THE ISSUE OF INCOME REDISTRIBUTION

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Introduction

One of the conditions for an operating economy is the social appeasement. Massive income disparities can have negative impact on economy [27]. The social appeasement must be obtained by the income transfers between members of society realised in through the public finance system. These transfers in the theory of public finance [1], [6], [21] is called income redistribution. Nowadays, the transfer payments represent on average a half of total public expenditures in developed countries and their extent keeps increasing [1], [10], [11], [13], [19], [26]. The issue of need and extent of income redistribution is therefore one of the most often discussed issues and has not only the economic and social, but also the political dimension.

This study goal is to provide empirical view on the issue of optimal scale and character of redistribution processes, namely based on a theoretical framework of income redistribution within the neoclassical welfare economy and analysis of the selected spheres of social policy in relation to the economic performance and growth. In line with the goal there is defined subject of research i.e. the mutual relationship of social and macroeconomics policy in the narrower sense. The quantitative research of the existence and character of this relationship assumes the selection of social policy tools quantified through the social protection expenditure. We focus on key areas of social policy and we monitor the data on social expenditure on family, old age (The European System of Integrated Social Protection Statistics terminology for defining one of social protection function) and unemployment.

1. Theoretical Framework for Research of the Relationship between the Redistribution and Economic Development

Welfare economics represents a neoclassical view on redistribution [1], [6]. It deals with the function of social welfare, i.e. public interest, and aims to analyse the conditions of its maximising under specific circumstances, i.e. the amount and quality of production resources available, and demands, which are advisable to be satisfied. Public interest is often grasped differently, even contradictorily, which is why its general definition is difficult to provide [15], [21]. The very first person to set public interest into a wider context and to identify public interest with justice was Jeremy Bentham, who provided a definition based on the principles of utilitarianism (these were developed further in work by John Stuart Mill and John Austin). Bentham [3] defined public interest, in other words the interest of a group consisting of individuals, in the introductory part of his paper "Introduction to the Principles of Morals and Legislation" as the sum of individual interests of the individuals ($W = U1 + U2 + ... + Un$). To maximize the sum of individual well-beings, i.e. social welfare (W), the utilitarian theory postulates redistribution be needed among individuals in such manner so that each individual profited from the income equity. This more or less logical utilitarian reason for the need for income redistribution in society to maximize social welfare, however, encounters numerous methodological problems.

In a society, considering a developed society with a large number of members, where individuals may freely use their knowledge and skills to reach their individual usefulness, no public interest controlled by the government can be defined as the sum of the aforementioned individual usefulness, and neither the government nor anyone else is capable of

recognizing the circumstances of their achieving. Public interest cannot be a sum of individual needs based on very simple reason: those defining the rules for public-interest achievement are unable to know the whole host of individual interests, of which the public interest should be, according the utilitarian principles, comprised, nor is each individual interest in line with the public one. And it is the aspect of ignorance of all circumstances associated with achieving each individual interest in society that is missing in the utilitarian definition.

Another issue arises during interpersonal comparison of individual usefulness – welfare economics working with the utilitarian concept automatically presupposes higher individual usefulness in individuals with higher income. Nevertheless, is the notion that more money goes hand in hand with higher rate of usefulness, satisfaction and luck adequate?

The stated methodological issues cast doubt on the justification of redistribution from the economic viewpoint (still, from the social perspective, its need is maintained). Also, financial expenses on redistribution processes [22] raise the issue of the compromise between efficiency and equity, which redistribution represents.

The specific nature of this compromise is described in the relation between social protection and economic development. It is defined by means of statistical testing of mutual dependence of the economic-development level (quantified in numerous papers through the Human Development Index – HDI [5], [7], [10], [23]) and of the extent of social protection (redistribution in its practical form – [9], [13], [14], [17], [22]).

2. Methodology of the Study

What is being statistically tested is *the research matter of the existence of the relation between the extent of selected types of expenditures on social protection* (expenditures on families, old age and unemployment) *and the achieved level of economic development*, quantified with the HDI.

The object of quantitative analysis, the selected sample, comprises the following countries: Slovakia, Czech Republic, Hungary, Poland, Great Britain, Sweden, France, Germany, Thailand, Austria, USA, Canada, Australia, Japan and Mexico. The sample was deliberately selected in order to ensure its heterogeneity from the viewpoint of observed indicators/variables influencing the statistical testing. With regard to availability, the indicators pertain to the periods of: 2009–2005, 2000, 1995 and 1990.

