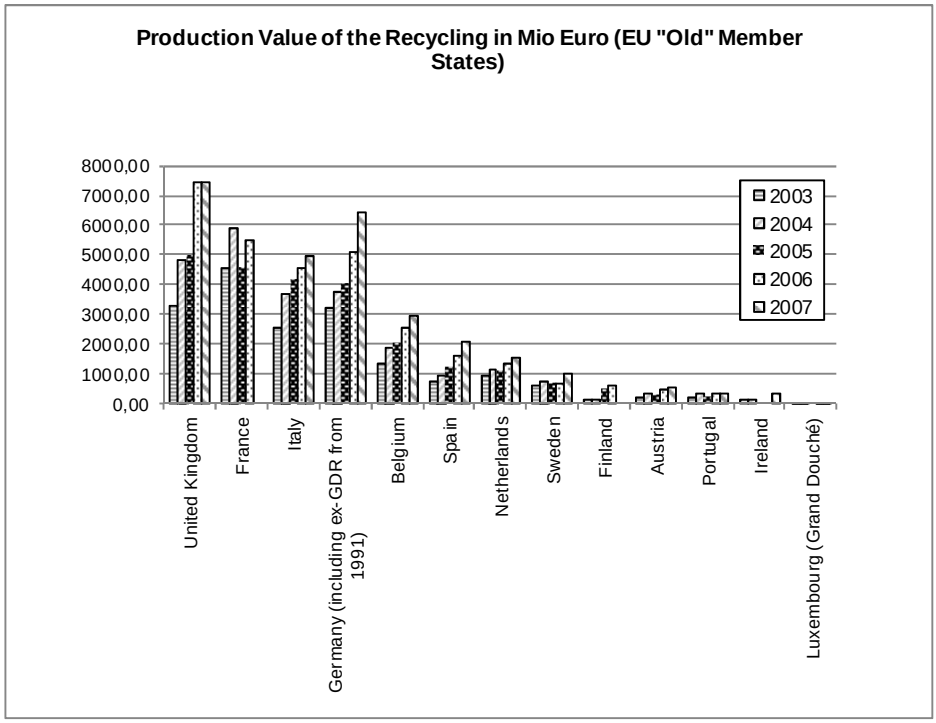
distances, and the efficiency gains from waste going to the 'right' facility can outweigh the externalities of transportation[24].

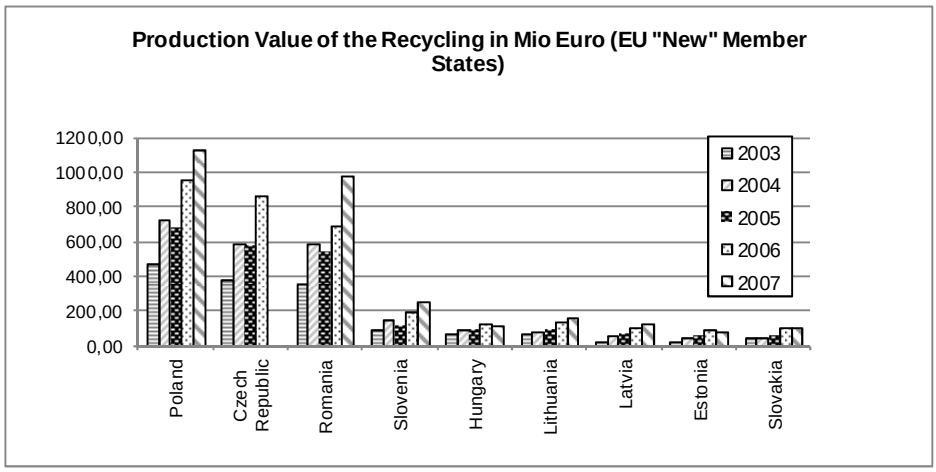
5. Conclusion

- Sustainable development and "green economy" are the most important objectives of economic and social development for the nearest 10 years future not only in the European but also in the world economy.
- Europe as a leader in environment related technologies promotes sustainable growth based on effective waste management, and renewable energy sources.
- Recycling plays an underpinning role by reducing waste, by reducing consumption of natural resources and in-contributing to greater energy efficiency.
- Common standards protect the environment in the whole of the EU and play the positive role in the process of the completion of the common market of recycling services.
- Firms from new members of the EU participate very active in the recycling market in the EU and deeply involved in the process of the adaptation to common standards protecting the natural environment.

[24] As above, p. 25.

Graphs[25]





[25] All graphs are based on own calculations of Author's, prepared on the base of *Eurostat* data.

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Streszczenie

BUDOWA WSPÓLNEGO RYNKU RECYKLINGU W UNII EUROPEJSKIEJ – POZYCJA NOWYCH KRAJÓW CZŁONKOWSKICH

Artykuł ma na celu zaprezentowanie wyników analizy konkurencyjności ekologicznej w UE ("starych" i "nowych" krajów członkowskich) na rynku recyclingu w procesie tworzenia wspólnych standardów, odnoszących się zarówno do zapobiegania powstawaniu odpadów jak i do rozwoju recyklingu, mającego na celu redukcję zanieczyszczeń.. W artykule poddane zostały analizie korzyści wynikające ze wspólnych standardów w Europie dla utworzenia wspólnego rynku recyklingu w ramach strategicznego podejścia UE zorientowanego na zrównoważony rozwój.

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WITOLD KASPERKIEWICZ[*], WIESŁAW JAN ROGALSKI[**]

Innovativeness of the US economy. Permanent or weakening dominance?

Abstract

The main purpose of the paper is to analyze the innovativeness of the US economy against those of European and Asian economies. The particular attention was given to the reasons for the forming of the US dominance in the field of innovation. The paper also considers the process of vanishing of American dominance at the end of 1990s.

The paper is divided into three parts. In the first one, main causes of American leadership in the field of technology are explained. In the second part, innovation performance of the US economy in comparison with the EU and Asian economies is presented. Finally, there is an analysis of innovation capacity of US economy in the context of challenges resulting from the financial and economic crisis.

1. Introduction

In the contemporary globalized economy, knowledge and innovation are the main incentives for the economic growth and the progress of civilization. Successful economies are able to create such system solutions that boost a strong tendency of economic entities to create and promote innovativeness. According to Paul Romer, the economic future of nations depends on their ability to

[*] Ph. D., Professor at the University of Łódź

[**] Ph. D., the Jan Kochanowski University of Humanities and Sciences in Kielce

innovativeness which is dependent on the quality of a higher education sector. US economy is a peculiar laboratory of innovativeness, whose dynamism might set an example for other countries. United States have established dominance in the field of innovativeness thanks to a series of various beneficiary processes and factors which shaped the American model of economy comprising mechanisms setting innovative attitudes of enterprises and the society. (Bossak 2008, p. 170).

The main purpose of this paper is to explain the origins of American dominance in the field of innovativeness, analyze the US economy innovativeness against that of European and Asian economies, as well as discuss the perspectives of US remaining on the leader position in the face of a technological race.

The article starts with an introduction followed by the characteristics of main factors and processes which brought about the rise of the US economic dominance in the field of innovativeness; next, an analysis of the decreasing innovative superiority of the economy over the rest of the world is provided; and finally, we focus on the question of the current economic crisis influence on the perspectives of the USA remaining a technological dominator has been focused on.

2. Factors determining US dominance in the field of innovativeness

When considering factors contributing to the US dominance in the field of innovativeness, one should apply a many-sided analysis of the issue. The dominance results from a series of various events and factors which include not only factors reflecting development potential of economy (natural, human, capital and technological resources), but also, or even foremost, factors dynamizing the potential, like social-economic system, institutional solutions (e.g. manners, work ethics) and the nature of economic policy (Bossak, Bieńkowski 2004, pp. 215–218). In economic and socio-cultural terms, American system generates conditions and attitudes that are exceptionally favorable for innovative activity of economic entities. The DNA of American economy is a conglomerate of various factors, among which one should mention: flexible economy, freedom of starting one's business and the spirit of entrepreneurship, protestant work ethics, economical and cultural advantage of criticism over dogmatism, ethnical variety of emigrants, immigrant labour that is constantly being revived with subsequent generations of talented people from around the world, high rate of work mobility, etc. (the factors permeate and the outcome is creation of mechanisms that boost pro-innovative performance in all

areas of economy). Other economies might copy some of American solutions, nevertheless, they will never be able to reconstruct the whole series of innovativeness factors occurring in the United States. It is hard to believe that the American university system, being the symbol and essence of American achievements in the field of innovativeness, is reconstructed in other countries (Romer 1990, pp. 71–102).

The principal rule of American economic philosophy is "creative destruction". The so far activity is given up, factories closed up or moved without sentimental attachment; entrepreneurs and share holders move in search of higher profits and salaries (Sorman 2008, p. 221). Universities and research institutes play a vital role in the process as their mission is "producing" ideas likely to be transformed into innovations. American university model is one of the best in the world which is proved in multiple research achievements expressed in the number of patented inventions and Noble Prizes (in 2009, 9 out of 13 Nobel Prize winners were American)[1]. Although universities generating innovative ideas are not enterprises, they act in accordance with market regulations. They compete for money on research, professors and students. State-run institutions conduct policies favouring the development of scientific research mainly by means of subventions granted to specific research projects rather than institutions.

In the analysis of the origins of American technological dominance, three processes (rooted in the end of the 1930s and the WWII period) must be taken into account. The first one was the wave of destruction which ravaged almost all the countries competing with the United States. Germany, Great Britain and France were destroyed, the industry – especially German – ruined and universities closed. Financial destruction was not the only war effect. Political and economic systems of some European countries were dominated by populists and communists. The United States position was quite reverse and, as for technology, they didn't have a serious rival for nearly twenty years after the war.

The second process, strictly related to the first one, was the appearance of a generation of immigrants who left Europe and joined American universities, research institutes and think tanks. It is not possible to overestimate its benefits to the intellectual and research potential of the United States. In the 1930s, Germany was the world leader in the field of scientific research most of which had been carried out by German Jews. Despite immigration restrictions, more than 100 thousand Jews left for the US in the 1930s. In the 1950s, American research system, embracing universities, research institutes and companies,

[1] American universities employ 70% of all Noble Price winners; also, around 30% of world articles on sciences and technology are published there.

attracted talented scientists from all over the world. After liberalization of immigration barriers in 1965, the next wave of immigration appeared. It was the time when thousand of Indian and Chinese people – very often with scientific achievements – arrived in the United States (Zakaria 2008, p. 73).

The essence of the third process were huge US investments which began at the time of the Great Depression and then got substantially intensified during the Second World War. Federal government radically increased its layouts on scientific research and development works, and allocated most of them to research universities. The Cold War contributed to raising the expenditure to record levels and in 1950s, the United States spent 3% of their GPD on R&D. The outlays made more than a half of the total world expenses on R&D (Zakaria 2009).

The strong support of the US Federal Government to scientific research brought about surprising results. In the last five decades, in the USA the following inventions have been created and developed: internet, lasers, microprocessors, magnetic resonance imaging of DNA sequencing, satellite navigation systems and many other products and technologies. The government often financed inventions which did not come from federal laboratories. The best illustration of the statement is the development of microprocessor production and the success of Silicon Valley in California. After J. Kilby's (of Texas Instruments) invention of a microprocessor, for several years Federal Government purchased practically each processor that companies were able to produce (Leonardi 2002, p. 21).

It is believed that the period 1958 to 1990 was the golden age of the technological development of American economy after the Second World War. The military and Space Race between US and the Soviet Union was the driving force of the development. In 1957, the Soviet Union launched *Sputnik 1* (a satellite) into space and it owned a hydrogen bomb. The events were perceived as a sign of the end of US technological advantage over the Soviet Union, but also as the beginning of a direct threat to the US security (Michałek 2004, p. 328). American government reacted to Soviet *Sputnik challenge* by inspiring a space research programme, which later became an integral part of J. F. Kennedy's ambitious programme launched in 1961. From the very beginning, space activities were to serve three objectives): political (proving one's advantage in the ideological competition with the Soviet Union), military (ability to apply technological solutions in the armaments industry) and cognitive (scientific exploration). The government launched multiple research programmes (the so called "impact programmes") thanks to which university laboratories, private companies, as well as government laboratories were flooded with streams of money. The increased interest of the government in development

and promotion of technological innovations brought about the blooming of *high-tech* sector that carried out research assigned by the government. Government layouts allocated to the sector gave rise to the development of Silicon Valley, the famous scientific and technological area in the neighbourhood of a few government laboratories, like Laurence Livermore National Laboratory. The main results of space and army programmes were not only inventions increasing country security but also new products meant for civic purposes. The offer was quite immense and included items from powder food up to portable calculators.

Space flight programmes (Apollo programme), especially manned missions, allowed for modernization of American rocket arsenal. They led to the increased number of various intercontinental missiles launched from land and submarines. In 1968, the USA owned 1054 missiles (Soviet Union ZSRR – 858) of the first kind and 656 (Soviet Union – 121) of the second kind. Apart from that, research on multi-warhead rackets of MIRV system were developed. That allowed the US to gain superiority over the Soviet Union in the field still at the beginning of the 70s (Michałek 2004, p. 351).

In the last two decades, the three processes – which originally ensured the United States hegemony in the field of innovativeness – have lost in power. American economy hasn't got a dominant position once and in for all. At the beginning of the 21st century, the growing economic power of China and India presented a serious threat to the US dominance. That entailed the phenomenon of „brain drain" in the reverse direction – from the USA to China and India (Sorman 2008, p. 75).

3. Innovativeness of the United States economy in statistical analyses

In the United States, there has been an era of uncertainty and disappointment going on – it is one of the most difficult periods in their history since WWII. High unemployment rate reaching 10%, rapidly growing budget deficit and national debt, political fights over health service reform as well as energetic policy weaken the US position as a world leader[2]. Disintegration of the financial system revealed how deceptive the wealth generated before the financial crisis was – it resulted from a carefree credit expansion rather than productive activity. The rise of share and real estate prices did not reflect the

[2] According to the US Congressional Budget Office, budget deficit in the fiscal year of 2009 reached over 1,4 billion dollars, which makes 11,2% of gross domestic product. Therefore, it has been the highest deficit for over 60 years.

growth of American national wealth. Assets prices were artificially boosted up by abnormally low interest rates establishes by Fed. Expenditure on saving the American financial system reached exorbitant levels. Enormous nation's confidence placed in president B. Obama will soon fade if recapitalization of banks and fiscal package will not help revive economy and curb the growing unemployment rate (Gray 2009, p. 10).

Despite severe crisis, US economy has managed to keep the leader position in the field of information technology, nanotechnology and biotechnology. Nevertheless, one question arises: aren't American achievements (in the area of innovativeness) a reflection of the past rather than a prognosis for the bright future and remaining a dominant position? In the World Economic Forum report, the United States have often been presented as an example of the most competitive and innovative world economy; however, in 2009, it was Switzerland that took the first position in the ranking (The Global Competitiveness Report 2009–2010, p. 13). Data used for this report, as well as for other ones, are predominantly based on opinion polls carried out among big company directors, scientists and investors. Almost two thirds[3] of the World Economic Forum data comes from the polls. Reports based solely on government statistics and other hard data much better reflect the real position of a given economy. Such reports were created in Boston Consulting Group and Information Technology and Innovation Foundation. They point to the position of particular economies in the field of latest technologies and education development. Both rankings, place the USA much lower than World Economic Forum reports.

In 2009, Information Technology and Innovation Foundation (ITIF), an American non – profit think tank specializing in research into innovative processes, work effectiveness and digital economy (Atkinson, Andes, 2009) – carried out and published a deep and comprehensive analysis of global competitiveness, based on evaluation of achievements in the field of innovation. Contrary to other reports evaluating economical structure of a country, its economic policy and economic achievements, the report is based on a belief that all elements should be looked at altogether, so that to understand how a given economy operates in the conditions of global competitiveness. To estimate global competitiveness, 16 general competiveness indicators have been used. They are classified into 6 categories: human capital, innovative ability,

[3] There was also another report, prepared by world-famous Institute for Management Development (IMD), where one-third of data came from opinion polls.

entrepreneurship, information technology infrastructure, economic policy and economic results[4].

According to ITIF analysts, in 2008 the US were on the sixth position (out of 40 countries and areas – European Union and NAFTA) in an innovativeness and competitiveness ranking. Table 1. and Table 2. show the general ranking of countries and areas in 2008, as well as further changes of the competitiveness and innovativeness index in the period 1999 to 2008.

[4] Particular categories of indicators are a set of partial indicators). Human capital category comprises achievements in the field of Higher Education Sector and human potential of science and technology researchers; innovative ability is expressed through enterprises and government investments on scientific research and development works as well as scientific and technical publications; entrepreneurship refers to venture capital investments and new companies set up; information technologies infrastructure comprises e-administration, broadband Internet and enterprises' investment on information technologies; economic policy refers to effective tax rates for enterprises as well as conditions for starting and running a business; economic results stand for trade balance, BIZ inflow, GPD per one adult worker and GPD per one man-hour.

Table 1. Competitiveness and innovativeness ranking by country and area in 2008

Rank	Countries	Points	Country's position	Countries	Points
1	Singapore	73,4	21	Czech Republic	47,9
2	Sweden	71,0	22	Estonia	46,1
3	Luxemburg	66,2	23	Spain	43,7
4	Denmark	64,5	24	Hungary	42,5
5	South Korea	64,2	25	Lithuania	40,8
6	The USA	63,9	26	Italy	40,2
7	Finland	59,6	27	Portugal	38,7
8	Great Britain	59,2	28	Slovenia	37,6
9	Japan	59,0	29	Slovakia	37,0
10	NAFTA	58,6	30	EU–10[3)]	36,9
11	Holland	58,4	31	Latvia	36,5
12	France	57,3	32	Malta	36,2
13	Ireland	56,4	33	China	36,0
14	Belgium	56,3	34	Poland	35,4
15	Germany	55,0	35	Russia	35,1
16	Canada	54,4	36	Cyprus	33,2
17	Austria	52,6	37	Greece	31,5
18	EU–15[1)]	52,5	38	Brazil	30,1
19	Austria	51,5	39	Mexico	26,0
20	EU–25[2)]	50,6	40	India	21,6
				AVERAGE	36,5

[1)] EU–15 includes „old" Member States.

[2)] UE–10 includes new Member States which joined EU in 2004.

[3)] UE–25 includes all Member States except for Bulgaria and Romania.

Source: Atkinson R. D., Andes S. M., op. cit., p. 2.

Table 2. The change of competitiveness and innovativeness level in the period 1999 to 2008

Rank	Countries	Points	Country's position	Countries	Points
1	China	19,5	21	Sweden	10,7
2	Singapore	19,0	22	France	10,6
3	Lithuania	14,8	23	Portugal	10,1
4	Estonia	18,1	24	Malta	9,9
5	Denmark	17,4	25	Belgium	9,5
6	Luxemburg	16,9	26	EU–25	9,4
7	Slovenia	16,7	27	Poland	9,4
8	Russia	15,2	28	Great Britain	9,0
9	Cyprus	14,7	29	EU–15	8,5
10	Japan	14,4	30	Mexico	8,0
11	Hungary	14,3	31	Holland	7,9
12	Slovakia	14,1	32	Austria	7,4
13	Czech Republic	13,8	33	Finland	7,3
14	India	13,6	34	Canada	6,3
15	Latvia	13,4	35	Germany	6,3
16	Austria	13,2	36	Italy	5,2
17	South Korea	13,2	37	NAFTA	5,1
18	Ireland	12,9	38	Greece	5,1
19	EU–10	12,8	39	Brazil	3,7
20	Spain	10,8	40	USA	2,7
				AVERAGE	11,2

Source: Atkinson R. D., Andes S. M., op. cit., p. 2–3.

Data in Table 1. show that the United States occupy the sixth position in the ranking of 40 countries and areas scoring 63,9 points, which is 15% less than Singapore – the ranking leader. EU–15 countries treated as an area took the eighteenth position with a 40% lower result than Singapore. According to the ranking, the States are not a leader in the field of competitiveness and investment, however, they still outdistance Europe.

Surprisingly, ITIF analysis revealed the States progress being the lowest of 40 countries and areas, in the area of economical innovativeness and competitiveness advance (Table 2). In the period 1999 to 2008, the general index for the US went up only by 2,7 points, at average 11,2 points growth for the whole group. China and Singapore had the biggest rate growth – by 19,5 and 19,0 points respectively.

