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Socio-Economic Policy of Latvia: Assessment of Efficiency and Effectiveness

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Abstract: The article presents a scientific and analytical review and defines the essence of the concept of social policy taking into consideration the authors' version of separation of approaches to the definition of social policy at macro and micro levels, as well as in the context of its connection with economics. A system of indicators for evaluating performance of social policy was developed, and a methodology for evaluating its effectiveness based on a comparative analysis of the dynamics of changes in the main indicators of socio-economic development of Latvia was proposed. The research methodology is based on determining an integral indicator that aggregates eight main areas of socio-economic policy measured using 32 indicators identified based on expert assessments. The study presents two different approaches to assessing the dynamics of changes in the main indicators of social for the period from 2010 to 2020. Analysis of the surveyed data showed extremely slow changes in the social well-being of Latvia's residents, which, however, show positive dynamics, indicating an improvement in Latvia's overall social policy. The results obtained can be used to monitor the effectiveness of the socio-economic policy (SEP) of Latvia and develop programmes to improve the welfare of the country's residents.

Keywords: Latvia, essence of social policy, indicators of socio-economic policy, integral indicators, effectiveness of socio-economic policy, assessment of efficiency

1. Introduction

Social policy, together with economic policy, is an important part of the policy of any state and a prerogative of the state to manage the development of the social sphere of society to satisfy the interests and needs of the members of that society.

The main objectives of social policy include increasing national welfare, raising living standards, improving working conditions, and implementing the principles of social justice. Since the basis for solving these tasks is a well-developed economic system of the state, therefore social policy and the economy are closely interrelated and interdependent.

On the one hand, the implementation of an effective social policy is directly related to the economic development of the country; on the other hand, economic growth and state development are ensured through the effective use of social policy mechanisms and instruments. At the same time, social policy is an indicator of the level of socio-economic development of society.

In the context of limited resources, society is concerned about how much is spent on social policy and how well those resources are used, that is why the evaluation of social policy outcomes is one of the key areas of social monitoring.

In the current conditions of overcoming social consequences of the global Covid-19 pandemic and lack of funding, the issues of improving the state's efficiency in all spheres of society are becoming increasingly relevant for Latvia and other countries.

The lack of a clear system of indicators for assessing the effectiveness of social policy at regional level and the urgent need to improve management in this area have led to the choice of the topic and, accordingly, ensured its relevance.

The aims of the study were to identify such indicators, and use them to assess the effectiveness and efficiency of social policy in Latvia. The object of the study is the social policy of Latvia and its implementation mechanism, as well as a definition and analysis of the efficiency and effectiveness of social policy implementation.

2. Social Policy as an Economic Category

A socially oriented market economy implies considerable state activity in solving social problems. Since a market economy does not guarantee workers the right to work and students the right to a standard education, and does not provide social protection for the most vulnerable segments of society, e.g. people with disabilities disabled, the poor, pensioners, therefore there is a need for state intervention in the sphere of income distribution through social policy.

According to Article 25 of the Universal Declaration of Human Rights (UN, 1948), everyone has the right to a standard of living adequate for the health and well-being of oneself and of one's family, including food, clothing, housing and medical care and necessary social services, and the right to security in case unemployment, sickness, disability, widowhood, old age, or other lack of livelihood in circumstances beyond one's control.

The Preamble of the Constitution of the Republic of Latvia (Latvijas Republikas Satversme, 1922) states that Latvia is a socially responsible state, i.e. according to Article 105 (the right to property), Article 106 (the right to freely choose an occupation and workplace), Article 109 (the right to social security in old age, in case of disability, unemployment and other cases provided for by law), Article 111 (the right to a minimum of medical care), Article 112 (the right to education), Article 115 (the right to a favourable environment) guarantee to each of its inhabitants the right to a certain standard and quality of life, taking into account its membership in the European Union as a certain guarantee of a decent life in the family of European states.

In the European Union, the term social policy refers to policies which influence social circumstances in which people live (OECD, 2019). The homepage of the government website Latvia in the European Union (Latvija Eiropas Savienībā, 2019) contains the following definition of social policy: "the purpose of EU social policy is to improve the working and living conditions of the population, to promote employment and appropriate social protection, to ensure social dialogue and to prevent discrimination".