Key *methods of scientific research* are those based on analytic classification of selected theoretical approaches of the theory of public finances and approaches to evaluation of economic development aiming to define theoretical connections of the relation between redistribution and economic development (to find a way to approach the matter of "productive" expenditures of social protection), comparison and abstraction in creation of the theoretical-methodological frame for the solution; methods of causal analysis and comparison when solving the defined research question in the application part, and methods of synthesis and partial induction when concluding the outcomes. The complexity in the space of global economy entails a high degree of abstraction in research of secondary character. Secondary collecting of data from available OECD statistics was carried out through the constructive method, and its processing and interpretation through statistical methods with the emphasis placed on correlation analysis. Testing of the relation between social protection and economic development was carried out using the method of the Pearson correlation coefficient. From the perspective of standardized method of statistical testing of the dependence of variables (e.g. Spearman's rank correlation coefficient, where no linearity of the expected relationship or the common distribution of two variables can be supposed, Kendall's coefficient of concordance, based on data related to metric or ordinary evaluation of n objects ($i = 1, 2, …, n$) according to two criteria X and Y) [16], [18] and the character of available data, the method using the Pearson's correlation coefficient appears the most appropriate.

The Pearson correlation coefficient determines the strength of the dependence between observed variables. It shows the level of closeness of linear dependence. The estimate of a pair correlation coefficient is defined as the estimate of covariance x and y divided by the multiplication of estimates of their standard deviations, i.e.

$$r_{yx} = \frac{cov_{xy}}{s_x s_y} \tag{1}$$

where cov xy is the covariance between x and y a can be calculated as the average of multiplication of deviations, i.e. it is a "common" measure of variability (covariance) for two features (x and y).

The equation is based upon covariance, which is the level of mixed variability of variables x and y.

$$\text{cov xy} = \frac{1}{n}\sum_{i=1}^{n}(x\text{i} - \bar{x})(y\text{i} - \bar{y}) = \overline{xy} - \bar{x} \cdot \bar{y} \quad (2)$$

The coefficient of pair correlation (Pearson's correlation coefficient) has the values ranging from <-1,+1>, while the more the value approaches -1, the closer the correlation (direct linear correlation in case of positive values, indirect in case of negative ones); the more it approaches zero, the weaker the correlation is. Correlation coefficients provide, on both sides, the dependence between x and y [16], [28]. The value of correlation coefficient identifies the presence of dependence relation between the level of economic development and the extent of social protection and its intensity in accordance with the following scale [18].

Weak correlation <0;0.3>	Moderate correlation <0.3;0.7>	Strong correlation <0.7;1>

The calculations in the following part are the output of the SPSS Statistics 18.0 software.

3. Relationship between Redistribution and Economic Development

According to Esspros [8] expenditures on social protection are divided into four categories. The first one are expenditures on social benefits, which are resources in the form of cash, products or services. The second category relates to administrative expenses, connected with the system of providing social protection. The third and fourth category deals with transfers into other systems and various expenditures. Esspros [8] defines social protection as encompassing all interventions from public or private bodies intended to relieve households and individuals of the burden of a defined set of risks or needs, defined through eight functions of social protection: sickness/ /health care, disability, old age, survivors, family/children, unemployment, housing, social exclusion not elsewhere classified.

Categories of expenditures on social protection (expenditures of social protection on old age, family policy and unemployment) have been selected based on these functions with regard to the selected group, where at least a minimal extent of social protection in these areas (for the poorest) is supposed also in countries with a liberal approach to social policy.

This study is focused on three types of social protection expenditures according to functions – in the area of family policy, on unemployment and old age, in selected countries and periods of time. The following tables provide their level.

Family policy is grasped and implemented as a set of practical measures focused on the family unit and on family support in terms of social policy. In the EU, family policy is within the authority of each member state and its content at the supranational level is defined clearly. Based on the aims and instruments, elementary systems of family policies is defined (liberal, social-market, universalistic). [14], [17], [22], [25]. In scientific papers [4], [14] five elementary models of protecting family with children (Anglo-Scandinavian model, German-Italian model, solidarity model, e.g. France, liberal model, e.g. USA, Canada and Russian model for post-communist countries. A specific alternative of family policy is mostly a combination of aspects of more than one system, and for their definition, the majority of system parts is essential.