In case of human resources, two indicators were applied: the percentage of adults at 25–34 years of age with a university degree and a number of researchers (scientists and engineers) per 1000 of employees. Tables 3 and 4 show the States' position in a ranking based on the two indicators.

Table 3. Achievements in higher education (the percentage of people at the age of 25–34, with a university diploma and the change expressed in percentage) in 2005 and the change dynamics in the period 1999 to 2005

Rank	Country	% of people at the age of 25–34, with a higher education diploma 2005	Rank	Country	The change in % 1995–2005
1	Russia	56%	1	Poland	117%
2	Canada	54%	2	South Korea	46%
3	Japan	53%	3	Ireland	41%
4	South Korea	51%	4	Austria	31%
5	Ireland	41%	5	Great Britain	30%
6	Spain	40%	6	EU–25	27%
7	France	39%	7	France	26%
8	USA	39%	8	EU–15	25%
9	Australia	38%	9	Spain	21%
10	Singapore	38%	10	Japan	18%
11	Sweden	37%	11	Sweden	16%
12	Great Britain	35%	12	Canada	15%
13	NAFTA	35%	13	Mexico	13%
14	EU–15	30%	14	NAFTA	6%
15	EU–25	29%	15	USA	3%
16	Poland	26%	16	EU–10	no accessible data
17	EU–10	22%	17	Singapore	no accessible data
18	Germany	22%	18	Germany	no accessible data
19	Mexico	18%	19	China	no accessible data
20	China	9%	20	Russia	no accessible data
21	India	9%	21	India	no accessible data
22	Brazil	8%	22	Brazil	no accessible data
	average	23%		average	22%

Source: Atkinson R. D., Andes S. M., op. cit., p. 10.

Two conclusions may be drawn on the basis of Table 3 data. The first refers to the US position in terms of higher education achievements measured by the number of people at 25–34 years of age, with a university degree in this age group. In this case, the States are much ahead of European Union countries (EU–15 and EU–10). The second conclusion is related to the analysis of this index tendencies in the period 1999 to 2006. The analysis reveals a completely new image of the US in terms of higher education. During this period, US had the lowest rate growth in the whole group (with all data accessible); it was 3%, at average 22% growth for all countries, and 117% for Poland.

Table 4. Scientists and engineers per 1000 employees in 2006, and growth dynamics in the period 1999 to 2006

Rank	Country	Researchers per 1000 employees	Rank	Country	The change in % 1999–2006
1	Sweden	12,5	1	China	111%
2	Japan	11,0	2	Mexico	98%
3	Singapur	9,7	3	South Korea	71%
4	USA	9,7	4	Singapore	70%
5	Australia	8,4	5	Brazil	67%
6	France	8,0	6	EU–10	64%
7	South Korea	7,9	7	Spain	63%
8	NAFTA	7,8	8	India	50%
9	Canada	7,8	9	Poland	43%
10	Germany	7,0	10	Sweden	38%
11	Russia	6,8	11	France	31%
12	EU–15	6,2	12	Australia	26%
13	EU–25	6,0	13	Ireland	25%
14	Ireland	5,9	14	Canada	23%
15	Spain	5,7	15	EU–25	18%
16	Great Britain	5,5	16	Japan	14%
17	Poland	4,7	17	EU–15	11%
18	EU–10	4,7	18	NAFTA	10%
19	China	1,5	19	Germany	9%
20	Mexico	1,2	20	USA	8%
21	Brazil	1,0	21	Russia	0%
22	India	0,3	22	Great Britain	–4%
	average	6,2		average	35%

Source: Atkinson R. D., Andes S. M., op. cit., p. 10.

The number of researchers (scientists and engineeres) per one thousand of employees is a significant index for the analysis of innovativeness in particular countries . the United States are distinguished by a high rate of researchers per one thosand of employees reaching the level of 9,7 (the 4th position in the ranking). However, the growth rate was very low in the period 1999 to 2006 when it reached 8%, at average growth of 35% for all countries. What is more, one should remark on the huge progress made in the field by the following countries: China – 111%, Mexico – 98%, South Korea – 71%, Singapore – 70%, EU–10 – 64%, and Poland – 43%.

The comparisons deserve additional commentary. It should be noticed that 80% of researchers in the United States work for enterprise sector, in Japan – 66%, and in European Union countries – around 50% (Science Technology and Industry Score Card 2007, 2007). The high rate of US researchers carrying out their scientific research for enterprises is favourable for the process of adjusting their performance results to economic needs.

The level of outlays on R&D activity by enterprises and government is often thought to be a strong advantage of American economy's innovativeness. Data in Tables 5. and 6. present the share of outlays on R&D in US GPD, and are contrasted with the values of some countries of the world, mainly European.

Table 5. The share of outlays on R&D in GPD in 2006 and the 1999–2006 dynamics in the period 1999 to 2006

Rank	Countries	Enterprises' layouts on R&D (the percentage of GPD)	Country's position	Countries	The change in % 1999–2006
1	Japan	2,6%	1	China	160%
2	Sweden	2,5%	2	Mexico	129%
3	South Korea	2,4%	3	South Korea	55%
4	Germany	1,7%	4	Australia	40%
5	USA	1,7%	5	Singapore	37%
6	NAFTA	1,6%	6	Spain	36%
7	Singapore	1,4%	7	Japan	20%
8	France	1,1%	8	EU–10	14%
9	EU–15	1,1%	9	Canada	14%
10	EU–25	1,1%	10	Germany	9%
11	China	1,0%	11	EU–25	4%
12	Australia	0,9%	12	Ireland	3%
13	Canada	0,9%	13	Sweden	2%
14	Great Britain	0,8%	14	EU–15	1%
15	Ireland	0,8%	15	NAFTA	–4%
16	Spain	0,6%	16	France	–5%
17	EU–10	0,4%	17	USA	–5%
18	Brazil	0,3%	18	Great Britain	–10%
19	Russia	0,3%	19	Brazil	–13%
20	Mexico	0,2%	20	India	–22%
21	Poland	0,2%	21	Poland	–29%
22	India	0,1%	22	Russia	–39%
	Average	1,4%		Average	32%

Source: as in Table 4, p. 12.

At the top of the ranking of countries by the rate of enterprise's self investment on R&D are: Japan (2,6%), Sweden (2,5%) and South Korea (2,4%). The Unites States take the fifth position – 1,7% rate. It should be noticed that the US outdistance most European countries in the ranking (except for Sweden and Germany). For instance, the rate analyzed for fifteen old EU countries, is 64% lower than the United States rate, and for UE-10 it is 22% lower.

Rate change analysis in the period 1999 to 2006 reveals a completely different picture of the US position in the ranking. The data show an unfavourable tendency as for the levels of expenditure on R&D performed in the enterprise sector; the rate (of enterprises' layouts on R&D) went down by 5% during that period. At the same time, there was a 160% rise in China, 129% - in Mexico%; in well-developed countries, the rate is between 55% in South Korea and 10% in Great Britain. In case of China and Mexico, the low starting level of expenditure on R&D contributed to its impressive growth. And as for well-developed countries, dynamic rate growth is caused by economic strategy changes aimed at strengthening innovative potential of their economy.

An important element of innovative potential of a given economy are government outlays on R&D devoted mainly to basic and applied scientific research which are high risk research projects without prospects for immediate commercial results. In 2006, government outlays on nanotechnology in well-developed countries reached 52 % of the total expenditure on scientific exploration. Enterprises' share in the costs was 43%, and *venture capital* funds made 5% of it (2008 Global R&D Report, 2008, p. 12).

Table 6. data point to a high fourth position of the United States in the ranking of government layouts on R&D in GDP and a low fifteenth position in terms of change dynamics. Although the US outdistance EU countries (EU–15, EU–25 and EU–10) in government R&D investments, their advantage is shrinking. In the period 1999 to 2006 there was only a 1% rise of the indicator, while in EU–15 countries it went up by 9%. What is more, two EU countries achieved an extremely high rate growth: Ireland – 52% and Spain – 47%.

An important source of financing new developing companies is *venture capital*. It is very often the most important way of capitalization of small and innovation-oriented companies which go into *high-tech* areas like electronics, biotechnology, industrial automatics, medical devices, etc. Innovations in those areas are burdened with high risk which causes difficulties in acquiring funds from traditional sources. *Venture capital* offers a chance to finance risky innovative activities.

Statistical ITIF analyses show the highest rates of *venture capital* investment in GPD for such countries as: Sweden (0,30%), Great Britain (0,29%), South Korea (0,25%), Singapore (0,25%) and the USA (0,18%). In the ranking, the United States outdistance EU–15 (0,11%) and EU–25 (0,10%) countries (Atkinson, Andes 2009, p. 15).

Table 6. Government outlays on R&D in GPD in 2006 and change dynamics in the period 1999 to 2006

Rank	Countries	Enterprises' outlays on R&D (% of GPD)	Rank	Countries	The change in % 1999–2006
1	Sweden	0,90%	1	Ireland	52%
2	Singapore	0,87%	2	Spain	47%
3	France	0,81%	3	South Korea	33%
4	USA	0,76%	4	Russia	29%
5	South Korea	0,75%	5	China	20%
6	NAFTA	0,73%	6	Canada	18%
7	Australia	0,72%	7	EU–15	9%
8	Germany	0,72%	8	Singapore	9%
9	Canada	0,66%	9	EU–25	8%
10	Russia	0,66%	10	Great Britain	6%
11	EU–15	0,65%	11	Australia	5%
12	EU –25	0,64%	12	NAFTA	2%
13	Great Britain	0,57%	13	Sweden	2%
14	Japan	0,55%	14	France	2%
15	India	0,52%	15	USA	1%
16	Spain	0,51%	16	EU–10	0%
17	EU10	0,40%	17	India	–2%
18	Ireland	0,39%	18	Japan	–7%
19	China	0,35%	19	Germany	–7%
20	Poland	0,32%	20	Mexico	–14%
21	Mexico	0,23%	21	Poland	–20%
22	Brazil	0,17%	22	Brazil	–47%
	Average	0,70%		AVERAGE	5%

Source: as in Table 5, p. 13.

Innovativeness indicators that have been discussed so far referred to economy's innovative potential. For a complete picture of a given economy's innovative activity, one needs to analyze indicators reflecting the results of innovative performance. The list of indicators comprises: the percentage share of high-tech goods in the total export value, the percentage of people employed in medium and high technology industry sectors against general employment value, as well as the number of inventions applied to EPO (European Patent Office), USPTO (United States Patent and Trademark Office) and the number of patents

obtained simultaneously in patent offices in Europe, the USA and Japan per 1 million of inhabitants.

The share of *high tech* products in the total export value in 2007 reached 26,1% for the USA, 20,0% for Japan and for EU–27, the average rate for reached 16,7%. Malta (54,6%), Luxemburg (40,6%), Ireland 28,9%) and Great Britain (26,5%) represent countries with the highest rate value (European Innovation Scoreboard 2007, pp. 16–17, 39–40).

As for percentage share of employees in *medium-high* and *high-tech* industry sectors, the United States fall at the bottom of the list with the rate of 3,84%. In 2007, medium rate for EU–27 was 6,63%. In Japan, it was 7,30%, in Denmark – 10,75%, in Czech Republic - 10,33%, Sweden – 9,72%, Finland – 8,50%, Switzerland – 7,25% and Israeli – 4,40% (European Innovation Scoreboard 2007, p. 16, pp. 39–40).

Data describing the results of research activity by the number of inventions applied and granted with a patent (calculated per 1 million of inhabitants) point to a US advantage over EU–27 countries in this significant area of economy's innovative performance. Indicators showing the number of inventions per 1 million of inhabitants, applied to the Europe Patent Office and United States Patent and Trademark Office in 2007 were 167,6 for the USA, and 273,7 for EU–27 with average level at 128,0 and 49,2 respectively. In terms of the number of inventions patented in three patent offices at the same time (*Triad patents*[5]) per 1 mln of inhabitants, the United States also outdistance European Union countries (33,9 for the USA and 19,6 for EU–27). It should be added that Japanese achievements in the field of patent activity are better than US results; indicators of the activity in 2007 reached the following values: 219,1; 274,4 and 87,0 (European Innovation…, p. 16).

4. The crisis influence on the United States economy

In American literature, there is an interesting discussion over evaluation of government anti-crisis policy and steps taken to revive economy and let the United States remain hegemony in the world economy. After the 2008 financial crisis, a lot of intellectuals – mainly economists, political scientists and historians – focused on the fall (dawn) of the US economic and technological superiority. N. Roubini, an economist of New York University, claims that US

[5] *Triad patents* are European Patent Office, United States Patent and Trademark Office and Japanese Patent Office.

economy will have to face a gigantic public debt. In his opinion, high costs of the debt will suppress economic growth in the nearest future. K. Rogoff, an economist of Harvard University, fears that due to high budget deficit and the public debt, the United States might share the Greek fate. J. Stiglitz is of another opinion – he claims that the current administration's weak reaction to the recession and financial crisis will plunge American economy. He predicts that deflation of economy which will lead to a long-term stagnancy (Gross 2010, p. 69). N. Ferguson, a historian of Harvard University says that huge debts and federal budget expenditure will bring about the downfall of American emporium (Ferguson 2009, pp. 58–59).

R. Florida, J. Siegel and E. Phelps present a contrary vision of American economy based on impetus from the fields of innovation and scientific research. R. Florida, a sociologist and economist of Toronto University believes that American system can best analyze its downfalls and apply radical innovations being a realization of the idea of creative destruction. He claims that exceptional flexibility and innovativeness of American nation will let the United States keep their dominant position in the world economy (Florida 2010, pp. 25–28). As for J. Siegel, an economist of Wharton School at the University of Pennsylvania, he does not agree with the opinion that in the next years there is going to be a long period of stagnation in the USA. Quite contrary, he says that during the next decade, American economy might grow faster than in the last fifty years. The main incentive for the growth will be scientific discoveries and systematically introduced innovations that will bring about a technological breakthrough in energetics, medicine and environmental protection (Grosse 2010, p. 72).

E. Phelps also points to the key meaning of innovation for the post–crisis improvement of the economic situation. The author presents the problem in the context of high unemployment which is a painful result of American crisis. He thinks that unemployment might continue for a long period of time and it might exclude quite a large group of people from the economic system. E. Phelps is worried about the signs of weakening economic dynamics in the United States. He lists the following:

- decrease of employment and investments in Sillicon Valley, the American modern technologies incubator[6],
- weakening performance of funds and companies investing in new enterprises,

[6] In comparison to 2008, in 2009 investment in Silicon Valley dropped from 7 to 5 million dollars. In the record-beating year of 2000, investments topped 27 milliard dollars. (Silicon Valley Index 2010, Joint Ventures Group, 2010).

- decrease in the number of new companies set up in the last decade,
- the breakdown of investment on research and development in applied sciences (Phelps 2010, pp. 2–3).

E. Phelps suggests a set of solutions which ought to awake economy innovativeness. It is worth mentioning a few of them:

- increasing economical freedom for entrepreneurs by creating an easy system of employing and dismissing workers as well as facilitating the process of starting a business;
- broadening the system of tax allowances for entrepreneurs undertaking innovative solutions;
- restructurization of economy aimed at creating a system that will boost American economy performance after the crisis (earlier it was dominated by real estate and services sector).

There is no exaggeration in claiming that despite negative results of recession, the United States economy hasn't lost its ability to create new ideas and transform them into product, technological and organizational innovations. During the recession, American companies had to lower the costs and improve their efficiency. In the period from the fourth quarter of 2008 to the fourth quarter of 2009, work efficiency in industry went up by 5,8% (Gross 2010, p. 71).

Automotive industry is a perfect example of revitalized innovative performance of American economy; it has been boosting its sales and regaining the lost market shares after a short period of crisis and radical therapy. The US Congress bill of April 2010 proves the process; the bill makes car producers obliged to reduce fuel consumption in American passenger cars and small trucks until 2016. Energetics Department offers credits on the purpose as well as credit guarantees for big enterprises and new companies (like Fisher Automotive).

5. Conclusion

The above deliberations might be summarized in the following way:

- in the last decade, innovative superiority of the US economy over the rest of the world has gone down, and, according to the ITIF innovativeness ranking, it gives way to such economies as Singapore, Sweden, Denmark and South Korea;
- the proceeding globalization and technological achievements of some European countries as well as China and India, contributed to the loss of the

domination by the United States in a few most modern areas of science and technology;

- creative destruction is the main rule of American dynamics; despite post-crisis perturbations, US economy hasn't lost its advantages of an innovation laboratory for the rest of the world.

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Streszczenie

INNOWACYJNOŚĆ GOSPODARKI STANÓW ZJEDNOCZONYCH. TRWAŁA CZY SŁABNĄCA DOMINACJA?

Celem opracowania jest wyjaśnienie źródeł amerykańskiej dominacji w dziedzinie innowacji, dokonanie oceny poziomu innowacyjności amerykańskiej gospodarki na tle krajów Unii Europejskiej, Azji, a także odpowiedź na pytanie dotyczące perspektyw utrzymania przez tę gospodarkę pozycji lidera w wyścigu technologicznym.

Strukturę opracowania można przedstawić następująco: po wprowadzeniu dokonano charakterystyki głównych czynników i procesów, które przyczyniły się do powstania dominacji gospodarki Stanów Zjednoczonych w dziedzinie innowacyjności, następnie poddano analizie zjawisko zmniejszania się przewagi innowacyjnej tej gospodarki nad resztą świata, a w dalszej kolejności skoncentrowano uwagę na zagadnieniu wpływu współczesnego kryzysu gospodarczego na perspektywy utrzymania przewagi technologicznej Stanów Zjednoczonych.

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JANINA GODŁÓW-LEGIĘDŹ*

Failure of the market, state and economics from the perspective of the financial crisis

Abstract

The debate between the advocates of market and interventionist solutions, primarily based on pitting the market against regulation, has escalated as a result of the financial crisis. The objective of the paper is not only to analyze the advantages and drawbacks of alternative regulatory mechanisms in the light of the global economic downturn, but also to evaluate the modern economy from this perspective. The paper focuses on three hypotheses. 1. It is illegitimate to pit the market against regulation. 2. The crisis resulted from the violation of the principles of classical liberalism, which was precipitated both by inadequate policies and by modern economic methodology. 3. Critical analysis of the methodology and logic of the development of 20th century economic thought reveals the existence of a systemic failure of the dominant doctrines in mainstream economics.

1. Introduction

Major economic and political changes tend to significantly affect the methodology of economic studies and have ramifications for socio-economic policies. The Great Depression gave rise to the so-called Keynesian revolution, which in academic terms meant intensified macroeconomic research and a shift of focus from demand to supply factors of economic growth, while in terms of

* Ph. D., University of Łódź

economic policies it resulted in the acceptance of an interventionist policy regulating demand and offering increased social transfers. The financial crisis which hit the United States in 2008 once more motivated many economists and politicians to turn to Keynes's theory. An immediate question arises whether this theory and its practical implications could offer the right measures to counter the effects of this downturn. In the heated debate triggered by the crisis, neo-liberalism is often heavily criticized and the current situation in the global economy is hypothesized to have been caused by the crisis of international economic institutions or even by that of capitalism and the market economy as such. The general tone of many publicly voiced opinions as well as some decisions made by the American authorities may suggest that had it not been for the far-going experiment with centrally-planned economy, we might be witnessing attempts to introduce it on an even larger scale right now.

Dynamics and uncertainty are some of the interrelated features of economic activity resulting from the very nature of an economy based on freedom and private property. The extreme volatility and uncertainty of the current situation mainly follow from the fact that the foundations of the market economy are subject to far-reaching changes which were left insufficiently explored by the economists. Taking for granted the classic roles of market economy institutions, even institutional economists fail to fully accommodate the degree to which the foundations of the modern economy have been changing. The endless dispute between the advocates of market and interventionist solutions has its source in the traditional view on the advantages and disadvantages of market and central regulation. The objective of this paper is to analyze the benefits and threats of alternative regulatory mechanisms in the light of the global economic crisis and provide a brief assessment of the modern economy from this perspective. The paper focuses on three hypotheses: 1. It is illegitimate to pit the market against regulation. 2. The crisis resulted from the violation of the principles of classical economics, which was precipitated both by inadequate policies and by modern economic methodology. 3. Critical analysis of the methodology and logic of the development of 20th century economic thought reveals the existence of a systemic failure of the dominant doctrines in mainstream economics.