Researchers in the field of social policy provide many definitions of social policy using different approaches: two to defining social policy in a broad and narrow sense (Terziev and Dimitrova, 2017), three (Kanaeva, 2011), four (Orudzheva, 2014), and five (Born, Henning, and Schick, 1996).

Having summarised the information presented in the above sources, the study proposes the authors' version of the division of approaches to the definition of social policy:

- at macro level, as a public activity (policy) aimed at managing social development in society;
- at micro level, as day-to-day management, guidance for the official body that provides social services to overcome problems that usually affect the population, or part of it.

The social policy of the state in economic terms refers to the actions of public administration bodies aimed at the distribution and redistribution of income of various members of society to ensure social stability of this society. Consequently, social policy is inseparable from economic policy, which allows a more comprehensive definition – *socio-economic policy* (SEP) *of the state* to be further applied in the study.

The economic basis of the state's social policy is redistribution of individual incomes of the population through the state budget, i.e. the state plays a central role in the distribution of income. This is established in the ILO convention concerning the basic aims and standards of social policy (International Labour Organisation [ILO], 1962), where the fundamental function of the state is defined as follows: to take all measures to provide such standard of living, including food, clothing, housing, medical care and social security, and education, as is necessary for health and well-being. The guidelines of the social policy of the Council of Europe formulated in the European Social Charter are close to the positions of the ILO.

2.1. Efficiency and Effectiveness of SEP

The economic categories of *efficiency* and *effectiveness* are inherent characteristics of real economic activity, and their definition is almost always based on the values of the costs incurred and results obtained. The activities of business entities are aimed at making profit, and the indicators of *efficiency* and *effectiveness* have quantitative expressions defined according to established rules.

There are different approaches to determining effectiveness and efficiency. This study follows the European practice with the *3 E* approach, which can be summarised as: 1) *Economy*: minimising the cost of resources in achieving the objective; 2) *Efficiency*: maximising the return on resources invested; 3) *Effectiveness*: results that are compared to the objective and to the resources used to achieve that objective (Law, 2009).

Determining the effectiveness of a state's SEPs is a highly complex and multifactorial concept. The social policy of the state is usually expressed in the implementation of a set of social functions or programmes aimed at solving a particular social problem. Each of these programmes has a list of indicators and their target values to be achieved because of its implementation. The conditions for an effective social policy should include a regular assessment of already existing measures of state influence to adjust them (Belchik, 2013).

Studies to analyse the effectiveness of the implementation of SEP as a whole or of its individual indicators are regularly conducted both in Europe (Biernacki and Guzek, 2019; Cordero, Karkazis, and Thanassoulis, 1998; Kulakov and Lysunets 2017; Pedraja-Chaparro, Pisaflores, and Polo, 2017; Stanković, Marjanović, and Stojković, 2021; Večerník, 2009) as well as worldwide (Zhang, Hara, Yabar, Yamaguchi, Uwasu, and Morioka, 2009). Similar studies conducted in Latvia are usually related to the analysis of a limited range of key indicators of social policy (Bikava and Skride, 2018; Corazza, Kļaviņa, Lepiksone,

and Nuti, 2019; Shtals, Tsaurkubule, Konstante, and Alksnis, 2020). A comprehensive study of trends in the main indicators of SEP in Latvia with an assessment of their effectiveness was carried out for the first time during the past 10 years.

The identification of the criteria for assessing the effectiveness of the SEP implementation creates the possibility to justify approaches to quantifying its level, as well as to conduct a comprehensive analysis of the implemented social policy. This is achieved by comparing individual performance results with a certain criterion or norm, developed based on the analysis of past results, and creates the prerequisites for making forecasts for the future, as well as the development of the necessary measures to improve the effectiveness of the policy.

The economic efficiency of social policy has been written and discussed more than once. Various methods for assessing individual indicators of social policy have been proposed (Erreygers and Ourti, 2011; Voronov and Lavrinenko, 2011; Whelan, Nolan, and Maître, 2014), but there is no comprehensive assessment of a large cluster of data indicating the effectiveness of socio-economic policy.