Expenditures of social protection in family policy include family allowances, maternity and paternal leave, other cash benefits, day-care/home-help services, other benefits in kind. Their structure and proportion differs across countries in accordance with an adopted concept of family policy. Mainly the liberal model of family policy of the USA or Canada (without a complete system of family benefits, big emphasis is put on means – testing with targeted benefits for low-income families) and the model of family policy in Sweden, where all family with children obtain universal benefits regardless of their income, are considered extreme. One of the most advanced, thus most expensive, in the world is the system of family benefits in France. Similarly to Sweden, France also provides extensive benefits for children, advantaging families with a larger number of children. In Great Britain, family policy fails to

have an established tradition and runs counter to the ideas of liberalism. Families with children obtain universal child benefits and other benefits for low-income or incomplete families. Unlike other European countries, Italy shows a lower interest in family policy (typical conservative family model), with characteristic tested family benefits and strong influence of the church. This is connected with a rather limited extent of family benefits and other forms of help) [4], [22], [25].

The ratio of social protection expenditures in family policy as % of the GDP according to OECD statistical data in selected countries is shown in Table 1.

Tab. 1: Social protection expenditure in the area of family policy [%]

	1990	1995	2000	2005	2006	2007	2008	2009
Australia	1.5	2.7	2.9	2.7	2.6	2.5	3.3	2.8
Austria	2.6	3.1	2.8	2.8	2.7	2.6	2.7	2.9
Canada	0.6	0.8	1.0	1.1	1.0	1.1	1.0	1.1
Czech Republic	2.4	1.9	1.9	1.7	1.6	1.9	1.7	1.8
France	2.5	2.7	3.0	3.0	3.0	3.0	3	3.2
Germany	1.6	2.1	2.1	2.1	1.8	1.8	1.9	2.1
Hungary	..	..	3.1	3.1	3.4	3.4	3.4	3.6
Italy	0.8	0.6	1.1	1.3	1.4	1.4	1.4	1.6
Japan	0.4	0.5	0.6	0.8	0.8	0.8	0.9	1.0
Mexico	0	0.1	0.7	1.0	1.0	1.0	1.1	1.1
Poland	1.7	1.1	1.2	1.1	1.1	1.1	1.1	1.1
Slovak Republic	..	2.5	2.0	1.9	1.9	1.8	1.7	2.0
Sweden	4.4	3.8	3	3.3	3.4	3.4	3.5	3.7
United Kingdom	1.9	2.3	2.7	3.2	3.1	3.3	3.5	3.8
USA	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.7

Source: own processing according to [20]

In the observed period, the lowest share of social protection expenditures on family policy (Tab. 1) was provided in the USA, Japan, Mexico and Canada, By contrast, the largest share of expenditures on family policy was noticed in Sweden and Hungary, which are countries with the most generous system of social policy and high level of redistribution. Since 2005, also the United Kingdom of Great Britain and Northern Ireland was achieving the biggest share of expenditures on family policy.

Employment policy should constitute a set of measures that create conditions for dynamic balance on the labour market and for efficient usage of the manpower. In developed countries (where specific differences are present), limitation of preferences connected with income protection of the unemployed in terms of the passive unemployment policy is typical, and what is more emphasised is investing in people and their abilities in terms of the programs of active employment policy [2], [9], [22]. However, the right for income in case of unemployment is anchored in legal systems of most European countries [17], [22], [24]. In the Scandinavian model of employment policy, the government tries to maintain full employment at the expense of an increasing tax burden. The right for job is connected with the duty to accept an occupation and to be active on the labour market (which is typical of Sweden). In the model of consensual, corporate democracy, coordinated negotiations on salaries through tripartite, supported by institutions and traditions (typical of Germany and Austria) take place. In the market-liberal model of

employment policy, unemployment is taken as a necessary part of a functioning economics (typical of the USA). When comparing the models of employment policy [9], [22], [24], Sweden (Scandinavian model) has high protections of workers and also the highest expenditures on active employment policy. Germany, Austria (model of consensual corporate democracy) guarantee a higher protection of workers than is typical of countries of the Scandinavian model, and also have the second highest expenditures on active employment policy. Countries with the liberal

model of employment policy have a very flexible labour market, measured through the proportion of worker protection, and expenditures on active employment policy, which are relatively small.