2. Failure of the market or regulation? - The wrong question

The disputes between the advocates of the market and the proponents of state regulation frequently seem to suggest that regulation precludes and substitutes the free market. The very language of the discussion and the notions

of market, regulation and state failure indicate the existence of such an antinomy. The contradiction between market mechanisms and central regulation is deeply rooted in mentality. Besides, it seems to be fully justified if one contrasts the market economy with central planning. In order to depart from this market-state dichotomy, it is necessary to distinguish two types of central regulation executed by the authorities: direct regulation of production by a central-planning system should not be confused with providing a rule of law in a market economy. The need to regulate business activity in the latter sense is inherent in classical liberalism. Even Adam Smith (1991, p. 578) highlighted the need to regulate the fundamental principles of the market economy, that is, private property and freedom, and stressed the importance of confidence in a just government system:

"Commerce and manufactures can seldom flourish long in any state which does not enjoy a regular administration of justice, in which the people do not feel themselves secure in the possession of their property, in which the faith of contracts is not supported by law, and in which the authority of the state is not supposed to be regularly employed in enforcing the payment of debts from all those who are able to pay. Commerce and manufactures, in short, can seldom flourish in any state in which there is not a certain degree of confidence in the justice of government."

In objecting to state intervention, the advocates of the market economy and liberalism primarily denounced arbitrary measures as well as legal regulations privileging individuals, groups or sectors, rather than legislation designed to establish a universal legal framework for market transactions that would ensure a level playing field for all. This was consistently highlighted by Friedrich von Hayek, famous for his uncompromising criticism of socialism and confidence in the free market. The following statement made by Hayek (1958, p. 110-111) is particularly relevant to the ongoing debate on the regulation of financial markets:

"While it would be an exaggeration, it would not be altogether untrue to say that the interpretation of the fundamental principle of liberalism as absence of state activity rather than as a policy which deliberately adopts competition, the market, and prices as its ordering principle and uses the legal framework enforced by the state in order to make competition as effective and beneficial as possible-and to supplement it where, and only where, it cannot be made effective-is as much responsible for the decline of competition as the active support which governments have given directly and indirectly to the growth of monopoly. (…) Where the traditional discussion becomes so unsatisfactory is where it is suggested that, with the recognition of the principles of private property and freedom of contract, which indeed every liberal must recognize, all

the issues were settled, as if the law of property and contract were given once and for all in its final and most appropriate form, i.e., in the form which will make the market economy work at its best. It is only after we have agreed on these principles that the real problems begin."

Formal regulations (law) and informal (moral) principles are prerequisite for the market to foster economic efficiency. From this perspective, instead of juxtaposing the market against regulation or examining the distinctive weaknesses of the market and the state, it would be more useful to focus on two problems: how to regulate transactions so that prices would perform information and incentive functions and how to regulate business activity in the public interest and avoid the threats exposed by the public choice theory.

Pitting market failure against regulation failure results from erroneous thinking which Harold Demsetz called the *nirvana fallacy*. Demsetz warned against analyzing and evaluating economic reality by confronting it with an ideal norm. Those who adopt the *nirvana approach* look for differences between reality and an ideal alternative, and if any deviations from the ideal are found, they deem the economic process inefficient (Demsetz 2002, p. 107). While the advocates of state regulation tend to focus on market imperfections and believe that the government is capable of improving the existing conditions, the opponents of interventionism point out public policy weaknesses invoking a "magic market" which could solve all the problems. Instead, it would be more effective to use institutional comparative analysis based on empirical examination of different institutional systems.

3. Price functions from the perspective of the financial crisis

Analysis of the underlying causes of the current financial crisis clearly shows the inherent weaknesses of the price mechanism and leads to the conclusion that financial innovations and the type of regulation (or its lack) are some of the crucial factors influencing the market and, consequently, the information and incentive functions of prices. One of the weaknesses of the price mechanism is the fact that the information function performed by prices drastically decreases in the phases of a dramatic decline or growth in the activity of market actors. This is of particular importance in securities markets. Due to the fact that the objective of stock market actors, which is profit resulting from the difference between the purchase and sale prices, is a function of periodically changing expectations about the stock prices, the financial markets tend to governed by a speculation paradox accumulating disequilibrium, rather than by the equilibrium-restoring law of demand. Thus, in these markets the information

function of prices is unusual: while signaling the relative scarcity of the traded goods, they primarily reflect the economic sentiment, which often leads to irrational accumulation. If the significance and share of financial markets in the economic system grows, the forces restoring equilibrium tend to decline and the system becomes more prone to disturbances.

The need for a new approach to the role of prices also results from the introduction of derivatives trading and from the scale of financial leverage. Innovations in the financial markets have led to a situation where it is not only the information function of financial instruments but also the prices of strategic goods, including oil, that require a critical assessment. Under the traditional doctrine, the price mechanism is an economical method of conveying information. While developing epistemological argumentation for the market, Hayek stressed that in a market system little knowledge is required for its participants to make the right decisions. The price mechanism makes it possible to extend the use of resources beyond the area controlled by an individual mind, relieves the economic system from the need for close control and creates stimuli that motivate individuals to undertake appropriate action without directing them through issuing orders.

„The marvel is that in a case like that of a scarcity of one raw material, without an order being issued, without more than perhaps a handful of people knowing the cause, tens of thousands of people whose identity could not be ascertained by months of investigation, are made to use the material or its products more sparingly; that is, they move in the right direction. (Hayek 1958, p. 87)".

However, the volatility of oil prices in the global market in 2008 shows that the information function of prices has diminished and indicates that the market is not an abstract instrument independent of the rules and objectives of human conduct. The functions and effects of the market perceived as a combination of transactions intended to help satisfy people's needs, including profit seeking, may be subject to changes due to the introduction of new trading instruments, such as futures, options and swaps. Paradoxically, these instruments, which were originally developed in response to the substantial volatility of interest and currency rates with a view to reducing risk, are now used for speculative purposes and have contributed to the dramatically elevated risk in terms of the entire system.

Oil prices reveal an upward tendency with large fluctuations. The rising trend may rationally be accounted for by the surging demand for oil due to the dynamic growth of the Chinese and Indian economies. However, these fundamental factors of rising prices cannot account for fluctuations exemplified by average annual prices over the period of several years as well as by abrupt

short-time changes. The year 2008 provided an extremely drastic example, as in the USA the average price of this strategic raw material reached $128 per barrel in July and then fell to $36.8 in December (Energy Information Administration). These fluctuations should not be associated with changes in real business conditions but rather in economic sentiment, enhanced by the possibilities provided by futures contracts. The fact that one can take advantage of changes in economic trends to maximize speculative profits without effecting real transactions (*i.e.* without the costs of transport and storage) must influence the frequency of speculative operations. As the development of the derivatives market has made the financial markets detached from real processes and encouraged speculation by decreasing transaction costs, it appears that reduced transaction costs may have negative ramifications. This in turn supports arguments for the taxation of financial transactions.

The debate about the taxation of financial transactions was fueled by James Tobin' tax concept. Prior to that, however, a proposal to introduce a special tax to curb speculative tendencies and stabilize economic trends was put forward by John Maynard Keynes. Some of the observations made by the author of *The General Theory of Employment, Interest and Money* have become particularly topical:

"If I may be allowed to appropriate the term *speculation* for the activity of forecasting the psychology of the market, and the term *enterprise* for the activity of forecasting the prospective yield of assets over their whole life, it is by no means always the case that speculation predominates over enterprise. As the organisation of investment markets improves, the risk of the predominance of speculation does, however, increase. (…) Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done. (…) It is usually agreed that casinos should, in the public interest, be inaccessible and expensive. And perhaps the same is true of stock exchanges. The introduction of a substantial government transfer tax on all transactions might prove the most serviceable reform available, with a view to mitigating the predominance of speculation over enterprise in the United States" (Keynes 2003, p. 104-105).

Speculation influences not only the information function of prices, but also their incentive function, which is equally significant in terms of the ideology of market economy. Therefore, it affects the processes of adjustment and learning new behaviors by businesses, which may either contribute to enhanced productive activity or lead to the appropriation of other individuals' wealth. This was aptly depicted by Douglass North (p. 10):

„The rate of learning determines the speed of economic change; the kind of learning determines the direction of economic change. The kind of learning is a function of the expected pay-offs of different kinds of knowledge and therefore will reflect the mental models of the players and most immediately at the margin, the incentive structure embodied in the institutional matrix (which consists of the framework of interconnected institutions that together make up the formal rules of an economy). If the institutional matrix rewards piracy (or more generally redistributive activities) more than productive activity, then learning will take the form of learning to be better pirates."

Discussion most often centers around threats resulting from redistribution as a function of taxation and social policy. Prices in the free markets are considered to be an instrument motivating growth of productivity. The crisis reveals that the prices of financial instruments should be subject to critical analysis with regard to their redistributive function. Under "normal circumstances" insufficient attention is paid to redistribution of wealth through the system of modern financial markets.

4. Is liberalism the underlying cause of the crisis?

To decide whether liberal ideology affected in a significant way the decision-making processes which led to the financial crisis, it is first necessary to clarify the meaning of liberalism and liberal economics. If one takes liberalism to imply that freedom of transactions made by profit-oriented individuals ensures sustainable economic growth independently of the quality of the monetary system and the formal rules governing these transactions, the answer to this question should be affirmative. However, this understanding of liberalism is incorrect, even though it may reflect the views of many columnists, politicians and economists, including such influential personages as Alan Greenspan[1].

In attributing blame for the crisis it is necessary to bear in mind that liberalism is a doctrine rooted in classical economics which stresses the following principles and constraints:

- Wealth is generated in the real sphere and not in the monetary sphere.
- Equilibrium between revenues and expenditures is the foundation of rational economy.

[1] A. Greenspan revealed his perception of market economy and liberal ideology in his testimony before the U.S. House Committee on Financial Services.

- Investment requires saving, which consists of reducing current consumption.
- Expectations of high profits entail high risks.
- It is commodities and not money that create demand for other commodities (Say's law). Accordingly, the fundamental function of money is to serve as a medium of exchange and not to boost the economy.

Analysis of the causes of the crisis leads to the conclusion that the above principles were not respected. It is universally believed that the crisis was triggered by the speculative bubble in the real estate and capital markets and that these processes were linked to an inadequate monetary policy, the lack of regulation of new financial instruments, and deficient supervision of the banking system. The crisis was also precipitated by the huge disequilibrium in international capital flows and the surging indebtedness of the American economy[2]. At the root of the crisis were both insufficient regulation and lax market discipline. While insufficient regulation implies that the state failed to perform its institutional and legal functions, lax market discipline means that businesses participating in market transactions ignored their budgetary constraints and were unable to properly assess the risk attached to their decisions concerning consumption, investment and use of external financing.

The mistakes made by regulatory bodies as well as by banks and their clients resulted from the fact that no-one was able to predict the risk accumulated in the entire economic system due to the inadequate monetary policy, the growing macroeconomic disequilibrium, the development of new financial instruments and the uncontrolled use of financial leverage. The increasing market capitalization sustained consumption by creating an illusion of growing wealth while the generous banking system supplied financing for investments in the real estate and capital markets. Many seemed to act as if the financial sphere could provide permanent foundations for wealth growth and prosperity.

A confrontation of the principles of classical economic liberalism with the causes of the crisis leads to the conclusion that instead of asking whether liberalism was the culprit, it would be better to ask who was more to blame: market actors or regulators, or what mistakes were made by them all.

The basic errors committed by the regulators include an inadequate monetary policy and the lack of regulation of the new markets. It is thought that the bodies responsible for regulation may have been affected by cognitive regulatory capture, which resulted in misjudgment and lack of regulation. On the

[2] On 28 July, 2010 U.S. public amounted to over 13 259 billion dollars and on average grew by 4.11 billion dollars daily from 28 September, 2007 to 28 July, 2010 (U.S. National Debt Clock).

other hand, the primary mistakes made by the market actors included the wrong evaluation of their own potential and risk, an excessive tendency towards consumption, giving in to a profiteering rush, a short-term decision-making perspective and a poor sense of personal responsibility. The erroneous monetary policy and the lack of regulation fostered market actors' mistakes. That was additionally exacerbated by the prevailing economic ideology, the wrong perception of the market philosophy and the unrestrained drive for consumption due to the influence of Keynesian economics. This last issue entails a long-term disequilibrium between current and future consumption which may distort intergenerational justice. From this perspective, the crisis may be perceived as an opportunity to depart from these dangerous tendencies.

5. Failure of economics

The mistakes underlying the financial crisis should not be considered separately from the condition of economic knowledge and the logic of its development. The current situation provokes a discussion about the methodological foundations of economics and the long-term development tendencies in this field of social sciences. As it has turned out, economics, which used to be considered the most developed of the social sciences, does not provide an adequate theory for these most difficult of times and researchers are left groping for solutions in the dark. This seems to justify the definitive diagnosis of "the systemic failure of the economics profession" (Colander et al. 2009, p. 2).

This failure results from the methodological tendencies pursued in neoclassical economics and formalism. Contrary to what its name implies, the development of neoclassical economics was not very closely tied to classical economics, just as in the case of neo-liberalism, which deviated from the original ideas of classical liberalism. Economics moved away from its classical origins through consistent efforts to make economic analysis more scientific and bring its theoretical and methodological status closer to natural sciences, which led to formalizing the concepts of the market and economic equilibrium. Economics was increasingly perceived in line with Lionel Robbin's definition,

ignoring knowledge, coordination and institution-related problems[3]. Analysis of interrelations between prices, quantities of goods, and production factors at given resources and institutional solutions replaced the classical analysis of economic development factors, where institutional factors were taken into account. Taking resources as a given resulted in static analysis; while assuming the institutional system as a given detached economic analysis from its historical and social foundations[4]. The new approach to the market began to impinge on the interpretations of the original ideas of Adam Smith. In fact, this led to a situation where orthodox economics disregarded some of the important ideas present in Smithsonian economics. Economic thought became increasingly polarized. Orthodox thinking excluded institutions from its field of research and became more and more ahistorical, while economic heterodoxy held a monopoly on institutional analysis[5]. The main opponents of neoclassical economics were heterodox economists and the Austrian School, which with time veered off the mainstream[6]. The uniqueness of the Austrian approach consisted in emphasizing the issues of knowledge, uncertainty and institution and in perceiving equilibrium as a tendency revealing itself in economic processes and not as an ideal and final state. The conviction that it is impossible to observe or understand these characteristics by means of quantitative methods made the Austrian School wary of these methods and of the increasing formalization of economic theory.

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[3] According to Buchanan, Robbins' definition made economists focus on calculating and optimizing and transformed economics into applied mathematics. Academics began to primarily study abstract human behavior, while human behaviors are always institutionally conditioned (Marciano 2007). On the other hand, Schotter (2008, p.5) notices that Robbins' definition fails to take into account the importance of people's ability to establish institutions and leads to the false conclusion that competitive markets offer the only mechanism of coordination.

[4] Neither the initial assumption made by the creators of marginalism about the permanence of resources nor the famous definition of economics by Robbins imply that neoclassical economists did not study economic dynamics, as is exemplified by neoclassical growth theories. The problem is that neoclassical dynamics was based on static theory tools (Hicks 1978).

[5] Richard Nelson is right in saying that focusing on the hypothetical state of equilibrium and eliminating institutional aspects and development problems reflects a narrow intellectual perspective of economics and a departure from the approach characteristic of not only Smith and Marx, but also of Marshall (Nelson 2002).

[6] The differences between the Austrian School developing Menger's views and general equilibrium theoreticians developing Walras's model became manifest in the light of the famous dispute about the rationality of socialist economy. In some respects these differences were found to be greater than those between classical and neoclassical economics (Makowski, Ostroy 2001; Godłów-Legiędź 2005).

The above tendency in the development of economics deepened in the 1950s and 1960s resulting in changes known as the formalist revolution (Blaug 2003), its basic features being a high degree of abstraction, logical rigor of deductive reasoning, the application of mathematics and the general predominance of form over content in economic analysis. Formalist economists do not use mathematics merely as a tool, but apply it as a model of scientific cognition and adopt mathematical criteria for evaluation of economic research. Consequently, research material is selected with a view to its usefulness in formalist modeling while empirical evidence loses its significance. Of primary importance in the formalization of economic theory was the paper by Kenneth Arrow and Gerard Debreu *Existence of an Equilibrium for Competitive Economy* (1954) which provided proof for the existence of a solution of the Walrasian general equilibrium model (Blaug 2003, p.145). The formalist revolution meant that mainstream economics ceased to use natural language and relatively uncomplicated statistical techniques and became a science where rigorous deductive thinking and sophisticated mathematical methods impart scientific value to research. Mark Blaug (1997, p. 3) is the author of one of the most critical opinions on this revolution:

„If we can date the onset of the illness at all, it is the publication in 1954 of a famous paper by Nobel Laureates Kenneth Arrow and Gerard Debreu; it is this paper that marks the beginning of what has since become a cancerous growth in the very centre of microeconomics."

To the same degree, formalism affected macroeconomics, which was dynamically developing in the wake of the Keynesian revolution. Although Keynes himself highlighted the nature of economics as a social science, was skeptical of econometrics, and focused on disequilibrium-related problems, macroeconomics inspired by his theory became dominated by the formalist-model approach exemplified by the IS-LM model and the so-called neoclassical synthesis[7].

[7] The IS-LM Model proved the usefulness of the Walrasian model of general equilibrium and allowed for the application of mathematical modeling in research and education. Keynes's interpretation of economics in the form of the IS-LM Model resulted in the marginalization of those Keynesian ideas which corresponded to institutional thought, or even to Austrian economic thought, and paved the way for the triumph of the formalist revolution, while at the same it time made it possible to preserve the foundations of neoclassical economics.

The 1970s saw a significant ideological change: a departure from Keynesian interventionism (while methodological tendencies remained unchanged). The formalist approach became the basis for the free-market ideology with the rational expectations hypothesis being the foundation of new classical macroeconomics. According to this hypothesis, individuals undertaking economic decisions are able to draw conclusions from their errors and learn, that is, to use their intellectual potential to comprehend the manner in which economy functions, and adjust their decisions to its changing rules. Given the current situation in the global economy and the manifest unreliability of economic forecasts, it is worth recalling Muth's thesis, which became the point of departure for Lucas and Sargent's HRO*: as expectations are information-based forecasts of future events, they are in fact equivalent to forecasts generated by a relevant economic theory*. (Snowdon, Vane, Wynarczyk, p. 200). The financial crisis and global uncertainty have led us to believe that both individual decisions and economic forecasts are prone to systemic errors[8].

The role of new financial instruments in triggering the crisis seems to support the thesis that defining rationality as maximization and underestimating institutional and coordination issues in conjunction with the fascination with the idea of control and belief in the potential of mathematical tools are the sources of thinking and action which could be defined as a new type of social engineering. A direct manifestation of this approach is the development of mathematical risk assessment methods and their application as if financial mathematics could somehow preclude the rule that hopes for high profits usually come encumbered with running high risks. The belief in mathematical rigor of risk assessment tools for financial instruments and in financial scores provided by the rating agencies led to the widespread illusion that everything was under control, while subsequent events showed that derivatives actually contributed to the increased risk in the economic system[9].

[8] Although the concept of rationality prevailing in mainstream economics deserves criticism, it should be admitted that the general conclusion of the creators of new classical macroeconomics to the effect that discretionary policies result in inflation and increase uncertainty in business processes ought to be seriously considered given the situation of the global economy.

[9] Innovations in the financial markets promising reduced risk actually led to its increase in two ways. Firstly, the use of the new financial instruments enhanced the development of new ties in the economic system and thus the system became more vulnerable to any changes and to the accumulation of disequilibrium. Secondly, the belief that new solutions helped to reduce risk promoted risky behaviors, lower economic discipline and disregard for budgetary constraints.