The effectiveness of social policy is understood as an improvement (increase or decrease depending on the nature of the indicator) of indicators that characterise the situation in a particular sector of the social sphere (Belchik, 2013). The effectiveness of social programmes is determined by the effectiveness of implemented measures and actions in accordance with goals and objectives.

The effectiveness of the SEP can be assessed by means of a few indices and indicators. At present, two main methods of assessing social development are most common in international practice: in the form of comprehensive (integral) indicators (criteria, indices), as well as by means of a system of indicators.

The most popular international systems of indicators for assessing the effectiveness of social policy are:

- Human Development Index (HDI) (UN, 2021).
- OECD Social Performance Indicator System (OECD, 2021).
- Handbook on Social Indicators prepared by the UN Department of International Economic and Social Affairs, which includes an indicative list of social indicators classified by type of activity (UN, 1989).

An analysis of the existing international indicator systems leads to the following conclusions: these systems have varying degrees of comprehensiveness but a clear target or structural function; all international comparisons use only objective (statistical) indicators in the indicator systems; in multicomponent social indicator systems, income indicators play an important role and are complemented by other parameters; social indicators regularly include such demographic indicators as infant mortality and life expectancy, which are closely related to the level of economic and social development.

The analysis of available publications and scientific research on the problems of SEP points to different approaches to the formation of a system of indicators for analysing and evaluating the effectiveness of social development and social well-being of society (Belchik, 2013; Polushkin, 2014). At the same time, subjectivity in the choice of indicators is inevitable because there are no generally accepted criteria for the significance of certain services.

3. Assessing of the Effectiveness of SEP in Latvia

3.1. Research Methodology

There is no specific algorithm for assessing the effectiveness of a country's SEP. When evaluating the SEP, a huge amount of data needs to be considered including both statistical data and subjective assessments. However, it should be noted that many data may be inaccurate or outdated.

The following algorithm was the basis for research on the evaluation of the effectiveness of social policy in Latvia:

- 1. Identification of a system of indicators for analysis to assess the efficiency and effectiveness of SEP.
- 2. Collection and systematisation of necessary statistical indicators from different spheres of SEP of the country.
- 3. Calculation of the effectiveness of SEP of Latvia.
- 4. Calculation of the integral indicator of SEP in Latvia.
- 5. Analysis of the data obtained.

Based on the analysis of literary sources (Atkinson, Cantillon, Marlier, and Nolan, 2002), previous studies (Tsaurkubule, 2011, 2015, 2017) and available statistical data, the study identified a system of non-integrated indicators selected according to the criteria of accessibility, reliability, and validity, including eight blocks of different areas of SEP: social protection, employment, population income, poverty, healthcare, education, demography, economic policy. In total, 32 indicators were selected after the completion of the statistical data collection phase.

Based on the list of leading indicators, to assess the country's SEP more objectively, this study used indicators for the last ten years. Table 1 presents Latvia's SEP indicators for the period from 2010 to 2020:

Indicators/years												
2010	2011	2012	2013	2014	2015	5 2016 2017 2018 2019						
1	2	3	4	5	6	7	8	9	10	11		
I. Social protection												
1.(+) State social budget revenues, % of GDP												
9.24 9.00 8.77 8.97 9.42 9.33 9.20 9.21 9.51 9.93 10.26										10.26		
2.(-) State social budget expenditure, % of GDP												
6.35	9.90	9.09	9.22	8.99	8.96	9.02	8.96	9.08	8.96	9.88		
3.(±) Social protection expenditure, % of GDP												
20.9	15.7	14.8	14.6	14.5	14.9	15.1	14.7	15.2	15.7	12		
II. Employme	nt											
4.(±) Unemployment rate, %												
19.5	16.2	14.9	11.9	10.8	9.9	9.6	8.7	7.4	6.3	8.1		
5.(–) Number	of long-ter	m (more thai	n a year) ui	nemployed	, thousand	people						
61.3	56.9	46	57.9	45.9	44	39.2	31.5	30.1	22.9	21.5		
III. Household	d income											
6.(+) GDP per	capita PPP,	% of EU aver	age (EU=10	00%)								
55	60	64	62	63	64	64	67	69	69	72		
7.(+) Average	monthly wa	ge, EUR										
633	660	685	716	765	818	859	926	1004	1076	1143		
8.(+) Minimu	m monthly v	vage, EUR										
256	285	285	285	320	360	370	380	430	430	500		
9.(+) Average	old age pen	sion, EUR										
250	254	257	259	266	273	280	289	314	335	361		