Social protection expenditures on passive employment policy (unemployment compensation /severance pay) differ in countries (according to the duration of providing and to % from the previous income) according to the concept of the adopted employment policy. Their level as the % of GDP, based on OECD data in selected countries, is shown in Table 2.

Tab. 2: **Social protection expenditure in the area of employment policy [%]**

	1990	1995	2000	2005	2006	2007	2008	2009
Australia	1.1	1.2	0.9	0.5	0.5	0.4	0.4	0.5
Austria	0.9	1.3	0.9	1.1	1.0	0.9	0.9	1.1
Canada	1.9	1.3	0.7	0.6	0.6	0.6	0.7	1.0
Czech Republic	..	0.4	0.6	0.6	0.5	0.6	0.6	1.0
France	1.7	1.6	1.5	1.7	1.5	1.4	1.3	1.5
Germany	0.8	1.5	1.3	1.9	1.7	1.4	1.3	1.7
Hungary	..	0.9	0.7	0.6	0.6	0.7	0.7	0.9
Italy	0.6	0.7	0.4	0.5	0.5	0.4	0.5	0.8
Japan	0.3	0.5	0.6	0.3	0.3	0.3	0.4	0.7
Mexico	-	-	-	-	-	-	-	-
Poland	0	1.6	0.9	0.5	0.5	0.3	0.2	0.3
Slovak Republic	..	0.4	0.6	0.3	0.3	0.4	0.4	0.7
Sweden	0.9	2.3	1.4	1.2	1.0	0.7	0.5	0.7
United Kingdom	0.7	0.9	0.3	0.3	0.2	0.2	0.3	0.5
USA	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.9

Source: own processing according to [20]

Note: The social protection expenditure in the sphere of employment policy in Mexico was not available in the monitored years

Over the observed period, the share of social protection expenditures in the area of employment policy as a GDP share ranged from 0.2–1.9% in the selected countries (see Tab. 2). A slightly increasing tendency of the shares of expenditures in the area of employment policy was observed mainly in Japan and the USA, from European countries in Germany, the Czech Republic, Italy and Slovakia. By contrast, a slightly decreasing share of expenditures in the area of employment policy was observed in Australia, in Europe in France, Poland, Sweden

or the United Kingdom. The highest share of expenditures on employment policy was observed in France and Germany in 2009, by contrast the lowest share was in Poland. The share of expenditures on social protection, which individual countries allocate for the area of employment policy as a GDP share, is relatively small in comparison with the share of expenditures on old age (Tab. 3).

Pension system as one of the main parts of social protection constitutes a system which concentrates the biggest economic potential

regardless of the system of financing (pay-as-you go, or capitalisation). Pension systems determine the standard of living of a significant part of population, and consequently its consumption, and have an impact on economy. They are influenced by economic stability or instability of a country, but also by other factors, such as employment or population development. Their financing is part of public finances, which influences their quality and sustainability [2], [22], [25]. OECD data shows that out of total public social expenditures, expenditures of social protections on old age constituted 54% in Italy (south-European model of social protection), 41% in Austria, 36% in France and Germany (model of western continental Europe), 34% in Sweden (Scandinavian model). From the total expenditures of social protection in countries with liberal model of social policy, expenditures on old age reached, for instance, 21% in

Canada and 17% in Mexico. In former post-communist countries, it was, for example, 38% in the Czech Republic and Hungary, 34% in Slovakia and 45% in Poland. Basic regimes of social policies (liberal, socio-democratic conservative model) in the respective countries show a different share of expenditures on social protection of the old age (pension, early retirement pension, other cash benefits and benefits in kind), expressed as % of GDP (Table 3). The main part of social expenditures on the old age are pensions in most countries: 99% in Mexico, Canada and the USA, about 90–85% in France, Italy, Germany, the Czech Republic, Slovakia, more than 80% in Austria and 75% in Sweden. Is some countries, other benefits in kind and services are part of social expenditures on the old age (e.g. Australia, 33%, Sweden, 25%, and Japan, 16%).