Myron S. Scholes and Robert C. Merton, awarded the 1997 Nobel Prize for the development of a derivatives valuation model, provided a spectacular example of an unreliable approach to economic problems. They claimed that derivatives contribute to overcoming the problem of information asymmetry and that thanks to the unregulated market for these instruments clients could get better financial services at a lower cost. This is what Scholes said in his lecture:

"Investment banks no longer merely structure and advise in transactions but instead have moved to a more packaged, integrated convenient financial-solution approach, directed at solving the complex problems of their clients around the world. The many advances in financial theory have enabled financial services firms to meet those complex needs more effectively and at a lower cost than was possible previously. The marriage of business school and economic department graduates engineers, mathematicians, physicists and computer scientists has led to more efficient and lower-cost financial engineering solutions to client problems" (Scholes 1997, p. 141).

The use of financial engineering and its consequences are also significant arguments in the discussion about the applicative value of economic theories. The role of derivatives in the crisis suggests that the proponents of abstract mathematical models fail to sufficiently disclose the underlying assumptions of their models and, consequently, the constraints on their application. The classical Black-Scholes-Merton option pricing formula requires meeting several strict conditions such as zero transaction costs, lack of time correlations, and Gaussian-type fluctuations. As none of these conditions is met in the financial markets, a risk avoidance strategy based on this model is prone to failure (Burda 2006, p. 119).

Economics is responsible for the crisis not only due to its propensity to formalism, but also due to the prevailing economic growth ideology and belief

in the reliability of stabilization policies[10]. The conviction that growth expressed as gross domestic product is the ultimate goal and that adequate policies make it possible to avoid periods of slowdown are the main reasons why governments tend to stimulate the economy throughout the whole cycle using methods recommended by Keynes only for the time of crisis. While referring to the Keynesian theory, it is necessary to take into account not only the inevitability of discretional policies during crises, but also the impact of his ideas on pursuing expansive monetary and fiscal policies over periods of slowdown, the development of consumptive attitudes and a dangerous decline in the saving rates.

Back in the early 1980s, Knut Borchardt provided an accurate diagnosis concerning the tendency dominating the economic thinking of academics, politicians and ordinary people in the second half of the 20th century. He noticed that the desire to avoid crises and the promise of stable growth dangerously alter the private and public morality and the behavior of all participants in economic life. "Stability was perceived as a "public good" which could be used by everybody free of charge. … Similarly, entrepreneurs increasingly shed fears in

[10] Some tension is observed among the economists between the growing awareness that it is impossible to forecast the future or to pursue long-term economic management and the belief in the power of stabilization policies. A good example here may be the publications by Aleksander Jakimowicz. He writes that in spite of the possibility to process enormous quantities of data thanks to the development of computer technology, the usefulness of forecasts is very limited. He also admits that according to chaos theory predicting the future is not viable which translates into a fiasco of long-term economic management and thus into undermining a significant part of previous economic research (Jakimowicz 2003, p. 380, 403). Despite this, in his opinion it is the free market which poses a particular threat. While he understands that traditional cognitive methods in economics fail, at the same time he seems to accept the assumption of the rational behavior of business entities ("The fundamental thesis of this book is that due to the rational behavior of business entities market structures aim at a state called the edge of chaos" (Jakimowicz 2010, p. 258)). Moreover, he claims that "the effectiveness of traditional methods of influencing economic processes is limited by Ashby's Law of Requisite Variety, according to which the controller should be at least as complex as the system being controlled" (Jakimowicz 2010, pp. 258-259). At the same time, Jakimowicz one-sidedly associates the point of departure for complexity economics with Lange's ideas, ignoring Hayek's arguments in the dispute about the rationality of socialist economy (Jakimowicz 2010, s. 244). It was Hayek and not Lange who emphasized the complexity and dynamics of economic processes and stressed the problems of access to knowledge and coordination of economic activities. Undoubtedly, markets require regulation, that is, determination of the boundaries of individual and group behavior. However, it is also necessary to realize the risks related to expansive monetary and fiscal policies pursued under the pressure of public opinion and political rivals in a democratic environment. However, given the human-induced growing complexity of the world, it is no longer safe to believe in the invisible hand of the market or in the visible hand of the central regulator.

their investments plans. As a global crisis was supposed never to come again, the risk of investing capital seemed to be lower. Thus, why not accept higher debt levels? The belief bankruptcies similar to those from the early 1930s were never going to recur became a near certainty for the banks, as the central investment bank would certainly serve as a *lender of last resort*. Thus, why not gradually reduce the share of ownership equity?" (Borchardt 1990, p. 126).

6. Conclusion

Discussing methodological errors and ideological tendencies in economics from the perspective of the current crisis, one may hope that in the end it will have a positive impact on the evolution of social institutions and economics. Perhaps, as the crisis revealed not only the inadequacy of allocation decisions, but also the failure of regulation and the incorrectness of our beliefs, it may lead to improving the current social system. As regards economics, the crisis may result in abandoning the model of science developed in the 17th century under the influence of Newton's mechanics and based on the assumption that "the world is simple and is governed by time-reversible fundamental laws" (Prigogine, Stengers, p. 22). This vision of the world corresponds to the pattern of scientific thinking developed by the mathematicians and is at the root of neoclassical economics, formalization, and a dichotomous understanding of economic and ethical values. Paradoxically, economics, which vowed to always closely follow the model of physics, still continues to adhere the "hard" scientific paradigm at a time when quantum theory has changed the physicists' point of view showing the wealth of reality and proving that it is impossible to describe it with a single logical structure because on all levels reality implies an essential element of conceptualization[11].

The new understanding of the nature of the world proposed by the natural sciences coupled with the largely unexpected state of uncertainty in the global economy clearly indicate that changes are indispensable also in the economics profession. Regardless of the opportunities offered by the developments in experimental economics and chaos theory, the changes should consist of expanding the spectrum of studied issues and adopting greater methodological openness. Due to the limited cognitive and practical results of mathematical

[11] Ibidem, p. 242. Heisenberg's uncertainty principle and its extension in Bohr's theory of complementarity make it necessary to depart from the classical understanding of determinism and objectivity. The dependence of the description of a quantum system on the measurement system reveals the lack of access to the real subject of study.

economics, it seems that economics should resort to the methodological approach of Alfred Marshall, who saw room in economics for a variety of research methods. Until new possibilities of formal analysis are available to encompass the complexity of social life, in order for economic studies to advance smoothly a better balance between formal analysis, institutional approach and experimental methods is required. And it is the lack of coordination between these three modes of economic cognition that seems to be the most serious malady of the economics profession.

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Streszczenie

ZAWODNOŚĆ RYNKU, PAŃSTWA I EKONOMII Z PERSPEKTYWY KRYZYSU FINANSOWEGO

Spór między zwolennikami rozwiązań rynkowych i interwencjonistycznych, oparty zazwyczaj na przeciwstawianiu rynku i regulacji, uległ zaostrzeniu wskutek kryzysu finansowego. Celem artykułu jest nie tylko analiza zalet i zagrożeń alternatywnych mechanizmów regulacji z perspektywy kryzysu w gospodarce światowej, ale także próba oceny z tej perspektywy współczesnej ekonomii. Rozważania skoncentrowane są wokół trzech hipotez. Po pierwsze, błędne jest przeciwstawianie systemu rynkowego i regulacji. Po drugie, u podstaw kryzysu leży pogwałcenie zasad klasycznego liberalizmu, które ma źródła zarówno w polityce, jak i metodologii współczesnej ekonomii. Po trzecie, krytyczna analiza metodologii i logiki rozwoju myśli ekonomicznej w XX wieku może uzasadniać tezę o systematycznym błędzie doktryn, który zdominowały główny nurt ekonomii.

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EDWARD STAWASZ[*], PAWEŁ GŁODEK[**]

SMEs innovation and job creation potential in the shadow economy context

Abstract

The presented paper treats about the ability of creating new jobs by innovative SMEs in Poland in the age of a deep transformation of the Polish economy. The authors try to verify the concept of B. A. Kirchoff about the relationship between innovation and enterprise growth. Some sector and market conditions of functioning of innovative SMEs are also analyzed in the paper. A study among 81 Polish SMEs from Lodz region confirms that there is an independence between enterprise innovation and its ability to create jobs. On one side, among analyzed enterprises about 14% was highly innovative fast growing. On the other side, low innovative and slowly growing made a high percentage. The research pointed an important factor of the ability of job creation – sector and market conditions, management problems (lack of experience, problems with gathering the initial capital) and poor public support. The shadow economy has a positive impact on growth rather than on innovation. However, it does not have a positive influence on expansion, innovation and new jobs creation undertaken simultaneously, which is the most desirable activities of the enterprise.

[*] Ph. D., Professor, University of Łódź

[**] Ph. D., University of Łódź

1. Introduction

One of the most important functions small and medium-sized enterprises (SMEs) perform in economy is their ability to create new jobs. Conditions of SME growth became one of the focal interests of both researchers and the government's policy aimed to support this sector. Innovativeness is at the forefront of SME-oriented issues which may be associated to SMEs growth.

2. Innovativeness and SME growth

According to Schumpeter, an entrepreneur is an innovator who owing to innovations generates revenues and creates new jobs. He acknowledged that such a role belongs to large firms due to resources and possibilities they possess. The role of SMEs in the process of Schumpeterian "creative destruction" was presented by Kirchhoff (1994). From his perspective entrepreneurship and innovation do not necessarily have to go hand in hand as Schumpeter argued. This is because there is plenty of innovations that are not used successfully by entrepreneurs, and at the same time there are many entrepreneurial activities carried out without constant exploitation of innovation. "Creative destruction" can also be made by SMEs as evidenced by a growing share of SMEs in creation of new jobs and inventions as well in generation of production, revenues and exports (Schreyer , 2000; Technology, Productivity and Job Creation, 1998; Calom, 1994). Kirchhoff distinguishes two dimensions in his analysis: SME innovativeness and the rate of their growth (employment) and argues that both dimensions are independent of each other which means firms characterized by varied rates of employment growth (from a low to a high rate) and by degrees of innovativeness (from low to high innovative) can exist independently. This independence does not mean that innovativeness of firms guarantee a growth in employment, neither does it mean poorly innovative firms can be fast growing firms that contribute to a considerable growth of employment. Storey (1994) stated that on closer examination, there is considerable variation in the employment generating activities of small innovative firms and, as has been noted for the small firm sector generally. And the large share of new jobs are likely to have been created by only a small sub-set of the total population.

An independence of SME innovativeness and the rate of employment growth can result from the fact that they are under influence of various factors. The rate of employment growth can be determined by such factors as personal aims of firms' owners, resources in possession (competences, financial means etc.) and a market acceptance for innovation. The innovativeness of firms is

determined by same factors. However, to a certain extent they are controlled more by entrepreneurs who can specify aims (e.g. proinnovative ones) and make inventions and ideas that lay the foundations for innovation independently.

Given the market and resource restrictions, entrepreneurs may be incapable to attain an intended degree of innovativeness. However, an entrepreneur who keeps producing new inventions and attempts to be innovative presents himself as a different entrepreneur as the one who starts an economic activity with one innovation and makes little effort to enhance innovations possessed by the firm (Sheikh, Oberholzner, 2001). The SME sector is not at all homogenous, on the contrary – it constitutes a set of varied units, with respect to both their economic dynamics and their degree of innovativeness, and the role they play in economy. Depending on the innovative dynamics and the rate of growth very different types of firms can be distinguished (see Table 1). The following types were differentiated: (1) economic core, (2) ambitious, (3) constrained growth and (4) glamorous.

Table 1. Typology of SMEs from the viewpoint of innovativeness and the firm's growth rate

Innovativeness of firms	**Low**	**High**
High	**Type III** **CONSTRAINED GROWTH**	**Type IV** **GLAMOROUS**
Low	**ECONOMIC CORE** **Type I**	**AMBITIOUS** **Type II**

Firm's growth rate

Source: Kirchoff B. A. (1994) Entrepreneurship and Dynamic Capitalism. The Economics of Business Firm Formation and Growth, PRAGER, Wesport, London.

Whereas the views expressed in the topical literature basically agree as to the positive correlation between innovativeness of firms and an increase in turnover, the results of studies carried out in relation to an employment growth bring a mixed outcome. Tether and Massini (1998), Sheikh and Oberholzner (2001) point to a considerable positive impact of innovations (especially product innovations) on the growth of employment in the firm. On the other hand, Kalantaridis and Heby (1999) argue that on the micro level there is no justification to link innovative activity and the growth of employment. Although it is difficult to identify the reasons for differences in the results of individual

studies, the most significant are variations in used definitions, and in particular in the operationalisation of the notion of innovativeness.

Analyses also refer to selected groups of an SME sector. Holzl (2009) analyzed the problem among fast-growing SMEs. He used a numerous sample of enterprises from 16 EU countries between 1998 and 2000. He finds that innovation in the form of R&D and turnover share coming from products new to the market is more important for the growth (measured on the basis of an employment level) of fast-growing SMEs. In this case innovation can be seen as a high-risk and high-gain strategy: if successful, innovation might provide a growth premium, but it is also very likely that the innovation turns out to be a failure and even a drag on the growth rate of most firms. Freel (2000) points to the fact that in the sample of firms that he analyzed innovative firms showed a growth in employment with the same frequency as non-innovative firms did. At the same time the size of their growth rate was considerably higher than it was the case for non-innovative firms.

Stam and Wennberg (2009) analyzed firms in the initial phase of their operations. They argue that the innovativeness of start-ups measured by an R&D intensity, despite a positive influence on such factors as increasing interfirm alliances or new product development activity, does not show a significant correlation with an increase in employment.

3. The shadow economy and SMEs

The shadow economy is defined in an economic context as running an activity that is not prohibited by its nature, however it is carried out in an undisclosed manner (Schneider, Enste, 2000). It may include a number of activities related to the failure to declare part of legitimate business income to the tax authorities, employing workers with no appropriate contracts or the use/provision of informal sources of financing. Thus, it is markedly different from criminal activity or other prohibited activities (Glodek, 2008). The reasons for non-disclosure vary, however the existence of the shadow economy as described above has both positive and negative consequences for the entities involved (Williams, 2007).

The share of the shadow economy in Polish economy is significant and it stabilized in recent years. According to estimates, its level amounts to 15-17% of GDP. The biggest impact on the size of the shadow economy has an economic activity run mainly in the domain of trade, construction as well as real estate services and services to the firms (Central Statistical Office, 2007).

For entities running their operations in the shadow economy, mainly from the SME sector, the main benefit is a possibility to avoid taxes and other obligations imposed by the state through the existing law regulations (Beloled, 2005; Djankow, Liberman, Mukherjee, Nenova, 2002). These benefits can be expressed in the directly visible cash form as lower taxes and payments, but also as time savings in handling all business formalities. Under certain circumstances the existence of the shadow economy makes it possible to gain market experience and use entrepreneurial opportunities in an effective way (Williams et al, 2009; Stawasz, 2008).

It can be assumed that the use of some elements of the shadow economy may exert its influence on the firm's innovativeness and the growth potential in many different ways. Potentially favourable factors include an increased profitability of the firm which facilitates an accumulation of own capital that finances investment outlays. However, declaring lower profits will negatively influence the possibilities to acquire external financing and to use accumulated capital to run investment activity (a problem of disclosure of the sources of financing). In addition, an increase in the scale of activity may influence in different ways the possibility to use the shadow economy instruments through the firm's greater visibility on the market and a higher number of employees who have knowledge of shadow-economy operations (the risk of disclosure). On the other hand, a withdrawal from the use of shadow-economy instruments will mean an actually higher level of taxation and lower profits for the firm.

As the financial surplus from the shadow-economy operations may go towards both consumption of the household and investment processes of the entrepreneur, there is a clear motivation to use the first option and allocate the profits gained from the shadow-economy activities for household consumption while retaining the present level of profitability. It can be also assumed that shadow-economy activity affects negatively the openness of the firm to contacts with new external partners, confidence and other social elements essential from the viewpoint of processes of innovation generation (e.g. a failure to respect copyright law).

4. The sample

The authors used a database consisting of 81 SMEs from the Lodz region being the average size in Poland and typical for the Polish economy. The survey was carried out by means of direct questionnaire interviews. The arithmetic mean of surveyed firms was 13 years in 2007. Almost 80% of firms can be labelled as mature (more than 5 years in operation). Considering the age of the

firms and their experience the above data allow to treat the responses as representative for the SME sector and mature firms. More than 90% of them were established after the period of deep political and economic transition in Poland, sometimes labelled as the period of an "entrepreneurship boom" or "market self-regulation of entrepreneurship". Almost 15% of the firms were established in the years 1999-2003, that is in the period when economy was overcoming the crisis and implementing the solid foundations for political and economic transition, just before Poland's accession to the European Union. These firms can be described as relatively unstable and „immature". Every tenth firm that was established prior to 1989 before economic reforms were introduced. These characteristics are similar to the age structure of the SME sector in Poland. In the group of the oldest firms established before 1989 the average number of employees was 36, whereas in the group of firms established between 1990 and 2001 it reached more than 48. In the group of the youngest firms (established between 2002 and 2006) the average number of employees amounted to 46. This shows a weak correlation between the age of the firms and the size of employment in the group of the surveyed firms.

Micro firms with up to 9 employees prevailed in the sample and amounted to 59.3% of the total number of firms. Small enterprises employing between 10 and 49 persons constituted 25.9% of the total number whereas the share of medium-sized firms with an employment level between 50 and 249 was 14.8%. The average size of employment was 23 employees and the median (a typical firm) was 7 employees. The surveyed firms vary significantly with respect to the size of activity – they belong to 38 sections of the Polish Classification of Economic Activities. The highest number of firms run manufacturing and trading activities (32.1% each). More than half of the manufacturing firms are located in big agglomerations. Then, 60% of trading firms come from small towns. All IT firms are located in big agglomerations. The surveyed firms sell most of their products on local or regional markets – 81.5% of firms generate 66% of total turnover. 54.3% of firms operate on the domestic market producing 28.6% of their turnover there. Although 19.1% of enterprises operate on foreign markets, the share of exports in the total volume of sales is small and it does not exceed 6%. In the latter case this mainly concerns manufacturing firms and medium-sized firms (with more than 50 employees).

5. The results of the survey

5.1. The innovativeness of the firms

The firms that introduced at least one product or process modification within the period of the last three years were considered as innovative. The surveyed firms are characterized by high innovative activity. Almost 90% of the firm introduced some changes in their products, technologies or methods between 2004 and 2006. The sample is diversified in terms of innovativeness measured by a degree of novelty of innovative changes that were introduced. Generally, most changes is new only to the firm (74.7% of the firms). 21.5% of the firms introduced changes new to the domestic market, whereas a small 3.8% of the firms introduced changes new to the world, which is about 7 times less than in the case of the domestic market. The highest number of innovative changes took place in the area of the firm's product assortment - 60% of the firms. Quite high was also an index of changes of the marketing nature (40% of the firms) and changes in the domain of technology (35.8% of the firms). Modifications in the field of management and organization were indicated by 22.2% of the firms. Thus, changes of "hard" nature, i.e. taking place in products and technologies, predominate. A separate case is an implementation of new patents, licenses or *know-how*. These changes constitute a real novelty. However, such changes were quite few and only from 5.1% to 10.1% of the firms reported on them. However, it seems that this reflects better a real picture of the innovativeness of the surveyed enterprises than a merely declared degree of changes in innovation.

As a measure of the firm's innovativeness, a share of turnover generated from the sales of new or modified products or services that were introduced within the previous three years in the total turnover of the firm in 2007 was used in this article. The average value of this index for the analyzed group amounted to 30%, whereas the median was 20.0%. However, the range of the index presenting the share of sales in new or modified products or services that were introduced in the years 2004-2006 in the total turnover in 2006 was very high and varied between 0% to 100%. This reflects a wide diversity of the surveyed sample of the firms.

The analysed index does not show considerable variations with regard to the firms' size and age. However, differences concerning the type of activity are noticeable. The highest value of the share of turnover generated from novelties was achieved by IT firms (100%). Trading, service and manufacturing firms achieved values close to the average for the whole sample, whereas the value of

the index for construction firms was less than half of its value for the whole sample (15%).

The surveyed firms were divided into two categories: (1) the firms with the lower innovativeness level i.e. those characterized by "a lower share of turnover generated from novelties", where the share of turnover generated from novelties in 2006 was less than 30% of the total turnover (58% of the total number of firms) and (2) the firms with the higher innovativeness level i.e. those characterized by "a higher share of turnover generated from novelties", where the share of turnover generated from novelties exceeded 30% of the total turnover (24.7% of the sample). Both groups differ significantly with regard to the value of the index that took the value of 14.6% for the firms with a lower innovativeness level and a high 67% for the firms with a higher innovativeness level (see Table 2).