Table 1. Indicators of the socio-economic policy of Latvia

							r					
1	2	3	4	5	6	7	8	9	10	11		
IV. Poverty												
10.(-) Share of population earning minimum wage or less, % of working population												
26.5	28.2	26.3	23.6	23.2	23.5	21.7	20.1	20.6	18.8	15.5		
11.(–) Share o	of household	ls with incom	nes below t	the require	d minimun	n income, s	%					
71.8	76.6	78.7	78.9	74.4	75.1	73.4	72.5	70.1	65.2	56.8		
12.(-) Share o	of population	n living belov	v the pove	rty line, %								
19.0	19.2	19.4	21.2	22.5	21.8	22.1	23.3	22.9	21.6	21.3		
13.(-) Share o	of population	n at risk of po	overty, %									
40.1	36.2	35.1	32.7	30.9	28.5	28.2	28.4	27.3	26	27.2		
14.(-) Share o	of pensioner	s (65+) at ris	k of povert	у, %								
33.0	33.7	36.1	39.3	42.1	43.1	43.9	49.0	50.5	43.7	38.7		
15.(–) Index o	of material d	eprivation of	the popul	ation, %								
46.6	49	44.6	40.4	34.6	29.7	26.4	23.0	21.0	16.4	16.3		
16.(–) Inequa	lity in incom	e distributio	n (Gini coe	fficient), %								
35.1	35.7	35.2	35.5	35.4	34.5	34.5	35.6	35.2	34.5	34.9		
17.(-) No. of	people living	below the p	overty line	in need of	better ho	using cond	itions, %					
59.7	58.3	60.3	59.0	54.5	54.7	52.6	48.9	48.2	43.2	38.2		
18.(–) Housin	g costs per h	nousehold, E	UR	,	1							
118	126	127	134	136	142	140	138	150	151	156		
V. Health car	9	1	1	1	1	1	1	1				
19.(+) Total health expenditure. % of GDP												
6.7	3.6	3.5	5.4	5.5	5.7	6.2	6	6.2	6	8.4		
20.(+) Numbe	r of beds in	hospitals. th	ousand pcs	5	1	1	I					
11.9	12.1	12.0	11.7	11.3	11.3	11.2	10.8	10.6	10.4	10.0		
VI. Education						1		<u> </u>				
21 (+) Number of school nupils per 10 000 inhabitants in thousands												
1104	1068	1050	1045	1056	1084	1102	1112	1118	1122	1132		
22.(+) Numbe	er of vocatio	nal school st	udents per	10.000 inh	abitants					_		
172	169	159	155	150	142	148	147	141	140	145		
23.(+) Numbe	er of universi	ity students i	per 10.000	inhabitants	5							
501	475	467	448	432	428	425	422	419	416	412		
24.(+) Public	expenditure	on educatio	n. % of GDI	p								
6.2	5.8	5.7	5.7	5.9	5.9	5.5	5.8	5.8	5.8	6.6		
VII. Demogra	phics								0.0			
25.(+) Popula	tion. in thou	isands										
2121	2075	2045	2024	2001	1986	1969	1950	1934	1920	1908		
26.(+) Birth ra	te. persons	per 1.000 inl	habitants									
10.1	9.1	9.8	10.2	10.9	11.1	11.2	10.7	10	9.8	9.2		
27.(–) Mortal	ity rate, per	1.000 inhabi	tants							•		
14.3	13.9	14.3	14.3	14.3	14.4	14.6	14.8	15	14.5	15.2		
28.(-) Infant i	nortality rat	e (under 1 ve	ar), numb	er per 1.00	0 births	1.10	2.110	10	1.10	10.12		
5.6	6.6	6.3	4.4	3.8	4.1	3.7	4.1	3.2	3.4	3.5		
29 (–) Emigra	tion in thou	Isands		0.0		0.1		0.1	011	0.0		
39.7	30.4	25.1	22.6	19.0	20.1	20.6	17.7	15.8	14.6	12.0		
VIII. Fconomi				1 10.0		20.0	L	10.0	1.0	12.0		
30.(+) Life ev	ectancy ve	ars (mean va	lue)									
73 3	74 0	74.2	74.4	74 २	74 7	74.8	74.8	75 0	75.6	75 २		
31.(+) Inflatio	n (consume	r price indev	HICP) 201	15 =100%	, , , ,	, 1.0	, 1.0	, 5.0	, 5.0	, 5.5		
93.0	96.9	99.1	99.1	99.8	100.0	100 1	103.0	105.6	108 5	108.6		
32 (-) Share o	f expenditur	e on nublic a	administrat	ion % of G	DP	100.1	100.0	100.0	100.0	100.0		
27.7	22 7	272	21 6	22.2	23/	21 8	22 5	72.2	22.2	27.2		
				23.2	23.7			20.0	23.2			