Tab. 3: Social protection expenditure on old age [%]

	1990	1995	2000	2005	2006	2007	2008	2009
Australia	3.3	3.9	4.7	4.3	4.7	4.7	4.9	4.9
Austria	8.9	10	10.4	10.8	10.7	10.7	11.0	12.0
Canada	3.8	4.2	3.9	3.7	3.7	3.7	3.8	4.1
Czech Republic	5	5.6	6.8	6.6	6.5	6.6	7	7.8
France	9.2	10.6	10.5	10.9	11	11.1	11.5	12.3
Germany	9.4	7.8	8.6	9.1	8.8	8.5	8.5	9.1
Hungary	..	..	7.0	7.8	8.0	8.4	8.8	9.1
Italy	8.2	9.3	11.1	11.5	11.6	11.7	12.2	13.0
Japan	4	5.2	6.8	8.6	8.7	8.8	9.3	10.4
Mexico	0.4	0.6	0.6	0.9	1	1.1	1.2	1.4
Poland	4.1	7.6	8.5	9.3	9.4	8.7	8.9	9.8
Slovak Republic	..	5.5	5.7	5.7	5.6	5.4	5.2	6.4
Sweden	8.6	9.8	9.1	9.4	9.1	9.0	9.4	10.2
United Kingdom	4.8	5.5	5.5	5.9	5.7	5.7	6.2	6.7
USA	5.2	5.4	5.1	5.3	5.2	5.3	5.5	6.1

Source: own processing according to [20]

Over the years 1990–2009, the social protection expenditure share in the area of pensions in all selected countries demonstrated a slightly increasing tendency, with the exception of Germany, where slight decrease took place. In 2009, France, Austria, Sweden

and Japan had largest expenditures in the area of pension policy. Over the years 1990–2009, the most notable increase in expenditures in the area of pension policy was observed mainly in Japan, by 6.4%, in Europe in Poland, Italy, Austria and France, by 5.7%, 4.8%, 3.1% and

3.1%, respectively. It may be assumed that this pertains mainly to legislature and implemented instruments of social policy, in connection with aging of population, and also traditions and customs in the respective countries. However, a very low share of social protection in the area of pensions was observed in non-European countries over the defined period. The lowest share of expenditures on old age was observed in Mexico (around 1%), Australia and Canada (between 3–4%).

The range of public social expenditures varies across countries, depending on the share of public sector, tax burden and redistribution. The amount of expenditures of social protection (on the old age, family policy and unemployment) in selected countries provides basic outline of tendencies of these expenditures, which differ according to adopted concepts in family policy, employment policy and policy of the pension system.

In theory, the amount of the social protection expenditures should be reflected on the achieved level of economic development quantified by the HDI, considered in modern theories of endogenous economic growth to be the most complex indicator. Values of HDI over the observed period in selected countries are provided in Tab. 4.

Tab. 4: **Level of economic development quantified by the HDI**

	1990	1995	2000	2005	2006	2007	2008	2009
Australia	0.873	0.889	0.906	0.918	0.920	0.922	0.924	0.926
Austria	0.790	0.814	0.839	0.86	0.866	0.870	0.876	0.879
Canada	0.857	0.870	0.879	0.892	0.897	0.900	0.903	0.903
Czech Republic	-	0.788	0.816	0.854	0.858	0.861	0.864	0.863
France	0.777	0.819	0.846	0.869	0.873	0.877	0.879	0.880
Germany	0.795	0.835	0.864	0.895	0.898	0.901	0.902	0.900
Hungary	0.706	0.737	0.775	0.803	0.808	0.809	0.811	0.811
Italy	0.764	0.795	0.825	0.861	0.866	0.869	0.871	0.870
Japan	0.827	0.85	0.868	0.886	0.891	0.894	0.896	0.895
Mexico	0.649	0.674	0.718	0.741	0.748	0.755	0.761	0.762
Poland	-	0.727	0.77	0.791	0.795	0.800	0.804	0.807
Slovak Republic	0.747	0.752	0.779	0.81	0.817	0.825	0.831	0.829
Sweden	0.816	0.855	0.894	0.896	0.898	0.899	0.900	0.898
United Kingdom	0.778	0.816	0.833	0.855	0.853	0.856	0.860	0.860
USA	0.870	0.883	0.897	0.902	0.904	0.905	0.907	0.906

Source: own processing according to [12]

Based on the Pearson correlation coefficient, also mutual relations between selected types of social protection expenditures (in the area of family policy, on unemployment and old age) and the achieved level of economic development – the HDI were analysed (see Tab. 5).