Table 2. The distribution of firms with respect to innovativeness (in %)

Specification	% of total firms	Index of innovativeness
Firms with a lower innovativeness level	58.0	14.6
Firms with a higher innovativeness level	24.7	67.0

Source: own computation.

The external conditions of the innovativeness of the surveyed firms were displayed in spatial and market variations. Relatively the most advantageous conditions for the development of innovativeness took place in large agglomerations (the index of innovativeness amounted to 37.6%). On the other hand, the lowest level of the innovativeness index was reported for the firms located in smaller towns (23.3%). As the type of the market where firms operate is concerned, the broader the market the higher the level of the innovativeness index. The highest level of the index was recorded by the firms active on international markets (48%), and the lowest by the firms active on local markets (27.2%).

5.2. The dynamics of employment

The surveyed firms employed 1,851 persons in total. Between 2004 and 2006 they managed to increase an employment level by a small 2% (see Table 3). The span in the growth rate was high. One third of the firms reported an increase in employment, and the next 22.5% of the firms its decrease. The remaining 43.8% of the firms did not show any changes in the level of

employment. In the group of growing firms an average increase (an arithmetic mean) of jobs was high and amounted to 37.9%, whereas the median was 21%.

The analyzed index does not present considerable variations with respect to the firm's age, however the differences with regard to the firm's size are noticeable. The larger the firm, the higher index of the employment growth. Between 2004-2006, a decrease in employment by 0.1% was recorded in micro firms, whereas in small firms there was a growth of employment by 3.8% and in medium-sized firms by 7.5%.

Table 3. The change in employment of surveyed firms in the years 2004 - 2006

Specification	2006/2004
Average of employment growth (in %)	2.0
Median of employment (in %)	0.0
Firms with employment growth (in %)	32.1

Source: own computation.

For further analysis, the firms were split into the two groups: non-growing firms, i.e. those who showed no growth or reduced their employment in the surveyed period (67.5% of the total number of the firms) and growing firms, i.e. those who increased their employment in the surveyed period (32.5% of the total number of the firms). Both groups differ significantly as regards the value of the index of the employment change. For the non-growing firms the index value amounted to -14.7% in the surveyed period, whereas for the growing firms it reached a negative value of -36.9% (see Table 4).

Table 4. The distribution of firms with regard to the dynamics of employment (in %)

Specification	As % of total	Index of change in employment (in %)
Non-growing firms	67.5	-14.7%
Growing firms	32.5	36.9

Source: own computation.

The external conditions of the employment growth of the firms were displayed in sectoral and spatial variations. Relatively the most advantageous conditions for the growth took place in IT and manufacturing sectors (an average growth of employment for the years 2004-2006 was 94% and 32.7% respectively). The highest drop was reported by trading firms (a decrease by 47%). The most convenient conditions for the growth occurred in large agglomerations (an average rise of employment between 2004 and 2006 amounted to 47.8%). On the other hand, the most profound fall was recorded by

the firms located in smaller towns (a drop by 60%%). Also an intensity of the contacts with the external environment has a noticeable influence on the growth of employment of the surveyed firms. The most beneficial conditions in that respect took place in the case of a well developed collaboration with the environment (an average employment growth for the years 2004-2006 was 94%), whereas the deepest decrease occurred in the case of the firms characterized by the moderately developed collaboration with the environment (a fall by 41%).

5.3. The typology of the firms

The combination of the two dimensions, i.e. the innovativeness and the change of employment enables to make a typology of four different types of the surveyed firms. Table 5 presents their distribution by means of the innovativeness index measured by the share of turnover generated in 2006 from novelties introduced between 2004 and 2006 and the change in the employment level. The most numerous group that embraces 50% of the firms (type I) is formed by the firms characterized by a lower innovativeness level and making no changes in employment. This means that half of the surveyed firms do not contribute to a job generation and they are passive with respect to innovation. Also the group of the firms who increase their employment and are characterized by a lower innovativeness level is quite big in numbers and encompasses 21.2% of the firms (type II). The firms that belong to the remaining groups represent a smaller population. These are either the firms where an employment growth is followed by a low innovativeness level (type III – 15.2%) or the firms where a growth of employment is accompanied by a high innovativeness level (type IV – 13.6%).

Table 5. The distribution of the firms with respect to the innovativeness and the dynamics of employment*

Innovativeness		
High level of turnover from innovation	Type III 15.2%	Type IV 13.6%
Low level of turnover from innovation	Type I 50.0%	Type II 21.2%
	No growth of employment	Growth of employment

Dynamics of employment

* data for 66 firms

Source: own computation.

The data presented above indicate a certain extent of independence of both analysed factors, that is the innovativeness and the capacity to generate new jobs. Less than 2/3 of the firms support this relationship (the group I and IV).

The growth of innovativeness of the surveyed firms is accompanied only to a limited extent by a greater capacity to generate new jobs. Only 47.4% of the highly innovative firms did realize their potential for the growth of employment. The remaining 52.6% of the highly innovative firms did not record any growth or just the opposite – their employment level fell (35.7% of the firms) due to personal limitations, resource limitations or the lack of the market acceptance for the introduced innovations.

Basically, a growth of employment takes place without an increase in the innovativeness level of the surveyed firms. 60.9% of the total number of the firms reported a rise in employment at the low innovativeness level, while the remaining 39.1% of the firms at the higher level of innovativeness. This means that a general increase in employment was achieved by the less innovative firms.

Table 6. The selected characteristics by the type of the firm

Type of the firm	Average index of innovativeness (%)	Average rate of employment growth (%)
I	13.6	-10.4
II	17.2	36.4
III	66.5	-14.4
IV	65.0	30.8

Source: own computation.

The innovativeness and the capacity of the different groups to achieve an employment growth is illustrated in Table 6. The analysis of the data confirms the variations between the groups. The group IV ("glamorous") is characterized by the high levels of innovativeness and the capacity to job generation (65% and 30.8% respectively), whereas the group I („economic core") is marked by the lowest innovativeness level and a low capacity to generate jobs (13.6% and -10.4% respectively).

Table 7. The selected characteristics by the type of the firm (cont.)

Type of the firm	Average employment (in persons)	Rate of exporting firms	Share of firms with innovations new to the world
I	11.6	9.1	6.1
II	50.4	28.6	21.4
III	30.2	40.0	10.0
IV	37.2	33.3	22.2

Source: own computation.

The separated types of the firms also show significant differences with regard to other economic indices (see Table 7). The group of the firms with a weak dynamics of the employment growth and a low innovativeness level is marked by the highest average employment in the sample. On the other hand, the group of the firms characterized by a higher innovativeness level and simultaneously a higher dynamics of the growth is composed of smallest entities. A bigger size is typical for the firms with a lower dynamics of employment which points to the larger potential of growth of smaller firms. The index of the share of the exporting firms is much lower in the group of the firms with a lower dynamics of the employment growth and a lower innovativeness level as well as the share of innovations new to the world.

6. The assessment of the firms' capacity to grow in the shadow economy conditions

Shadow-economy activities exert their influence on the firms' capacity to grow (see Table 8). However, in the opinion of the enterprises, their influence is rather harmful to their capacity to achieve growth. Nevertheless, it should be stressed that as many as more than one third of the enterprises believe that these activities have a positive influence. This means that a considerable proportion of SMEs have a positive view on the shadow-economy activities as far as the

capacity to achieve growth is concerned. Almost one in ten respondents believe that shadow-economy operations may even create very advantageous conditions to build the firms' capacity to grow.

Table 8. The influence of shadow-economy activity on the firm's capacity to grow (% of the firms)

Specification	Firms by employment growth		Firms by innovativeness level	
	Growing	Non-growing	Highly innovative	Little innovative
Definitely favourable	13.0	9.4	10.5	11.1
Rather favourable	34.8	20.8	10.5	31.1
Neutral	8.7	30.2	15.8	24.4
Rather harmful	34.8	32.1	47.4	31.1
Definitely harmful	8.7	7.5	15.8	2.2

Source: own computation.

The assessment of activities run in the shadow economy conditions as regards their influence on the firms' capacity to grow shows considerable variations for the different categories of the enterprises (Table 9). The enterprises that achieve an employment growth underline more strongly a positive impact of the shadow economy on building growth capacities than non-growing firms (48% and 30% respectively). This may suggest that the shadow economy contributed to the success of the expansion of a considerable portion of SMEs, or it is considered by the enterprises planning an expansion as a key success factor for this process.

In the opinion of nearly two thirds of the highly innovative firms, shadow-economy activities produce a harmful effect on the firms' capacity to grow. Only one in five enterprises believe the influence is favourable. A different view on the influence of shadow-economy activities on the firms' capacity to grow is presented by low innovative enterprises – 42.1% of them find an influence of the shadow economy on the firms' capacity to grow as favourable, while one third of them share an opposite opinion. These data indicate that shadow economy activities rather do not favour an economic activity. This concerns undertaking investments necessary to launch highly effective technologies due to a high risk and too small a scale of operations, as well as respecting contracts or property rights protection being practically beyond the reach of shadow-economy enterprises.

Table 9. The influence of shadow-economy activity on the firm's capacity to grow by type of firm (% of the firms)

Specification	Type of firm			
	I	II	III	IV
Definitely favourable	9.4	15.4	10.0	12.5
Rather favourable	28.1	38.5	0.0	25.0
Neutral	34.4	38.5	20.0	12.5
Rather harmful	28.1	7.7	50.0	37.5
Definitely harmful	0.0	0.0	20.0	12.5

Source: own computation.

An influence of the shadow-economy activity on the firms' capacity to grow distinguished by the type of the firm is illustrated in Table 9. The data analysis provides the evidence of the firms' variations. The group II of the firms who increase their employment and have a low innovativeness level is quite distinct as compared with the remaining groups with regard to their very positive assessment of the shadow economy (54% of the firms). Contrary to that, the group III of highly innovative firms with no growth of employment achieved assess the shadow economy in a very negative manner as regards its influence on the growth capacity (70% of the firms). The group of the highly innovative and growing firms have rather a negative view on the influence of the shadow economy on their growth capacities. These data support the previous statements that shadow-economy activities favour rather growth-oriented than innovative activities. However, the shadow economy is not favourable to the most desired activities of firms, that is innovation and expansion that generates new jobs taking place parallelly. A passive role of the shadow economy in building growth capacities was expressed in the opinions of the group I firms that is the firms passive in achieving growth and innovation. The most numerous group of the firms, if already use the shadow economy do it rather for consumption purposes of the entrepreneur's household than for investment and innovation.

7. Conclusions

The analysis of the survey results supports a hypothesis according to which the innovativeness and the capacity to generate employment among Polish SMEs that operate in the conditions of profound market transition are independent to a considerable extent. Less than two thirds of the firms support

this relationship: the higher the innovativeness level the higher the capacity to generate new jobs. In the remaining cases (1/3 of the firms) no such correlation was identified. This indicates a high independence of both dimensions of firms' operations.

It is worth noting that only ca. 14% of the surveyed firms are highly innovative that reported a considerable increase in employment. On the other hand, there were more than 15% of the firms with a higher innovativeness level and moderate (or none) employment growth, i.e. the firms that failed to use their growth potential.

Undertaking shadow-economy activities affects the firms' capacity to grow, however in the opinion of enterprises this influence is rather harmful than favourable. Nevertheless, a proportion of SMEs that have a positive view on the shadow-economy activities – as far as the capacity to achieve growth is concerned - is quite substantial. The assessment of activities run in the shadow economy conditions as regards their influence on the firms' capacity to grow shows considerable variations for the different categories of the enterprises. The enterprises that achieve an employment growth underline more strongly a positive impact of the shadow economy on building growth capacities than non-growing firms. This may suggest that the shadow economy contributed to the success of the expansion of a considerable portion of SMEs, or it is considered by the enterprises planning an expansion as a key success factor for this process.

Highly innovative enterprises assess much stronger than less innovative ones that shadow-economy activities are harmful to their capacity to achieve growth. It can be assumed that the shadow-economy activities do not favour innovative activities that require undertaking investments necessary to launch highly effective technologies due to a high risk and too small a scale of operations, as well as respecting contracts or property rights protection being practically beyond the reach of shadow-economy enterprises.

Shadow-economy activities favour rather growth-oriented than innovative activities. However, the shadow economy is not beneficial to the most desired activities of firms, that is innovation and expansion that generates new jobs taking place parallelly. The most numerous group of the firms, if already use the shadow economy do it rather for consumption purposes of the entrepreneur's household than for investment and innovation.

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Streszczenie

INNOWACYJNOŚĆ MSP A W POTENCJAŁ TWORZENIA NOWYCH MIEJSC PRACY W KONTEKŚCIE SZAREJ STREFY

Artykuł poświecony jest zdolności tworzenia nowych miejsc pracy przez innowacyjne MSP w Polsce. Jest on próbą weryfikacji koncepcji B.A. Kirchoffa o istnieniu relacji między innowacyjnością i wzrostem firm. W artykule analizie poddano ponadto niektóre uwarunkowania działalności innowacyjnych MSP, wynikające z ich otoczenia (kontekst sektorowy, charakterystyki rynkowe) oraz konsekwencje wykorzystywania instrumentów charakterystycznych dla szarej strefy. Przeprowadzone badania 81 polskich MSP z regionu łódzkiego potwierdzają hipotezę o występowaniu dużej niezależności między innowacyjnością firm i ich zdolnością do tworzenia nowych miejsc pracy. Wśród badanych firm 14% stanowiły podmioty o podwyższonej innowacyjności i zarazem o szybkim przyroście miejsc pracy. Z drugiej strony bardzo wysoki odsetek stanowiły MSP o obniżonej innowacyjności i słabo rosnące. Do elementów istotnych z punktu widzenia potencjału tworzenia nowych miejsc pracy okazały się warunki rynkowe i sektorowe, trudności z zarządzaniem firmą (brak doświadczenia, trudności ze zgromadzeniem wystarczającego kapitału założycielskiego) oraz brak publicznych programów wspierania. Wyniki badania wskazują, że wykorzystywanie instrumentów szarostrefowych sprzyja raczej działaniom wzrostowym, niż innowacyjnym. Szara strefa nie sprzyja natomiast najbardziej pożądanym działaniom firm, tj. jednoczesnemu podejmowaniu innowacji i ekspansji, tworząc nowe miejsca pracy.

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JANINA WITKOWSKA *

European Union Social Policy as an Instrument for Sustainable Development

Abstract

This paper undertakes an analysis and assessment of European Union (EU) social policy in the context of the sustainability of the group's social and economic development. The process of Europeanizing EU social policy is not advanced. Thus, the weight of solving social problems primarily rests with member countries. EU social policy is "looser" in character than other EU policies and its scope is limited to those areas where member states were willing to transfer certain prerogatives to European Union level. The EU only supports social policy in the context of the sustainability of the group's social and economic development. The process of Europeanizing EU social policy is not and supplements the actions of member states in the social sphere. At the same time, the EU supports the concept of corporate social responsibility. Corporate social responsibility is defined as the voluntary taking into account by companies of social and environmental matters in their operations and in relations with interested parties.

1. Introduction

The sustainable development of a country or integrated group requires the taking into account of social questions in social–economic policy and the solving of social problem making their appearance over the course of

* Ph. D., Full Professor at the University of Łódź

accelerated economic growth. Unemployment, poverty, social exclusion, limited access to education, and social conflict are among the primary problems. Each society undertakes its own efforts at containing social problems through social policy that is more or less expanded, and applying instruments that, to a great extent, were molded over dozens of years of practice. Indirectly, social policy implemented on the level of the integrated group also serves the concept of sustainable development.

The objective of this paper is an analysis and assessment of European Union (EU) social policy in the context of the sustainability of the group's social and economic policy. This paper evaluates the level of Europeanization of such policy, where in this case "Europeanization" is understood as a political process bringing with itself continuous, mutual influence and negotiations among the various actors involved in the process of shaping policy on the integrated group's level. On the one hand, these are the member states, while on the other they are the EU institutions, mainly the European Commission. Successive parts of this paper present the implementation of EU social policy, within the framework of the Renewed Social Agenda, and attempt to assess the effects of this policy through the lens of changes in parameters characterizing the labor market in the EU. The final section takes into account the matter of the EU approach to social corporate responsibility understood as the voluntary taking into account by companies of social and environmental matters in their operations and relations with interested parties.

2. The Europeanization of European Union Social Policy

The objective of social policy on the national level is, at the very least, the guarantying of a socially acceptable minimum living standard for the whole population of the country (Jovanović 2005, p. 771). Overall, social policy goes beyond matters related to employment and encompasses questions of pay, unemployment insurance, social welfare systems, retirement, health, occupational health and safety, education, and the professional as well as geographical mobility of the work force (Jovanović 2005, p. 771). European Union member states handle social policy on a national level. Four traditional European social models may be identified—i.e. Nordic, Anglo–Saxon,

Continental, and Mediterranean—that differ in terms of efficiency and the achieved levels of social equality[1].

A common social policy is being administered on the European Union level, but the process of its Europeanization is not as advanced as in the case of certain economic policies. Topical literature stresses that over the past twenty years the process of European integration has been characterized by an absence of balance between economic and social policies (Grahl 2006, pp. 169-202). Economic policies are concentrated on market liberalization and are, to an increasing extent, under the control of the EU, while social policies continue to be primarily overseen by member states. It is clear that in the European integration process there is a strong asymmetry between policies promoting market efficiency and policies promoting social security and equality (Scharpf 2002, pp. 645–670). At the same time, subject to increasing economic integration, the member states face growing difficulties in implementing tasks in the realm of social policy.

The character of EU social policy is "looser" than other EU policies and its range is limited to those fields where member states were willing to surrender certain prerogatives to the European Union level. Social matters were within the field of interest of the Community from its very inception. This is borne out by the provisions of the Treaty of Rome (Jovanović 2005, pp. 777–781), but there was no agreement among interested parties as to the scope of social policy on the Community level as well as with respect to the subdivision of rights and responsibilities among national authorities and Community institutions (Purdy 2007, pp. 200–222).

During the initial period of integration, the most important decisions that related to social matters taken on the supra–national level involved the **free flow of workers** and **freedom of settlement**. One of the first legal documents approved by the EEC in 1958 was the social security system for workers migrating from member states. The **European Social Fund** (ESF) was created on the basis of Articles 3 and 123 of the Treaty of Rome. Its objective was an improvement in potential for employment, raising living standards, and increased mobility of the workforce in terms of geography and profession. The Fund is a financial instrument. Thanks to this it is possible to implement the group's strategic objectives in the area of employment (Archer 2008, pp. 80–83; Jovanović 2005, p. 781). Currently, the ESF is one of the structural funds implementing common objectives in the area of EU social and economic cohesion.

[1] For a broader comparison, see A. Sapir, *"Globalization and the Reform of European Social Models,"* Journal of Common Market Studies", 2006, vol. 44, no. 2, pp. 369–390.

The first expansion of the Community resulted in a need to take on social matters on the Community level. It was then that a series of multi–year social programs were initiated. The first was launched in 1974. The programs concentrated on questions of **increasing employment, improving living standards, and increasing the participation of social partners in the process of decision–making on the European Community level**. The impact of these programs on the above social problems is assessed as being poor. This is mainly because of the fact that policies in the field of employment continued to be treated as the domain of member states, while ESF resources were modest (Archer 2008 p. 81). Nevertheless, certain actions were taken at that time that enlarged the sphere of interest of the Communities to encompass social matters, particularly those concerned with **education, improved living and working conditions**, especially with respect to **women**, and stronger **legal protection for workers**[2].