Source: compiled by the authors from data of Eurostat, OECD, CSB LR, MW LR, MF LR.

3.2. Calculation of the Effectiveness of SEP in Latvia

The effectiveness of SEP was determined by the change in indicators over a certain period. The analysis of the collected data was carried out using the method of Belchik (2013, pp. 200-204), according to formula (1) and the rating scale (see Table 2):

$$RC = \frac{I_n - I_{n-1}}{I_{n-1}} \cdot 100\%, \tag{1}$$

where *RC* is the rate of change in the indicator; I_n is the statistical indicator for the *n*-th period.

Change in indicator Effectiveness Meaning More than +15% Significant increase in effectiveness 2 Between +5% and +15% 1 Increase in effectiveness Between -5% and +5% 0 No significant change in effectiveness Between -5% and -15% -1 Decrease in effectiveness Less than -15% -2 Significant decrease in effectiveness

Table 2. Scale for assessing effectiveness of social policies

Source: (Belchik, 2013).

State social budget revenues, % of GDP -	-0.03	-0.02	+0.03	+0.05	-0.01	-0.01	+0.00	+0.03	+0.04	+0.03	F +0.54
State social budget expenditure, % of GDP -	-0.17	-0.08	+0.01	-0.02	-0.00	+0.01	-0.01	+0.01	-0.01	+0.10	
Social protection expenditure, % of GDP -	-0.25	-0.06	-0.01	-0.01	+0.03	+0.01	-0.03	+0.03	+0.03	-0.24	
Unemployment rate, % -	-0.17	-0.08	-0.20	-0.09	-0.08	-0.03	-0.09	-0.15	-0.15	+0.29	
Number of long-term (more than a year) unemployed,	-0.07	-0.19	+0.26	-0.21	-0.04	-0.11	-0.20	-0.04	-0.24	-0.06	
GDP per capita PPP, % of EU average (EU=100%)	+0.09	+0.07	-0.03	+0.02	+0.02	+0.00	+0.05	+0.03	+0.00	+0.04	
Average monthly wage, EUR -	+0.04	+0.04	+0.05	+0.07	+0.07	+0.05	+0.08	+0.08	+0.07	+0.06	+0.15
Minimum monthly wage, EUR	+0.11	+0.00	+0.00	+0.12	+0.12	+0.03	+0.03	+0.13	+0.00	+0.16	
Average old age pension, EUR -	+0.01	+0.01	+0.01	+0.03	+0.03	+0.02	+0.04	+0.08	+0.07	+0.08	
Share of population earning minimum wage or less, %	+0.06	-0.07	-0.10	-0.02	+0.01	-0.08	-0.07	+0.02	-0.09	-0.18	
Share of households with incomes below the required	+0.07	+0.03	+0.00	-0.06	+0.01	-0.02	-0.01	-0.03	-0.07	-0.13	
Share of population living below the poverty line,%	+0.01	+0.01	+0.09	+0.06	-0.03	+0.01	+0.05	-0.02	-0.06	-0.01	
Share of population at risk of poverty, % -	-0.10	-0.03	-0.07	-0.06	-0.08	-0.01	+0.01	-0.04	-0.05	+0.05	10.05
Share of pensioners (65+) at risk of poverty, $\%$ –	+0.02	+0.07	+0.09	+0.07	+0.02	+0.02	+0.12	+0.03	-0.13	-0.11	- +0.08
Index of material deprivation of the population, $\%$ $-$	+0.05	-0.09	-0.09	-0.14	-0.14	-0.11	-0.13	-0.09	-0.22	-0.01	
Inequality in income distribution (Gini coeff.),% -	+0.02	-0.01	+0.01	-0.00	-0.03	+0.00	+0.03	-0.01	-0.02	+0.01	
Number of people living below the poverty line in n	-0.02	+0.03	-0.02	-0.08	+0.00	-0.04	-0.07	-0.01	-0.10	-0.12	
Housing costs per household, EUR -	+0.06	+0.01	+0.05	+0.02	+0.04	-0.01	-0.01	+0.09	+0.00	+0.04	
Total health expenditure, % of GDP	-0.46	-0.03	+0.54	+0.02	+0.04	+0.09	-0.03	+0.03	-0.03	+0.40	