Over the years 1990–2009, based on the Pearson correlation coefficient, a strong linear dependence was proven in the extent of social protection expenditures on family policy, and the HDI in Australia, Canada, Japan, the USA and Mexico. European countries to prove a strong linear dependence of the extent of social protection expenditures in the area of family policy, and the HDI, were France, Hungary, Italy and the UK. The higher social protection expenditures in the area of family policy is, the higher the HDI in these countries is.

A strong indirect linear dependence between the extent of social protection expenditures in the area of family policy, and the HDI, can be spotted in Sweden and Slovakia. It thus applies

Tab. 5:	**Pearson's correlation coefficient of observed types of social protection expenditures and HDI index for individual countries**		
	Family policy	**Employment policy**	**Old-age pension policy**
Australia	0.72	-0.93	0.93
Austria	-0.11	-0.13	0.91
Canada	0.90	-0.81	-0.26
Czech Republic	-0.58	0.53	0.69
France	0.94	-0.64	0.88
Germany	0.34	0.72	-0.06
Hungary	0.72	-0.48	0.87
Italy	0.92	-0.22	0.95
Japan	0.95	0.08	0.97
Mexico	0.99	-	0.91
Poland	-0.23	-0.99	0.86
Slovak Republic	-0.87	-0.01	0.11
Sweden	-0.86	-0.33	0.37
United Kingdom	0.95	-0.71	0.84
USA	0.97	0.14	0.34

Source: own processing

that the higher the social-security expenditures on family policy in these countries is, the lower the HDI over the observed years. By contrast, from the European countries, mainly Austria and Poland showed a weak indirect linear dependence between the extent of social protection expenditures on family policy, and the HDI.

In European countries, a strong direct linear dependence of the extent of social protection expenditures on unemployment, and the HDI, can be traced in Germany, and a strong indirect linear dependence in Poland and the United Kingdom. In non-European countries, a strong indirect linear dependence of these indicators was observed in Australia and Canada. By contrast, in Austria, Italy, the USA or Japan a very weak dependence between the extent of social protection expenditures on family policy and the HDI.

The mutual relation between the extent of social protection expenditures on old age and the HDI over the observed period proves a strong direct linear dependence in the majority of countries. The exceptions, however, are Canada, Germany and Slovakia are the exception, where a low linear dependence between social protection expenditures on old age, and the HDI was proven. However, in Sweden and the USA,

a moderate direct linear dependence was proven between the indicators.

The relation between the extent of selected types of social protection expenditures and the achieved level of economic development is arrived at through the Pearson correlation coefficient for all selected countries summarizes Tab. 6.

In the selected sampling countries, over the years 1990–2009, the Pearson correlation coefficient demonstrates weak linear dependence between social protection expenditures and the achieved level of economic development in the case of:

- the extent of social protection expenditures on family and the HDI in 1995,
- the extent of social protection expenditures on unemployment and the HDI in 2005, 2006 and 2009,
- social protection expenditures on old age and the HDI over 2005–2009.

On the basis of the Pearson correlation coefficient, a weak link between the extent of social protection expenditures in the area of family policy and the HDI in 1995, and as also the determination coefficient demonstrates, there is 7.3% mutual influence, and 92.7% influence by other factors.

Tab. 6:	Correlation of observed types of social protection expenditure and the HDI in time – selected countries							
The sphere of social policy	**1990**	**1995**	**2000**	**2005**	**2006**	**2007**	**2008**	**2009**
Family policy	0.13	0.27	0.16	0.16	0.09	0.08	0.14	0.09
Employment policy	0.07	0.11	0.16	0.25	0.25	0.19	0.21	0.29
Policy of old-age pensions	0.15	0.22	0.22	0.25	0.25	0.25	0.25	0.24

Source: own processing

In the selected sampling countries, a weak correlation is also notable between the extent of social protection expenditures in the area of employment policy and the HDI in 2005 and 2006, when the determination coefficient equals 6.25%. These indicators show a 6.25% mutual influence, and 93.75% influence by other factors. In 2009 as well, a weak correlation between these indicators was proven according to the Pearson correlation coefficient of 0.29 with the determination coefficient of 8.4%.