A strong legal basis for the conducting of social policy on the Community level was created in line with the implementation of the program for the building of a single internal market in the mid–nineteen–eighties pursuant to the Single European Act. Matters such as **worker safety and health protection, dialogue with social partners, and social–economic cohesiveness** found themselves within the field of interest of the Community (Archer 2008, p.81, Purdy 2007, p.214). Eleven Community members (Great Britain was the exception) approved the *Community Charter of Fundamental Social Rights for Workers* in the form of a formal declaration in 1989. This event should be considered as an effort at finding balance among the various concept of a "Social Europe." The Charter was intended to establish a common set of social standards that held up the possibility of satisfying the interested parties. In reality, the character of the Charter was symbolic and unbinding. It was considered a retreat from the realm of social policy by the proponents of greater involvement in social matters on the part of the European Communities. However, time has shown that the Charter was the first step in the direction of leading social policy with the help of "soft coordination" rather than "hard law." (Purdy 2007, p. 214) .The Charter became the basis for an agreement on social policy, attached as a protocol to the Maastricht Treaty (Grahl 2006, pp. 177–178).

That treaty introduced three new objectives of social character, specifically:

[2] For a broader comparison, see Z. Wysokińska and J. Witkowska, *Integracja europejska. Rozwój rynków* [European integration: Market development], PWN Scientific Publishers, Warsaw–Łódź, 1999, pp. 245–246.

- **Suitable social security,**
- **Social dialogue, and**
- **Human resource development for sustainable employment.**

Moreover, the principle of a supermajority in voting was expanded to include matters such as health and safety, working conditions, information and consultations, equality of the sexes on the labor market, and the integration of people excluded from the labor market (Archer 2008, p. 81, Purdy 2007, p. 214). Great Britain guarantied itself the right to remain outside the protocol, binding on other member states. This was the situation until political changes in that country in 1997.

The Treaty of Amsterdam supplemented the scope of social policy conducted on the EU level to include matters of **non–discrimination** as well as the **fight against manifestations of discrimination** based on sex, race, ethnic origin, religion or faith, disability, age, and sexual orientation. The main provisions relating to social policy were contained in a new section introduced into the European Community Treaty on the basis of the Treaty of Amsterdam (Title XI encompassing Articles 136 to 145).

A successive treaty—the Treaty of Nice—expanded processes of cooperation and coordination in the social sphere on the EU level to include **social security and worker social protection, fighting against social exclusion, and the modernization of social safety systems (**Marlier, Atkinson, Cantillon, and Nolan 2007, p. 21).

The Treaty of Lisbon—i.e. the Treaty on the Functioning of the European Union—which came into force in December of 2009, does not change the character, objectives, scope, and instruments of EU social policy in any significant manner. Currently, the legal basis for managing such policy is Title X of the Treaty, which encompasses Articles 151 to 161 (Treaty 2008). Areas of this policy where the European Union provides support and supplements the actions of member states may be subdivided into two groups—i.e. those encompassed by ordinary legislative procedures and those subject to special ones. Among fields encompassed by **voting supermajority** are (Article 153):

Improvement, especially in the work environment so as to protect health and safety,

- Working conditions,
- Worker information and consultations,
- Integration of people excluded from the labor market, without detriment to Article 166 relating to occupational education policy,

- The equality of men and women with respect to opportunities on the labor market and treatment at work,
- Fighting social exclusion, and
- Modernization of social protection systems, without detriment to social security and worker social protection.

The special legislative procedure, which signifies **unanimity** in decision–taking, encompasses the following[3]:

- Social security and social protection for workers,
- Worker protection in cases of termination of employment agreements,
- Collective representation and protection of the interests of workers and employers, including co–management,
- Terms of employment of citizens of third party countries legally present within the territory of the European Union.

The Council, in a unanimous determination based on a recommendation by the Commission and following consultations with the European Parliament, may decide to apply ordinary legislative procedures with respect to the last three fields specified—excluding social security and worker social protection (see Article 153).

Supporting and supplementing the actions of member states means that the EU level may formulate, by way of directives, **minimum requirements** gradually introduced with respect to specified fields, regardless of voting procedures, with the exception of fighting social exclusion and the modernization of social safety systems.

There are also areas of social policy that are definitively excluded from under any influence whatsoever on the EU level. These include matters of remuneration, the right to associate, the right to strike, and the right of lock–out[4].

The existence of three categories in the area of social policy (subject to the principle of voting supermajority, the principle of unanimity, and exclusion from harmonization) indicates that this is a sensitive sphere with respect to the member state of the EU that are tied with various social models and needs of autonomy on the part of the national social partners (Pelkmans 2006, p. 328; Purdy 2007, p. 215). EU achievements in this sphere to date are rated as not being significant. Effective directives apply to framework and detailed questions of occupational health and safety, working time, the rights of atypical workers

[3] Article 153 of the Treaty on the Functioning of the European Union, Clause 2.

[4] Article 153 of the Treaty on the Functioning of the European Union, Clause 5.

and those working part–time, worker councils in large companies, and the equality of men and women.

An analysis of EU social policy seen through the prism of a striving for the sustainable development of the European Union indicates that the open coordination methods include the primary domains of social policy understood in their traditional sense. Topical literature stresses that the interests of EU social policy also encompass areas linked with work (the mobility of the labor force, unemployment, worker rights, industrial health and safety, equality of the sexes, etc.) that are not always of key importance in national policies (Daly 2006, pp. 461–481). At the same time, it is noted that social policy on the EU level is "shallow" in areas considered as being in the forefront of national policies—social security and income distribution.

EU social policy differs with respect to national concepts of the welfare state in the following areas (Daly 2006, pp. 464):

- Objectives are targeted at European integration, understood as market integration, where on the national level this involves the building of a welfare state and group identification;
- Key values lying at its basis are the principles of subsidiarity and solidarity;
- Its scope does not include matters of social security and income redistribution, which make up the core of national policies;
- Major weight is attached to the rational model of conducting policies and on the discursive process in methods of undertaking policies;
- What is broadly understood as the institution of agency is emerging around the implementation of such policy, where in the case of EU social policy what is being implemented are obligations regarding social dialogue, the promotion of social partnership, and the involvement of the actors of a civic society.

3. The Renewed Social Agenda and Programs for Its Implementation

The European Union's interest in social matters as stemming from its quest for a balance between the economic and social aspects of integration has resulted in the systematic development of medium–term action programs. Following approval of the Lisbon Strategy, the European Union has developed and implemented the Social Policy Agenda that has been treated as something akin to a "roadmap" serving the modernization and improvement of the European social model through investment in people and the building of an active welfare state (Communication from the Commission 2003). The Agenda

is to serve the implementation of the objectives of the Lisbon Strategy by establishing mutual influence among economic, employment, and social policy. During its Lisbon summit, the European Council decided that this is to be achieved through **open coordination methods** in the area of social policy. This signifies the leaving of choices as to the social policy sphere on the national level, while simultaneously undertaking efforts at their improvement by promoting common goals and Community indicators (reference marks) as well as by a comparative assessment of the state of national policies (Scharpf 2002, p.666).

The European Union approved the Renewed Social Agenda in 2008 in light of the fact that existing social problems had not been solved, while new social and economic ones appeared (Communication from the Commission 2008). The intention of the Commission was to not restrict itself to traditional social matters, but to give the new Agenda a cross–sectional and multi–dimensional character. Matters referred to by the Agenda include **policies involving the labor market, education, healthcare, immigration, and inter–cultural dialogue**. The renewed Agenda formulates three equivalent, interrelated goals, specifically (Communication from the Commission 2008, p.7):

- Creating opportunity – signifying the creation of more numerous and better work places as well as facilitating mobility;
- Guarantying access – which means easier access for EU citizens to good quality education, social security, healthcare, and services that can play a role in overcoming inequality in starting as well as making a longer and healthier life available to all;
- Demonstrating solidarity – meaning the carrying of assistance to people in difficult situations by supporting social integration, participation, and social dialogue as well as combating poverty.

Priorities in the social sphere were formulated in line with the objectives of the renewed Social Policy Agenda, specifically (Communication from the Commission 2008):

- Children and youth: the future of Europe,
- Investing in people: the quantity and quality of jobs, and new skills,
- Mobility,
- Longer and healthier lives,
- Fighting poverty and social exclusion,
- Tackling discrimination, and
- Opportunities, access, and solidarity in the international context.

The Communication for the Commission on the Renewed Social Policy Agenda reiterates the continuation of the open method of coordination in this sphere (Communication from the Commission 2008, p. 19).

The financing of actions assumed in the Agenda shall take place in the running financial perspective (the years 2007–2013) using cohesion policy resources, especially those of the **European Social Fund** (Communication from the Commission 2008, pp. 20–21). It is within the framework of this Fund that resources are assumed for increasing the capacity of companies and workers to predict and manage changes (EUR 14 billion), improving education and training (EUR 26 billion), increasing employment, including the fight against discrimination (EUR 30 billion), investing in healthcare (EUR 5 billion), and increasing migrant employment and social integration support (EUR 1.2 billion). Integration of new migrants in member states is also supported by the **European Fund for the Integration of Third–Country Nationals** (2007–2013), while support for workers laid off in connection with globalization processes is the task of the **European Globalization Fund** established in 2007. Two funds financing the common agricultural policy—the **European Agricultural Guarantee Fund** and the **European Agricultural Fund for Rural Development**—also play a role in implementing actions assumed by the Agenda. The following programs for the years 2007–2013 are involved in implementation of the Agenda (Communication from the Commission 2008, p.21):

- The PROGRESS program for employment and social solidarity, strengthening partnership among key parties in the EU and in the individual states;
- The "Lifelong Learning" Program supporting the development of education and training in a good level;
- The "Youth in Action" Program supporting the social integration of young people.

The **PROGRESS program** encompasses five basic fields important in the implementation of EU objectives in the sphere of employment and social matters, including employment, social protection and inclusion, working conditions, diversity and combating discrimination, and gender equality (Decision No 1672/2006/EC). The program has a list of operational goals for each of the specified areas. The program budget amounts to EUR 743 million.

The following activities are provided with financing:

- Analyses,
- Actions aimed at mutual learning, increased awareness, and dissemination of knowledge, and

- Support for the main "players"—i.e. participation in the operational costs of creating a network in the EU, establishing of working groups, training seminars, creating observer networks on the EU level, the exchange of national administration staff, and collaboration with international institutions.

Actions assumed by the PROGRESS program are clearly "soft" in character, which is tied with the relatively low level of Europeanization of social policy.

The European Union has a long tradition in supporting collaboration among member states in the area of **education**. In the wake of approval of the Lisbon Strategy, actions in the area of education are treated in a comprehensive manner and are seen as playing a role in achieving the objectives assumed in the strategy. The Education and Training 2010 program was approved in 2002, while in 2009 the Council of the European Union accepted its revision, taking on the strategic framework of European collaboration in the area of education and training—ET 2020 (Council Conclusion 2009). Strategic goals were defined as follows:

- Goal 1: Implementation of the concept of lifelong learning and mobility;
- Goal 2: Improvement in the quality and effectiveness of education and training;
- Goal 3: Promoting equality, social cohesiveness, and civic action;
- Goal 4: Increasing creativity and innovativeness, including entrepreneurship, on all levels of education.

At the same time, the Council document defines reference levels establishing the average European results with respect to the above goals. However, it is clearly stressed that reference levels should not be seen as being concrete goals that each state must achieve by the end of 2020. Rather, member states are asked to consider how and to what extent, on the basis of national priorities and the changing economic situation, they can help in mutually achieving the reference levels using national action[5].

The main aim of the **"Lifelong Learning" Program 2007–2013"** is support for exchange, collaboration, and mobility among educational and training systems within the European Union so that they can achieve a high level of quality. A total of EUR 6.97 billion is designated for performance of this

[5] Annex I to the Council Conclusion of May 12, 2009: Reference Levels Designating the Average European Result ("European Reference Levels"), Official Journal of the European Union C119, May 28, 2009.

program (Lifelong Learning Program 2007–2013). The program is subdivided into six subprograms, of where the character of four of them is sector–oriented. They are:

- Comenius – A program dedicated to preschool and school education, inclusive of upper secondary schools as well as involved institutions and organizations, where it is assumed that by the end of the program it will have encompassed three million pupils (13% of the total budget is earmarked for this program);
- Erasmus – A program addressed to formal education on a higher level as well as professional education and training at the third level of education, including doctoral studies, where it is assumed that by the end of 2012 it shall have encompassed a total of three million people (40% of the total budget is earmarked for this program);
- Leonardo da Vinci – A program intended for professional education and training other than at the third educational level, where it is assumed that each year shall see 80,000 training courses (25% of the total budget is earmarked for this program);
- Grundtvig – A program aimed at all forms of adult education, where it is assumed that 7,000 people shall benefit each year (4% of the total budget is earmarked for this program);
- Transversal Program – A program encompassing all other activities not encompassed by the above–specified programs, including promotion in the teaching of languages;
- Jean Monnet Program – A program aimed at promoting teaching and research in the field of European integration as well as support for institutions active in the sphere of education and research on the EU level.

4. European Union Social Policy Outcome Assessment

Any evaluation of EU social policy must take into account the fact that the primary responsibility for the social sphere lies with the member states, where the supra–national level lacks any “hard” instruments to carry out social policy and achieved effects in this field cannot be compared with other areas where the EU level has created a separate set of instruments and earmarked financial resources.

With respect to the European Union **labor market**, the statement that it is a collection of national labor markets among which there is a free flow of workers continues to be true. This freedom is real and consistently implemented,

but the outcome of its establishment is that no common European Union labor market has emerged. The reason behind this state of affairs is primarily seen in the existence of social protectionism in the EU (Pelkmans 2001, pp. 166 and 187–190). The EU labor market is subject to a high degree of national regulations and the free flow of workers occurs under the "control" of the host country. However, efforts are being made to make the labor market more flexible.

As presented above, the member states implement different social models that also vary in their impact on parameters characteristic of the labor markets of those countries. For example, the levels of **employment rates** in most countries differ *in minus* from the assumptions of the Lisbon Strategy. An employment indicator of 70% and above is achieved by only some of the old member states, while the group of countries with the lowest indicators primarily includes the newest member states.

Observation of a successive indicator—the **unemployment rate**—demonstrates that unemployment in the EU decreased up to the year 2007 and there was a rapid convergence among the countries (Report from the Commission 2009 p. 3). In December of 2008 the average unemployment rate was still at a moderate level amounting to 7.7% for the EU27 and 7.8% for the EU 15. In the euro zone, however, it amounted to 8.2% (Eurostat data). The consequences of global crisis brought about a sudden growth in the unemployment rate in countries such as Spain, the Baltic States, Ireland, and Slovakia. In line with data from the end of 2009, the unemployment rate of those countries reached double–digit levels (Eurostat data). For example, in Spain the unemployment rate increased to 19%, in the Baltic States it was in the 15.6%–19.8% range, in Slovakia it was 14.4%, while in Ireland it was 12.9%. By the end of 2009, the unemployment rate in certain countries was twice as high as in 2007. The situation in other member states remains equally serious, especially in light of the high level of internationalization of the economies of member states and their mutual trade links. The upward tendency in the unemployment rate in the above–specified countries was also maintained in the first half of 2010. Detailed data on the shaping of the unemployment rate in the EU27, the euro zone, and the individual member states is presented in Table No. 1. The data show that differences in unemployment rates are not tied in agreement with the subdivision into the euro zone and the remaining countries, nor by old and new member states, but transversely with respect to such divisions. The problem of growing unemployment rates is left for solving on the national level, where open coordination on the EU level can only help to a limited extent.

Another indicator that shows the differentiation of the labor markets of EU countries is the hourly labor cost presented in Table No. 2. In 2007, for

which relatively complete data is available, the bottom of the scale is occupied by two new member states, Bulgaria and Romania, where the labor costs amount to EUR 1.9 and EUR 3.4, respectively. The top of the scale is the domain of countries such as Denmark (EUR 34.7), Sweden (EUR 33.3), Luxembourg (EUR 33.0), and Belgium (EUR 32.6).

The basis for these differences is differentiation in labor productivity and related wages as well as differentiation in burdens applied by the state in connection with utilization of labor. Although true that a systematic increase in hourly labor costs can be seen in the new EU member states, synchronization of the basic component of labor costs—wages—does not seem possible in the nearest future. Moreover, it does not seem economically justified from the point of view of poorly developed countries.

With respect to **occupational health and safety**, the EU has passed relevant directives and implemented multi–year strategies (Communication from the Commission 2007). Effects achieved in this field are assessed as being positive. A significant fall in the number of accidents at work was noted while the Community strategy was in force over the years 2002–2006. In 2002–2004 (the most recent available years), the number of fatal accidents at work in the EU15 decreased by 17%, while the number of accidents at the workplace resulting in more than three days absence from work decreased by 20%. It is expected that new statistical data will confirm these positive tendencies. The new strategy for the years 2007–2010 proposes the achievement of a new target: Decreasing the overall work accident indicator in the EU27 by 25% by the year 2012 through an improvement in healthcare and worker safety (Communication from the Commission 2007, p. 3).

The main changes that occurred in the field of the **equal treatment of men and women** are not univocally considered positive (Report from the Commission 2008). Over the years 2000–2006 employment grew in the EU27 by approximately 12 million jobs, including 7.5 million jobs for women. The employment rate for women (57.2%) grew over this period more quickly than the employment rate for men—i.e. by 3.5 percentage points as compared with one percentage point. In the group of workers aged over fifty–five, growth in the employment rate for women (7.4. percentage points) was as quick as growth in the employment rate for men. As a result of these changes, divergence of the employment rates for men and women decreased from 17.1 percentage points in 2000 to 14.4 percentage points in 2006. This is a positive phenomenon from the point of view of the assumed goals of the Lisbon Strategy (Report from the Commission 2008).

However, qualitative changes were not positive to the same extent as quantitative changes. Remuneration, labor market segregation, and women in

decision–making position indicators have not demonstrated significant changes for many years. Differences in wages have been steady at a level of 15% as of 2003, which is only one percentage point less than in 2000. Segregation by sector and profession in accordance with sex has not decreased. In fact, it is even growing in certain countries, which means that women who have recently entered the labor market found employment in sectors and professions that are already strongly feminized. The presence of women in managerial positions in companies has stabilized at a level of 33%, while in political posts it amounts to only 23%. In the case of women, reconciling professional and personal life continues to be more difficult than in the case of men. The employment rate in the case of women with small children amounts to 62.4%, while the employment rate for men in the same situation is 91.4%. Over three–quarters of those employed part–time are women. More women (by one percentage point) are also employed for a stipulated period of time (15.1%) (Report from the Commission 2008).

The European strategy for economic and employment growth ("better and more numerous jobs") seems to be bringing in favorable quantitative effects, but qualitative changes are not visible. This difference has an impact on the social situation of women.

5. The Approach of the European Union to Corporate Social Responsibility

References to corporate social responsibility may be found in initiatives and documents of international organizations, including initiatives such as the UN Global Compact, OECD Guidelines for International Companies, the Declaration of the International Labor Organization on Fundamental Principles and Rights at Work, and the Rio Declaration on the Natural Environment and Development Agenda 21. They indicate bilateral benefits that can be achieved by parties interested in implementing the concept of corporate social responsibility.

Corporate social responsibility is also treated as an exceptionally important problem by the European Union. In Lisbon, in 2000, the Council of Europe appealed to European companies for conscious corporate responsibility. The year 2001 saw the approval of the Green Paper on Promoting a European Framework for Corporate Social Responsibility. The objective of that document was the launching of a debate on the concept of social responsibility and ways of creating partnerships for the development of a European approach to this question. What was defined at that time was the **social responsibility of companies as the voluntary taking into account by companies of social and**

environmental matters in their operations as in relations with interested parties (Green Paper 2001, p. 4). In line with this concept, the company decides to go beyond minimal legal requirements and obligations as derived from collective agreement in order to take social needs into account.

In 2002 the European Commission proposed a strategy oriented at the dissemination of knowledge regarding corporate responsibility and its positive impact on Europe's business and society, the exchange of experience and best practices, the promotion of managerial skills in the realm of corporate social responsibility, spreading this concept amidst small and medium enterprises, bringing the practices and tools used by companies closer, incorporating social responsibility into Community policy, and the creation of a multilateral forum of stakeholders on the EU level.