Number of beds in hospitals, thousand pcs	+0.02	-0.01	-0.02	-0.03	-0.00	-0.00	-0.04	-0.02	-0.02	-0.03	-0.05
Number of school pupils per 10 ths. inhabitants, th	-0.03	-0.02	-0.00	+0.01	+0.03	+0.02	+0.01	+0.01	+0.00	+0.01	
Number of vocational school students per 10 ths. in	-0.02	-0.06	-0.03	-0.03	-0.05	+0.04	-0.01	-0.04	-0.01	+0.04	
Number of university students per 10 ths. inhabitants. persons	-0.05	-0.02	-0.04	-0.04	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Public expenditure on education, % of GDP	-0.06	-0.02	+0.00	+0.04	+0.00	-0.07	+0.05	+0.00	+0.00	+0.14	
Population, thousand people	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	
Birth rate, persons per thousand inhabitants –	-0.10	+0.08	+0.04	+0.07	+0.02	+0.01	-0.04	-0.07	-0.02	-0.06	-0.15
Mortality rate, persons per thousand inhabitants -	-0.03	+0.03	+0.00	+0.00	+0.01	+0.01	+0.01	+0.01	-0.03	+0.05	
Infant mortality rate (under 1 year), number per th ousand births	+0.18	-0.05	-0.30	-0.14	+0.08	-0.10	+0.11	-0.22	+0.06	+0.03	
Emigration, thousand people	-0.23	-0.17	-0.10	-0.16	+0.06	+0.02	-0.14	-0.11	-0.08	-0.18	
Life expectancy, years (mean value) -	+0.01	+0.00	+0.00	-0.00	+0.01	+0.00	+0.00	+0.00	+0.01	-0.00	
Inflation (consumer price index, HICP), 2015 =100% -	+0.04	+0.02	+0.00	+0.01	+0.00	+0.00	+0.03	+0.03	+0.03	+0.00	
Share of expenditureon public administration, % of	-0.13	-0.06	-0.03	+0.07	+0.01	-0.07	+0.03	+0.04	-0.00	+0.17	L -0.46
			5		4	2	- -		~	6	
	1/201	2/201	3/201:	1/201:	5/201	\$/201	//201	3/201	3/201	0/201	
	2011	2012	2013	2014	2015	2016	2017	2016	2015	202(

Fig. 1. Monochrome heat map matrix

Source: own research.

All the calculations were performed in R and MS EXCEL programs. A visual representation of the obtained results is presented in the form of a monochrome heat map matrix elaborated with programming language R (Klinke, 2021) (Figure 1).

The obtained results of calculations of the effectiveness of the SEP (sum of points) are shown in Table 3 and Figure 2. The calculations took into account that changes in indicators can affect the effectiveness of social policy in different ways, both positively and negatively. This is reflected in the Table 1 using symbols (+), (–) as well as (\pm), which required additional expert analysis.

Regarding the obtained results:

- For the period 2016/2015: there are no significant changes in effectiveness indicators.
- For the period 2020/2019: there are some significant changes in effectiveness indicators:

 (+2) an increase of 16.3% in the value of the minimum monthly wage, an 18.0% decrease in share of population earning the minimum wage, an increase of 40.0% in total healthcare expenditure and a decrease of 17.8% in emigration.

(-2) a 23.6% decrease in social protection expenditure, a 285% increase in unemployment rate, and a 400% increase in the share of public administration expenditure.