The correlation relation between the social protection expenditures on old age and the HDI over the years 2005–2009 proved a weak correlation. The determination coefficient shows that over the years 2005–2008, there was 6.25% mutual influence, and 93.75% influence by other factors. A link even weaker was proved in the year 2009, when there was just 5.3% mutual influence between these indicators. HDI being a complex index, we realise methodological restrictions of the dependence of its values on observed types of social-protection expenditures. Distribution of the index and testing of dependence of its parts related to social-protection expenditures may continue further in future, or may be confirmed through the results of the presented research.

Conclusions

In developed countries, expenditures connected with fulfilling the function of redistribution currently represent on average one half of all public expenditures, and their extent is increasing. The question of compromise between efficiency and equity, redistribution poses, is being increasingly discussed in not only economic and social, but also political terms. The general theoretical view on the solution of this issue, presented by the neoclassical school of welfare economics, encounters numerous methodological

problems (definition of the function of social welfare, interpersonal comparison of individual well-being) that hamper the attempts to find a proper response. The balance between efficiency and equity also permeates into the realisation of social policy and achieved results of economic policy, with the aim to define an optimal extent and character of the processes of redistribution. That is achievable by defining those areas of social protection where public expenditures make a positive influence on the quality of life in a society. The empirical study reacts to this issue, providing a solution of the research question to the relation between the extent of selected types of social protection expenditures (on family, old age and unemployment) and achieved level of economic development through the HDI. The presence of the relation is statistically tested on the sample of 15 countries of global economy, differing in the achieved level of economic development and the extent and character of governmental redistribution. In most selected countries, the expenditures on social protection in the area of family policy and on old age had a positive influence on the level of economic development calculated through the HDI; by contrast, the expenditures on unemployment had a rather negative influence on the economic development. A high level of heterogeneity of selected countries with respect to the observed aspects proves a markedly different extent and nature of redistribution processes. The findings of the research should therefore be analysed more deeply through the redistribution theory of defined compromise "trade off" between efficiency and equity. The compromise in each country depends on the character of the subparts and the models of social policy. From our perspective, these are models of family policy (liberal, social-market, universalistic), labour market policy (scandinavian model, liberal model, consensual corporate democracy

model) and concepts of pension policy (presented by liberal, socio-democratic and conservative model of social policy).

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Abstract

THE ISSUE OF INCOME REDISTRIBUTION

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The issue of trade off efficiency and equity, which is represented by income redistribution, becomes increasingly debated not only in economic and social, but also in political dimension. Solution of this trade-off is virtually projected into the implementation of social policy and results achieved in macro economics policy, with the goal to define the optimal scope and character of the income redistribution processes. The submitted empirical study responds to this problem through the solution of research question concerning the existence of a relationship between the extent of selected classes of social protection expenditure (expenditure on policy of family, old age and unemployment) and the achieved level of economics development, quantified by Human Development Index (HDI). The existence of this relationship is statistically tested in the sample of 15 countries of the world economy. The research sample is heterogeneous in relation to the analysed indicators and it concerns countries with a different attained level of economics development and income redistribution policy. In most surveyed countries, based on the results of quantitative analysis was confirmed the impact of social protection expenditure on the reached level of economic development. In the area of family policy and old-age pensions this impact was positive and in the area of employment policy this impact was negative. A high level of heterogeneity of selected countries with respect to the observed aspects proves a markedly different extent and nature of redistribution processes. The findings of the research should therefore be analysed more deeply through the redistribution theory of defined compromise "trade off" between efficiency and equity. The compromise in each country depends on the character of the subparts and the models of social policy. From our perspective, these are models of family policy (liberal, social-market, universalistic), labour market policy (scandinavian, liberal and consensual corporate democracy model) and concepts of pension policy (presented by liberal, socio-democratic and conservative model of social policy). The amount of expenditures of social protection (on the old age, family policy and unemployment) in selected countries provides basic outline of tendencies of these expenditures, which differ according to adopted concepts in family policy, employment policy and policy of the pension system.