In its communication of 2006, entitled Implementing the Partnership for Growth and Jobs: Making Europe a Pole of Excellence on Corporate Social Responsibility, the European Commission announced support for a European alliance for socially responsible companies. This is understood as something of a political "umbrella" for new and existing initiatives in the area of corporate social responsibility as undertaken by both major companies and SMEs. However, this is not a legal instrument. Companies do not have to sign into the alliance, but may support it on a voluntary basis. The role of the Commission is to encourage companies to provide access to information on social responsibility to all interested parties, including consumers, investors, and the public. The communication proposes actions concentrated on the following aspects:

- Increased awareness and the exchange of best practices in the area of corporate social responsibility;
- Support for multilateral initiatives, such as the European Platform for Nutrition and sector–oriented social dialogue committees;
- Collaboration among member states;
- Consumer information and transparency;
- Research work, especially interdisciplinary research into the dependence between corporate social responsibility and competitiveness and sustainable development;
- Education, the accumulation of knowledge on corporate social responsibility and the introduction of this topic into curriculums;
- Small and medium enterprises and facilitating an exchange of experience;
- The international dimension of corporate social responsibility, the dissemination of knowledge concerning instruments and initiatives undertaken on the global and international level.

European Commission documents stress the fact that there is agreement in Europe as to the definition of corporate social responsibility in spite of the fact that its character and description vary depending on national and cultural context (Communication from the Commission 2006).

6. Conclusions

1. The sustainable development of a country or an integrated group requires a taking into account of social matters in social and economic policy and in solving social problems making their appearance over the course of accelerated economic growth. Social policy conducted on the EU level may be seen as an instrument of the broader European Union strategy of sustainable development, although its Europeanization is not advanced. In connection with the limited extent of Europeanization of social policy, the weight of solving social problems mainly rests with the member states.
2. EU social policy is "looser" in character than other EU policies and its scope is limited to those fields in which the given member states were willing to transfer certain rights to the European Union level. The treaty of Lisbon—i.e. the Treaty on the Functioning of the European Union—which came into effect on December 1, 2009, does not change the character, goals, scope, or instruments of EU social policy in any significant manner.
3. The European Union supports and supplements the actions of member states in the social sphere, which signifies that the EU level may formulate, by way of directives, minimum requirements to be gradually introduced with respect to areas as defined in the Treaty.
4. The European Union applies open methods of coordination in the area of social policy. This signifies the leaving of decisions in the area of social policy on the national level, where, simultaneously, efforts are made at improvement through the promotion of Community goals and Community indicators (reference marks) as well as by comparative assessment of the state of national policies.
5. The open method of coordination encompasses basic domains of social policy understood in the traditional sense. EU social policy also incorporates areas related to work such as labor force mobility, unemployment, worker rights, industrial health and safety, and equality of the sexes into its sphere of interest. At the same time, it notes that social policy on the EU level is "shallow" in areas deemed to be primarily for national policies, namely social security and income distribution.

6. Support for the concept of corporate social responsibility supplements action for sustainable development of the European Union. Corporate social responsibility is defined as the voluntary taking into account by the company of social and environmental questions in its operations and in relations with interested parties. Pursuant with the concept, companies take the decision to go beyond minimum legal requirements and obligations as stemming from collective agreements, in order to take into account society's needs.

Table 1. The Unemployment Rate in the Countries of the European Union, the United States, and Japan, 2008–2010, %

Item	December 2008	June 2009	December 2009	May 2010
EU27	**7.7**	**8.9**	**9.4**	**9.6**
Euro zone (16)	**8.2**	**9.4**	**9.9**	**10.0**
Belgium	7.1	7.8	8.2	8.6
Austria	4.2	5.0	4.7	4.0
Bulgaria	5.4	6.4	8.6	9.7
Czech Republic	4.7	6.7	7.5	7.5
Denmark	4.1	6.1	7.2	6.8
Germany	7.1	7.7	7.4	7.0
Estonia	7.7	13.3	15.6	19.0[a)]
Finland	6.9	8.4	8.8	8.6
Latvia	11.3	17.2	19.8	20.0[a)]
Lithuania	8.1	13.5	15.9	17.4[a)]
Ireland	8.3	12.1	12.9	13.3
Greece	7.9	9.2	10.2	11.0[a)]
Spain	14.8	18.1	19.0	19.9
France	8.5	9.4	9.8	9.9
Italy	7.0	7.6	8.5	8.7
Cyprus	4.0	5.3	6.2	7.2
Luxembourg	5.3	5.8	5.2	5.2
Hungary	8.5	9.9	10.7	10.4
Malta	6.1	7.2	7.1	6.7
Netherlands	2.8	3.3	4.0	4.3
Poland	**7.0**	**8.1**	**9.1**	**9.8**
Romania	5.9	6.4	7.6	7.4[a]
Portugal	8.1	9.6	10.2	10.9
Slovakia	9.3	11.6	14.4	14.8
Slovenia	4.2	6.2	6.5	7.1
Sweden	7.0	8.3	8.9	8.8
Great Britain		7.8	7.7	7.9[a)]
United States	**7.2**	**9.5**	**10.0**	**9.7**
Japan	**4.3**	**5.3**	**5.2**	**5.2**

Source: Harmonized unemployment rate by gender – total, http://epp.eurostat.ec.eu.

Table 2. The Hourly Labor Cost in the Countries of the European Union, 1998–2008, EUR

Country	1998	2000	2004	2005	2006	2007	2008
EU27	17.08	18.32	20.25	20.47	19.85	:	:
EU25	17.36	19.35	21.45	21.82	21.49	:	:
EU15	19.99	21.96	24.31	25.13	25.79	:	:
Belgium	:	26.61	30.30	30.62	31.43	32.56	33.66
Bulgaria	1.11	1.23	1.45	1.55	1.65	1.89	:
Czech Republic	3.23	3..86	5.85	6.63	7.14	7.88	:
Denmark	24.63	26.53	30.7	31.98	33.09	34.74	:
Germany	23.60	25.00	26.90	27.10	27.60	27.80	:
Estonia	2.42	2.85	4.24	4.67	5.5	6.6	7.51:
Ireland	:	:	:	:	:	:	:
Greece	9.77	10.98	:	:	:	:	:
Spain	14.13	14.22	14.76	15.22	15.77	16.39	:
France	22.94	24.84	28.46	29.29	30.25	31.24	31.97
Italy	18.30	18.99	21.39	:	:	:	:
Cyprus	8.19	9.10	11.10	11.65	11.98	12.45:	13.31:
Latvia	1.71	2.22	2.52	2.77	3.41	4.41	5.42
Lithuania	1.95	2.63	3.22	3.56	4.21	5.09	:
Luxembourg	21.56	24.48	29.97	31.10	31.98	33.00	33.63
Hungary	3.02	3.63	5.54	6.14	6.34	7.13	:
Malta	:	:	7.77	8.35	8.69	:	:
Netherlands	20.18	22.31	27.23	27.41	:	:	:
Austria	22.17	23.05	25.32	26.23	26.96	27.61	:
Poland	**3.73**	**4.48**	**4.74**	**5.55**	**6.03**	**6.78**	:
Portugal	7.6	8.13	10.2	10.6	10.97	11.32	11.73:
Romania	:	1.41	1.76	2.33	2.68	3.41	:
Slovenia	8.51	8.98	10.41	10.76	11.29	12.09	:
Slovakia	2.91	3.07	4.41	4.80	5.33	6.41	:
Finland	20.40	22.10	25.34	26.70	27.20	27.87	29.38
Sweden	23.99	28.56	31.08	31.55	32.16	33.30	:
Great Britain	19.16	23.71	24.71	24.47	25.51	26.39	:

Source: http://epp.eurostat.ec.europa.eu.

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Streszczenie

POLITYKA SPOŁECZNA UNII EUROPEJSKIEJ JAKO INSTRUMENT ZRÓWNOWAŻONEGO ROZWOJU

W artykule została przeprowadzona analiza i ocena polityki społecznej Unii Europejskiej (UE), w kontekście równoważenia rozwoju społeczno-gospodarczego ugrupowania. Proces europeizacji polityki społecznej UE nie jest zaawansowany. W związku z tym, ciężar rozwiązywania problemów społecznych spoczywa głównie na

krajach członkowskich. Polityka społeczna UE ma bardziej „luźny" charakter niż inne polityki UE i jej zakres jest ograniczony do tych dziedzin, w zakresie których kraje członkowskie były skłonne do przekazania pewnych uprawnień na szczebel unijny. UE jedynie wspiera i uzupełnia działania państw członkowskich w sferze społecznej. Jednocześnie UE wspiera ideę społecznej odpowiedzialności przedsiębiorstw. Społeczną odpowiedzialność przedsiębiorstw definiuje się jako dobrowolne uwzględnienie przez przedsiębiorstwa problematyki społecznej i ekologicznej w swojej działalności i stosunkach z zainteresowanymi stronami.

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ADAM MATEUSZ SUCHECKI*

Changes in the system of organization and financing of culture in Poland in the years 2001-2008

Abstract

After the collapse of socialism the democratic structures of the Polish government and the society are still in the way of forming process. After the year 1989 till now Poland make some formal and crucial steps to change the administrating system, also in the field of cultural policy and art institutions.

This article will show the major reforms and changes in public administration system in Poland according to changes in the sphere of culture in the years 2001-2009 and the final form of the culture finance system. The reason of this time horizon is, that before year 2001 the data have been incomplete according to the spatial regional reforms in the local administration systems. I will try to show the effects of changes, such as how new administration and local governments use culture as a part of economic capital of the regions and cities, I will show changes in public expenditures for culture and new possibilities and plans of financing this sphere in Poland.

1. Introduction

After 1989, Poland began the process of socio-economic transition. The goal of this process was the transition from a centrally planned economy to a market economy. The transformations affected the sphere of culture too.

* University of Łódź

One of the main dilemmas associated with culture during transition was introduction of commercialisation into the sector. It was finally decided that culture would be funded based on a decentralised model. The public administration reform moved some responsibilities for funding and organizing cultural activities to the self-government level.

The reorganization of the cultural financing system still seems incomplete and the system itself has not taken its final shape yet. This conclusion can be drawn from the fact that Polish culture is still underfinanced and marginalised by politicians, despite all the reforms. The annual proportion of cultural expenditures in the total spending of the state budget has been almost the same for many years. It oscillates around 0.5% and definitely falls short of the European average. This situation makes it necessary for the Polish government to launch in-depth reforms to modify the present financing system of cultural activities.

In this paper the reforms that affected the system for organizing and financing cultural activities operated in post-1989 Poland are presented and discusses their outcomes. The status of cultural funding under the present system is also analysed.

2. Changes in the system for organizing and financing of culture in Poland after 1989

The immediate reason for the changes made to culture organization and funding in Poland was the reorganization of the economy management systems. In 1989, Poland left behind a command economy system that was typical of the entire bloc to replace it with a market economy. This dramatic change in the established economic rules could not happen without comprehensive, economy-wide reforms that affected also the sector of culture that was viewed as part of the social services sector.

The corner stone of the then command economy was centralisation of decisions within all fields of the economy. As a single source of cultural funding, the state had huge possibilities of influencing the goals of cultural institutions.

Economic reforms commenced after the year 1982. The modifications made to the system for financing production indirectly affected the system for funding culture. The new solutions mainly aimed at creating non-budget sources of cultural funding without harming the state's dominant position in this area. As the reforms lacked boldness, the traditional command economy system was

ultimately replaced with one representing a sort of intermediate centralisation deprived of internal cohesion.

The main goals of the changes that were made to the system of culture in the post-transition period comprised the introduction of mechanisms facilitating rational management of public funds, the reorganization of the public administration's powers in the extent of organizing and funding culture, and the provision of new solutions within the funding, supervision and management of cultural institutions, such as decentralization of management, widening the scope of their autonomy, and establishment of legal framework accommodating cultural patronage and sponsorship.

In the late 1980s, Polish economy went through a process of radical changes. The new government designed a reform to base the economy on a free market system. Targeting the economic sphere in the first place, the reform also redefined the state's role in funding culture. In 1990, culture stepped on a path of change (Kietlińska 1995, pp. 73-74).

Transition started at the end of 1980s and deeply modified not only the character of the state, but also the structure and functions of its central and local public administration bodies. The transformation of the country's political system that was undertaken in 1989 was a top-to-bottom process led by the government and the parliament. The process provided public administration with completely new functions and tasks that were necessary for the political and economic reforms to be successful. In very general terms, the early reforms aimed at overall democratisation of the state combined with decentralisation of its government. The starting point for the public administration reform was restitution of a territorial self-government system, as a result of which state administration was divided into two levels: the central government and self-government units. To carry out the plan, the Parliament enacted laws (the territorial self-government act of 8 March 1990 and the act on territorial bodies of public administration and self-government employees of 22 March 1990) that restored the fundamental division of public administration that had already existed in interwar Poland (Hausner, Komaś 2005, p. 138).

Among the systemic changes that the Polish economy experienced after 1989, decentralisation was crucial for the sector of culture[1]. There are distinctive stages in the process.

[1] As a result of decentralisation, Poland was divided into the following territorial units of public administration (by GUS statistical data for 2008): 16 regions (NUTS 2), 314 counties and 65 towns with county status (NUTS 4), 2478 communes (NUTS 5).

Stage 1 spanned the years 1989-1991 and was an introduction to transition. In that period, the book market and the music market were privatised and the decentralisation of public tasks within culture was initiated. Most institutions responsible for promoting culture, i.e. libraries, community centres, clubs and some museums were handed over to communes. This act equally stemmed from the decision to implement the principles of a new, democratic state and the bad economic condition of the state.

The second stage took place in the period 1991-1993. A systemic reform of cultural institutions was initiated then. The management of cultural institutions was clearly decentralised, as a result of which they were divided (and still are) into three groups corresponding to the three levels of administration in the country. Cultural institutions in group 1 have special importance for the national culture, so they are directly run and funded by the Ministry of Culture and Art. Cultural institutions categorised as group 2 were placed in the care of the government. They are supervised and funded by the governors of the regions (voivodeship), having also strong support from the central government. Group 3 institutions are managed by the territorial self-government units (TSGUs) and their activities are aided by the regional governors. In 1991, the act on the organisation and pursuit of cultural activity was passed (Dz. U. [Journal of Laws] of 1991, no. 114, item 493).

The third stage of decentralisation covered the years 1993-1997, but no major changes aimed to continue decentralisation were implemented then. Simultaneously, the central government made numerous gestures to manifest the state's protective attitude towards culture.

The fourth stage of decentralisation commenced in 1997 and ended in 2001. During the four years, the process of decentralisation was completed. Self-governing counties and regions appeared – the latter became the main supervisors of a majority of cultural institutions that had been previously run by the state (*Raport o stanie kultury* 2009, pp. 17-19).

3.The involvement of public administrations in the organization and financing of cultural activities after the process of decentralization

The decentralisation of public administration changed the scope of particular public units' share in supervising and funding cultural activities. Notwithstanding, the involvement of the state bodies is still substantial, as they regulate the supervision and funding of cultural activities while being immediate supervisors of cultural institutions.

The regulatory function of the state bodies consists in making decisions and laws applying to cultural activities. The principal and central organs of the state administration are still responsible for supervising and conducting cultural activities, and the principal state administration body for culture is the minister of culture.

The range of the minister's responsibilities includes support for shows and entertainment, organization and support for art exhibitions, as well as protection of cultural assets, museums, folk culture and artistic handicraft. The minister is also responsible for cultural education and international cultural exchange, supports publishing activity, bookshops, libraries and readership, as well as amateur artistic movement, regional and socio-cultural organizations and associations.

In addition to the above functions, the minister of culture is an immediate supervisor of the national cultural institutions, i.e. the units that have been put on the list of key assets in the development of national culture, such as the National Library in Warsaw, the Philharmonic Orchestras in Warsaw, Poznań and Krakow, and the National Audiovisual Institute.

The group of cultural supervisors changed significantly between 1991 and 1998. Besides the minister of culture, regions governors and self-governing communes were also made responsible for supervising and funding cultural activities in Poland. The governors were given the right to supervise state cultural institutions, such as regional public libraries, bureaus for art exhibitions, philharmonic orchestras, operetta theatres, theatres, and museums. The state cultural institutions were the governors' responsibility until 1998.

In May 1990, communes joined the group of legitimate culture supervisors. The territorial self-government act of 1990 obligated commune authorities to execute public tasks, mainly those satisfying the collective needs of local communities, including the cultural ones. Cultural activity has remained the communes' obligatory own task to date. As far as culture is concerned, the communes are primarily responsible for the management of institutions promoting culture and communal libraries. Although cultural activity has been classified among the communes' own tasks, their obligations have not been specifically defined. This situation creates a very difficult problem, because the shape of the cultural life in a local community strongly depends on the local government's good will and involvement, on one hand, and the energy and persuasive powers of cultural groups in the region, on the other (Przybylska 2007, pp. 52-55).

The group of culture supervisors was extended in 1999 to include also counties and regions, in addition to communes. The counties are responsible for culture and the protection of cultural assets at the supra-commune level. The

regions are legally obliged to pursue regional development policies, one element of which is fostering cultural development and the protection and rational utilisation of cultural heritage. Besides, the regions are entitled to perform cultural tasks and protect cultural assets at the voivodeship level. Following decentralisation, the voivodeship governors lost their function of culture supervisors after 1999 and the cultural institutions they managed were handed over to counties. Following the same pattern, the regional self-government took over cultural institutions acting in the regions, which the ministers and heads of central agencies had supervised before (Przybylska 2007, pp. 52-56).

4. Reorganization of the sources of cultural funding in Poland

The main source of cultural funding in Poland is grants paid by the state budget and TSGU budgets. Private sources, such as foundations and sponsors, also support culture.

As far as the budget funding for Polish culture is concerned, three periods can be differentiated. Before 1981, culture was funded directly from the budget. In the second period (years 1982-1990), culture was supported financially by the Cultural Development Fund. The third period started in 1991; direct funding of culture from the budget was resurrected then, but in a new political reality and according to different rules (Kietlińska 1995, p. 78).

Until the late 1970s, the state budget paid for most social services, including culture. This policy was pursued very consistently, regardless of how much the budget could redistribute. The effectiveness of the economy in the Polish People's Republic was low, which caused ceaseless demand for subsidising production. Consequently, budget allocations to culture and other social services were limited and fell short of the needs.

When the state budget is not efficient enough to finance the provision of social goods, funds become an alternative source. Funds use special budget resources or these having the character of budget revenues, or public funds dedicated to the execution of the named tasks. There are basically two types of funds. One is state funds that are distinguished by the obligatory mode of making contributions to them. The other category contains social funds that receive voluntary payments from businesses, social institutions and private persons.

Funds were liquidated in Poland in 1951, but after seven years, in 1958, the difficult economic situation made the state reactivate them. Compared with the budget, funds offer a range of advantages:

- As a vehicle for redistributing funds, they are more flexible than the budget, because they do not have to comply with strict budget classification rules and funds unspent in one year can be used in the next one.
- Since they enable raising funds outside the budget, the latter can make up for its shortages. Because the public is obliged to make financial contributions to the funds, certain amounts of cash can be drained from the market and spent on social purposes, which somewhat decelerates inflation.

The economic reform of 1982 reorganised the culture funding system. The most important thing was the establishment of the Cultural Development Fund (CDF) that was intended to guarantee a steady inflow of funds to culture (Iwaszkiewicz, 1999, pp. 90-93).

The Fund was formed pursuant to the National Cultural Council and Cultural Development Fund act of 4 May 1982 (Dz. U. no 14/82, item 111) as a means enabling a departure from the budget-funded system of culture towards a non-budget system based on special funds. Acting at the central, regional, urban and communal levels, the Cultural Development Fund (CDF) guaranteed that culture would be funded at each of them. However, this broad scale of funding responsibilities limited communes in making their own financial decisions and reduced their autonomy. The Cultural Development Fund was mostly funded from its share in the state budget revenues, which corresponded to 13.6% of the wage fund tax collected in the nationalised economy. In the years 1986-1987, the rate was increased to 14% and in 1988 it reached 14.5%. The CDF was also entitled to a 15% share in the annual revenues of the Anti-alcohol Fund. The CDF would also receive voluntary donations and bequests made by legal and natural persons, but their total value was marginal. The Cultural Development Fund was disbanded on 14 December 1990 by the act abolishing and disbanding some selected funds (Dz. U. no. 89/90, item 517) (Grad, Kaczmarek 2005, p. 264).