Deried		Sum of points				
Period	2	1	0	-1	-2	Sum of points
2011/2010	3	6	14	7	2	1
2012/2011	2	7	20	3	0	8
2013/2012	3	4	21	3	1	5
2014/2013	2	9	18	3	0	10
2015/2014	0	6	24	2	0	4
2016/2015	0	7	24	1	0	6
2017/2016	1	7	21	3	0	6
2018/2017	1	6	23	2	0	6
2019/2018	1	9	20	1	1	8
2020/2019	4	7	16	2	3	7

Table 3. Summary table

Source: own research.



Fig. 2. Dynamics of changes in the indicators of SEP efficiency in Latvia in 2010-2020 Source: own research.

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However, for three indicators, namely inflation, unemployment and social protection expenditure, the conclusion is not clear:

- Inflation: worldwide experience shows that both inflation and deflation have a devastating effect on a country's economy, but the latter is incomparably more difficult to deal with. It is not a coincidence that the European Central Bank (ECB) has officially declared its goal to maintain annual price growth at around 2% (Latvija Eiropas Savienībā, 2019).
- Unemployment rate: objectively formed, relatively stable, unrelated to the dynamics of economic growth, the unemployment rate is due to natural causes such as staff turnover, migration, and demographic factors. The natural rate of unemployment is between 3% and 6% of the labour force.
- Social protection expenditure: it is difficult to argue that an increase in social protection funds unambiguously leads to an improvement in the country's SEP and that this dependence is monotonically increasing since this indicator may indirectly indicate an increase in poverty and a greater number of inhabitants in need of social protection. In economically developed countries such as those in the EU, social protection is part of the national economy costs of which now account for a significant share of GDP. According to Eurostat data from 2010 to 2019 this expenditure on average in the EU was about 19.6% of GDP. Thus, considering the EU average, one can determine that the optimal value of this criterion is 19% of GDP.

The analysis of the obtained data revealed that about half of the analysed indicators show no dynamics of changes which indicates an extremely slow shift in the social well-being of Latvian inhabitants (Table 3 and Figure 2). At the same time, the number of indicators showing a decrease in the effectiveness of Latvia's SEP is lower than the number of indicators showing an increase in effectiveness, thus reflecting slightly positive trends in the dynamics of Latvia's SEP over the last ten years (Figure 2), which is also confirmed by the parameters of the estimated linear model $y = 0.297 \cdot t + 4.4667$ ($R^2 = 0.1325$; F(1.8) = 1.222; p = 0.3011 > 0.05, where $t_1 = 1$ corresponds to the time point 2011/2010, $t_2 = 2$ to 2012/2011, etc.).

In the period 2020/2019, the value of this total coefficient decreased (k = 7) and implies the negative impact of the pandemic on Latvian social policy (an impact, which is still awaiting due reflection).

However, this analysis does not provide a clear answer to the question of the effectiveness and efficiency of the SEP in Latvia which makes it necessary to summarise these results in one integrated quantitative indicator.

3.3. Calculation of the Integral Indicator of the SEP of Latvia

When describing phenomena with many parameters, special types of convolutions as a rule are used to generalise the obtained results. A similar convolution (*y*) was proposed to be used to calculate the integral indicator of socio-economic policy (IISEP) (Ayvazyan, 2000):

$$\mathbf{y} = \mathbf{N} \cdot \sum_{j=1}^{p} \mathbf{w}_{j} \tilde{\mathbf{x}}^{(j)}, \tag{2}$$

where $(\tilde{x}^{(1)}, \tilde{x}^{(2)}, \dots, \tilde{x}^{(p)})$ is a set of unified (i.e. reduced to the scale of [0;1]) indicators of the analysed complex category of SEP; w_j are some weight coefficients given by experts, satisfying the following conditions: $w_j \ge 0$, while $\sum_{j=1}^{p} w_j = 1$; N – number of indicators.