With the building of a new political and economic system after 1989, a market mechanism was introduced into culture. In the early transition years, words such as „market", „market mechanism" or "commercialisation" were frequently overused, expressing as much the urge to change things as the desire to burn all bridges with the previous system. Voices could be heard from time to time that called for subjecting the entire economy, including culture, to market rules, which would have very likely caused a total breakdown of the system of culture in Poland. The government's decision about partial commercialisation of culture seems right, though. Cultural funding in Poland has evolved since the 1990s, going from classical patronage (with the state as a benefactor to culture) to regular and planned sponsorship. Today, public funds go to culture both directly and indirectly.

Under the first mode of funding, public authorities (both the central government and the territorial self-government units) support cultural institutions and organizations with subsidies and subventions. The criteria and rules for such assistance must be transparent and the amounts of funding known.

The indirect mode of funding involves the provision of systemic solutions, usually based on the fiscal mechanisms, that are designed to encourage the non-budget sources to fund culture.

Foundations are becoming an additional source of funding for Polish culture and they have the capacity for improving its financial status. Most foundations in Poland run some kind of business activities and assist culture in some fields. Their growth was and is associated with the introduction of economic and systemic changes. It is also strongly driven by legal loopholes that allow taxpayers to avoid their obligations. Unfortunately, their role in funding culture is insignificant (Grad, Kaczmarek 2005, p. 271).

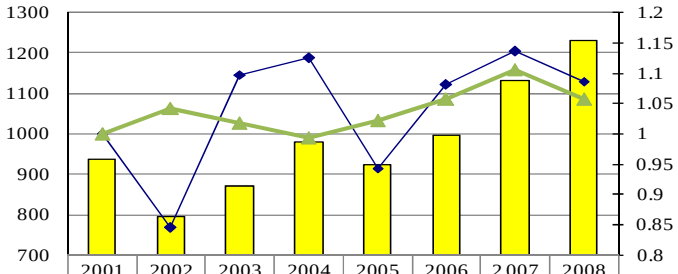
5. Public administration expenditure on culture and protection of national heritage between 2001 and 2008

In the analysed period, total expenditures from the state budget increased (table 1). In 2001, real budget expenditures totalled 172,885 million PLN, growing to 229,960 millions in the last year of the analysis.

The real cultural funding provided by the state budget generally grew too, excluding the year 2002 when it dropped to 793 million PLN from 938 million PLN a year before.

Table 1.Total and cultural expenditure of the state budget in real terms in the years 2001-2008 (in million PLN, constant prices of 2001) and growth indices

	2001	2002	2003	2004	2005	2006	2007	2008
Total	172885	180140	183293	182137	186024	196663	217503	229960
Culture	938	793	870	978	922	997	1133	1231



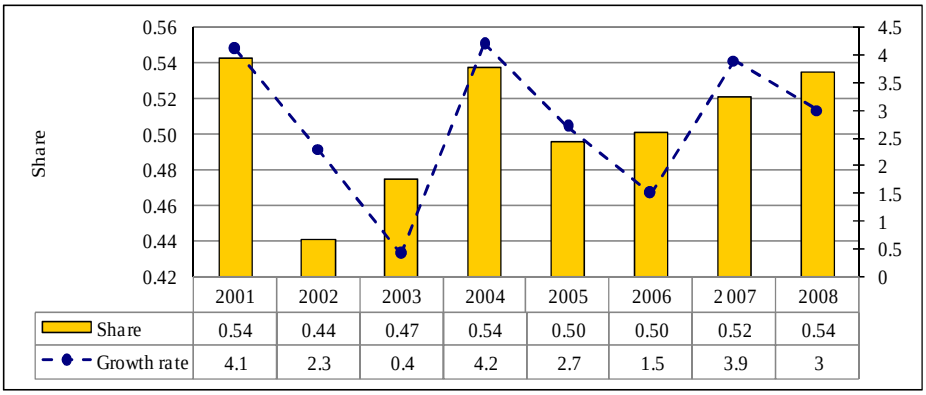
	2001	2002	2003	2004	2005	2006	2007	2008
Culture: real expenditure mln. PLN c.p. 2001	938	793	870	978	922	997	1133	1231
Culture: growth index of expenditure, previous year=1	1	0.85	1.10	1.12	0.94	1.08	1.14	1.09
Growth index of total budget expenditure	1	1.04	1.02	0.99	1.02	1.06	1.11	1.06

Source: GUS statistical data, Statistical Yearbook 2009.

The growth indices characterising total real expenditures from the state budget show that both nominal expenditures and their dynamics grew in the period in question, slightly declining only in 2004. However, in 2002 and 2005 real budget allocations to culture decreased by 15 and 6 per cent, respectively, compared with the previous years (table 1).

The data and the graph in table 2 presenting the shares of cultural expenditures in the total state budget's spending in relation to the rate of GDP growth show quite diverse responses of the budget-provided cultural funding to changes in economic growth.

Table 2. Shares of real cultural expenditures in total state budget's spending and the rate of GDP growth (%)



	2001	2002	2003	2004	2005	2006	2007	2008
Share	0.54	0.44	0.47	0.54	0.50	0.50	0.52	0.54
Growth rate	4.1	2.3	0.4	4.2	2.7	1.5	3.9	3

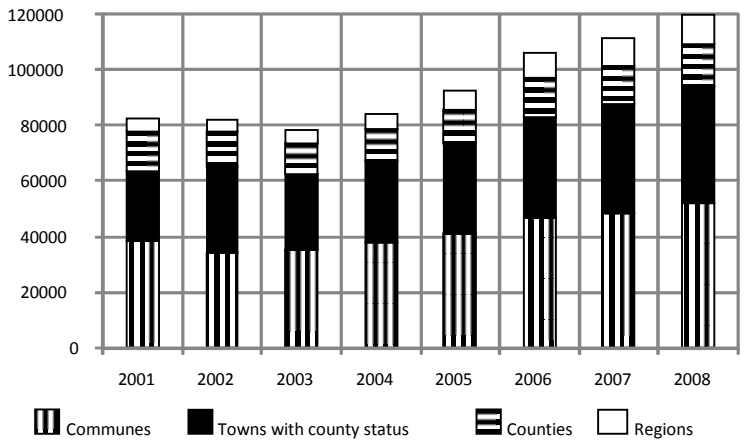
Source: computed and developed by the author based on GUS statistical data, Statistical Yearbook 2009.

The total cultural spending from the TSGUs budgets as well as cultural expenditures made by particular TSGUs showed an upward trend (table 4). Cultural funding increased the most in towns with county status (growing from 729 million PLN in 2001 to 1,656 millions in 2008, i.e. 2.27 times). Regarding counties, their cultural spending decreased in the investigated period from 79 million PLN in 2001 to 69 millions in 2008, i.e. 0.8 times.

TSGUs' total spending followed a similar trend as their cultural allocations (table 3). Real expenditures were generally rising at all levels of self-government. Total expenditures increased the most at the regional level (from 4,737 million PLN in 2001 to 10,760 millions in 2008, i.e. 2.27 times), while at the county level they grew the least.

Table 3. TSGUs' total spending in real terms in the years 2001-2008 (in million PLN, constant prices 2001)

Years	Total	including:			
		Communes	Towns with county status	Counties	Regions
2001	82734	38568	25136	14293	4737
2002	81917	34419	30763	12461	4274
2003	78446	35461	27323	11095	4567
2004	84470	37719	29608	11465	5402
2005	92780	40968	32615	12415	6782
2006	106002	46962	36415	13770	8855
2007	111296	48336	39546	13852	9561
2008	120141	52045	42346	14990	10760

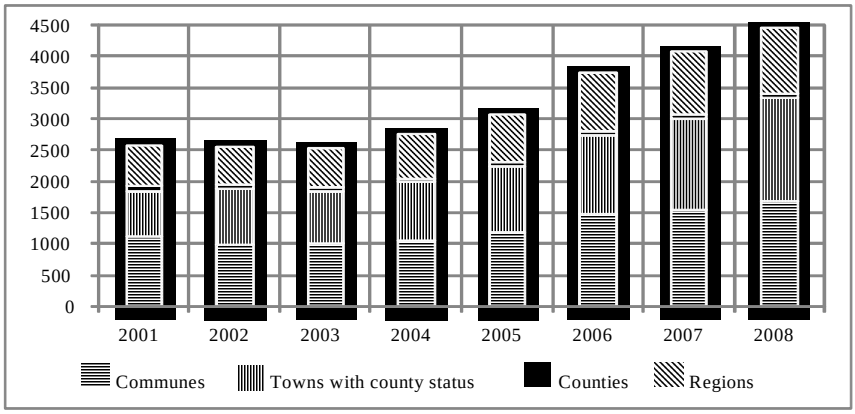


Source: GUS statistical data, Statistical Yearbook 2009.

The results of the analysis of the structure of expenditures for culture from the budgets of the local government units by the type are as follows.The largest percentage of expenditures on culture have a communes.The regions are characterized by the lowest percentage of expenditures. During the periodonly the regions have increased their share in the structure of expenditures on culturefrom the budgets of local governments.

Table 4. TSGUs' cultural spending in real terms in the years 2001-2008 (in million PLN, constant prices 2001)

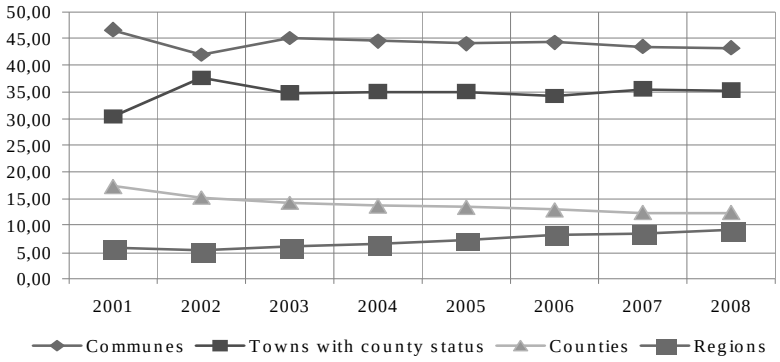
Years	Total	of which:			
		Communes	Towns with county status	Counties	Regions
2001	2580	1120	729	79	652
2002	2569	1006	891	53	617
2003	2548	1015	837	53	642
2004	2761	1073	927	56	706
2005	3072	1187	1070	55	760
2006	3743	1492	1255	73	924
2007	4078	1560	1451	68	999
2008	4479	1684	1656	69	1069



Source: GUS statistical data, Statistical Yearbook 2009.

Table 5. Structure of the expenditures from the budgets of local government units by type

Years	of which:			
	Communes	Towns with county status	Counties	Regions
2001	46.62	30.38	17.28	5.73
2002	42.02	37.55	15.21	5.22
2003	45.20	34.83	14.14	5.82
2004	44.65	35.05	13.57	6.40
2005	44.16	35.15	13.38	7.31
2006	44.30	34.35	12.99	8.35
2007	43.43	35.53	12.45	8.59
2008	43.32	35.25	12.48	8.96



Source: GUS statistical data, Statistical Yearbook 2009.

Looking then at the growth trend showing total real expenditures from the TSGUs' budgets we see that relatively largest increases occurred in towns with county status (1.7 times) and in regions (2.3 times), while at the county level the smallest increases in total real expenditures were noted.

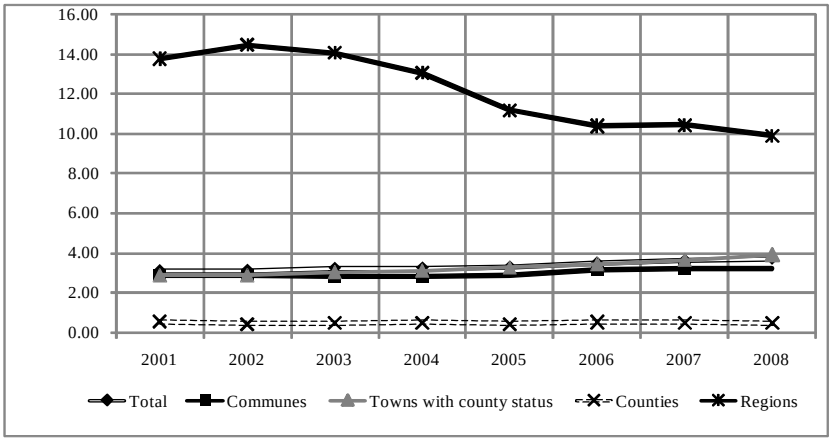
Analysing cultural expenditures' share in total TSGUs' spending (table 7) we find that the share was the largest in the regions, but it was steadily declining year by year (from 13.76% in 2001 to 9.94% in 2008).

Communes rank second in terms of the share of real cultural expenditures in total spending. Between 2001 and 2008, the share rose from 3.12% to 3.73%.

In the examined period, the share of cultural expenditures in total spending increased the most in towns with county status, i.e. by 1.01%.

Table 6. Shares of TSGUs' real expenditures in total spending on culture and protection of national heritage in the years 2001-2008 (%)

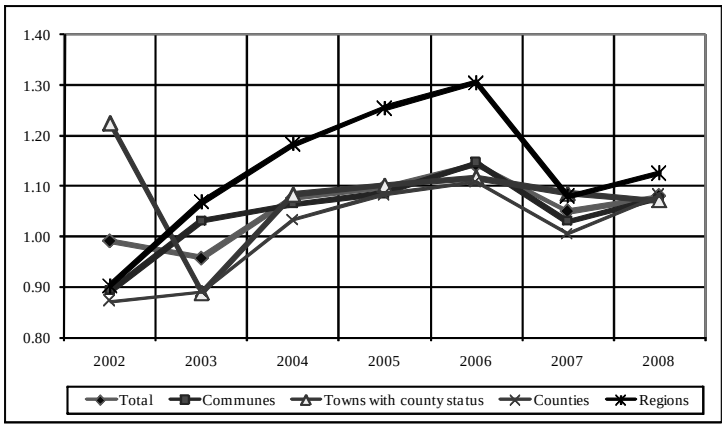
Years	Total	Communes	Towns with county status	Counties	Regions
2001	3.12	2.90	2.90	0.55	13.76
2002	3.14	2.92	2.90	0.43	14.45
2003	3.25	2.86	3.06	0.48	14.07
2004	3.27	2.85	3.13	0.49	13.06
2005	3.31	2.90	3.28	0.44	11.20
2006	3.53	3.18	3.45	0.53	10.43
2007	3.66	3.23	3.67	0.49	10.45
2008	3.73	3.24	3.91	0.46	9.94



Source: computed by the author based on GUS statistical data, Statistical Yearbook 2009.

Table 7. Dynamics indices of TSGUs' total spending in real terms in the years 2002-2008 (previous year = 1)

Years	Total	Communes	Towns with county status	Counties	Regions
2002	0.99	0.89	1.22	0.87	0.90
2003	0.96	1.03	0.89	0.89	1.07
2004	1.08	1.06	1.08	1.03	1.18
2005	1.10	1.09	1.10	1.08	1.26
2006	1.14	1.15	1.12	1.11	1.31
2007	1.05	1.03	1.09	1.01	1.08
2008	1.08	1.08	1.07	1.08	1.13



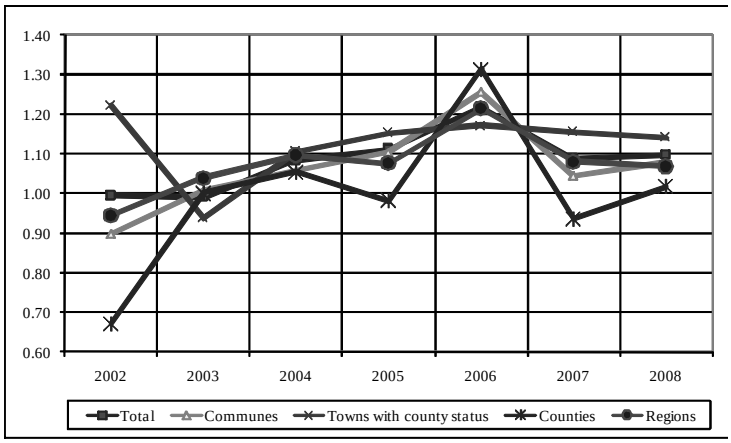
Source: GUS statistical data, Statistical Yearbook 2009.

Between 2004 and 2008, real amounts expended by communes, towns with county status and counties were very similar. Regarding total real expenditures made by the regions the changes in the dynamics indices form a different pattern, clearly pointing to higher increases in the years 2004-2006.

The above situation did not significantly affect the dynamics of cultural expenditure, though. Regardles of the TSGU type, the dynamics indices were similar between successive periods, counties being the only ones showing somewhat stronger deviations from the indices' average trend.

Table 8. Dynamics indices of TSGUs' real cultural expenditures in the years 2002-2008 (previous year = 1)

Years	Total	Communes	Towns with county status	Counties	Regions
2002	1.00	0.90	1.22	0.67	0.95
2003	0.99	1.01	0.94	1.00	1.04
2004	1.08	1.06	1.11	1.05	1.10
2005	1.11	1.11	1.15	0.98	1.08
2006	1.22	1.26	1.17	1.31	1.22
2007	1.09	1.05	1.16	0.94	1.08
2008	1.10	1.08	1.14	1.02	1.07



Source: GUS statistical data, Statistical Yearbook 2009.

6. Conclusions

The model of cultural funding as used in Poland today, and particularly cultural institutions' financial dependence on budget allocations, constrains the financial autonomy of some of them, making them also administratively subordinated and politicized. Some cultural institutions, aware that strings are attached, may decide to trade their freedom of making independent programming decisions for financial support enabling their existence. It is more and more common for the institutions to avoid market mechanisms and to

assume the position of organizations having very little autonomy within the state system of culture. As a result of the state budget being a basic source of cultural funding in Poland, the programme competition among cultural institutions has decreased, bringing stagnation and lower quality of their services. The changes introduced after 1989 made cultural institutions return to their conservative and opportunistic attitude towards the central government, which the transition was expected to dispel.

The „Report on the Condition of Culture" prepared at the request of the Ministry of Culture and National Heritage in 2009 provides the following conclusion:

[…] Culture will not thrive and adequately support socio-economic development under conditions generated and reproduced by the administrative bureaucracy, even if it is provided with better funding. To overcome the syndrome permanently, the public cultural sector has to be made more open to the market and the civic society, and the private and civic cultural sectors need to be provided with the same rights as those held by the public sector (Raport o stanie kultury 2009, p. 10).

One of the modifications to the Polish system of cultural funding that has been proposed for many years calls for giving a larger role to private funding. Cultural patronage and private funds represent today just a fractional addition to the public sources. Although Polish legislation provides for some instruments of private patronage that are already used in many European countries, such as corporate sponsorship, tax-deductible private donations, lotteries and loans, they are rarely used in practice. This is probably due to the weak involvement of the public authorities and the cultural lobby in making private entities reach for these instruments, the defective laws and still unformed tradition of supporting culture among private entities. The last cause is attributable to the long reign of a command economy in Poland that effectively contributed to the atrophy of private entities' social responsibility for culture.

The decentralisation of public administration that was completed in 1998 obviously provided cultural institutions with better operational environment, as proved by the growing amounts that the TSGUs, mainly communes, regions and towns with county status, allocate to culture and the protection of national heritage. This trend originates from the local administration's strengthening belief that cultural development is an important factor in consolidating regional identity and in regional development. Only counties have not measured up to their role of culture supervisors, but the reason is their very tight budgets. One of the proposals that are being considered today states that the responsibilities for

organizing and funding cultural activities should be taken away from the counties and that the cultural institutions should be handed over to municipalities.

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Streszczenie

ZMIANY W SYSTEMIE ORGANIZACJI I FINANSOWANIA KULTURY W POLSCE W LATACH 2001-2008

Po roku 1989 zostały w Polsce zostały przeprowadzone reformy systemu administracji. Zmiany te dotyczyły również polityki kulturalnej i organizacji kultury.

Artykuł ukazuje główne reformy i zmiany jakie zaszły w systemie administracji publicznej, a zwłaszcza w sferze kultury w latach 2001-2009 oraz ostateczny kształt organizacji i finansowania kultury w Polsce. Powodem przyjęcia takiego horyzontu czasowego jest fakt, że przed rokiem 2001 dane mogły być niekompletne z powodu reform systemu administracji lokalnej. W artykule tym podjęta została próba ukazania efektów przeprowadzonych reform, analiza wydatków publicznych na kulturę oraz przedstawione nowe perspektywy i możliwości finansowania tej sfery w Polsce.

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