All the individual indicators x are first reduced to a common denominator through certain transformations, which limits the range of possible values of the transformed unified indicator \tilde{x} to the range [0;1], with zero being the lowest quality for a given attribute x_{min} , and one being the highest x_{max} . The choice of a unifying transformation depends on which of the three types the analysed indicator belongs to:

1. If the original indicator *x* has a monotonically increasing dependency (either increases or remains constant at certain intervals). The value of the corresponding unifying variable is calculated according to the formula:

$$\tilde{x} = \frac{x - x_{\min}}{x_{\max} - x_{\min}}.$$
(3)

2. By a monotonically decreasing dependency (either decreases or remains constant at certain intervals):

$$\tilde{x} = \frac{x_{max} - x}{x_{max} - x_{min}}.$$
(4)

3. On the case of a non-monotonic dependency (when the function changes its character from increasing to decreasing or vice versa), it is possible to find an optimal value x_{opt} between x_{min} and x_{max}, at which x̃ reaches its greatest value:

$$\tilde{x} = 1 - \frac{|x - x_{opt}|}{max\{(x_{max} - x_{opt}), (x_{opt} - x_{min})\}}.$$
(5)

To implement these transformations, it is necessary to determine the values of x_{min} , x_{max} and x_{opt} for each analysed particular criterion x. Since the theoretical-normative approach in determining these values is very difficult in most cases, the authors used an empirical approach. In particular, for x_{min} and x_{max} were taken, respectively, as the minimum and maximum values of the variable within the time period of consideration. Determination of the x_{opt} values was on a case-by-case basis, considering the specifics of the situation. For example, a unifying transformation was needed for indicator $x_{opt}^{(3)} =$ Social protection expenditures and, as described in the previous section above it was assumed that $x_{opt}^{(3)} = 19\%$.

All the data in this study were taken with equal weights $w = \frac{1}{N} = \frac{1}{32}$, because all the considered indi-

cators of socio-economic development (N = 32) are equally important both for the development of the state and for determining an integral indicator of the effectiveness of the state's SEP.

Due to the limited size of the article and the impossibility to present a complete table with the results of the IISEP calculation, but wishing to explain the logic of Ayvazyan's (2000) calculations, the authors decided to limit themselves to the analysis of the four most distinctive indicators, namely: $x^{(7)}$ = Average monthly wage, $x^{(3)}$ = Social protection expenditure, $x^{(23)}$ = Number of university students per 10,000 inhabitants and $x^{(29)}$ = Emigration. Table 4 shows the results of converting these indicators to a unified form, the final IISEP (y) is shown in Figure 3.

A comparison of the obtained integral indicators (y) of the efficiency of SEP in Latvia by years (Figure 3) shows a very significant positive growth trend with the parameters $y = 1.25 \cdot t - 2497,1$ ($R^2 = 0.97$; F(1.9) = 343,2; p = 0.000 < 0.005; $t_1 = 2010$) from y = 8.53 in 2010 to y = 20.70 in 2019 respectively, which indicates an improvement of Latvia's SEP in general, despite the negative dynamics of certain indicators of socio-economic development. However, the year 2020 not only discontinued this trend, but also showed a decline in the IISEP to y = 19.69. The reason was the Covid-19 pandemic and its impact on economic development, the lifestyle of the population and the healthcare system globally.

The negative impact of the pandemic has already been reflected in the drop in income of certain categories of inhabitants of Latvia and has led, due to border closures, to a decrease in economic activity in tourism, hotel services, restaurant business, entertainment, and retail trade and consequently, to a sharp decrease in private consumption and an increase in unemployment in the country. In studies conducted for 2020 (the pandemic year), six variables have changed from a steady trend, indicating significant problems in Latvia's SEP related to the socio-economic impact of the Covid-19 pandemic.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
7. Averag	7. Average monthly wage, EUR.										
Increasin	Increasing function: calculation by formula (3)										
X ⁽⁷⁾	633	660	685	716	765	818	859	926	1004	1076	1143
$\widetilde{X}^{(7)}$	0.00	0.05	0.10	0.16	0.26	0.36	0.44	0.57	0.73	0.87	1.00
3. Social	3. Social protection expenditure, % of GDP.										
Function	both increa	ses and deci	reases, . Cale	culation of I	l by formu	ıla (5)					
X ⁽³⁾	20.9	15.7	14.8	14.6	14.5	14.9	15.1	14.7	11.7	15.7	12
<i>X</i> ⁽³⁾	0.74	0.55	0.42	0.40	0.38	0.44	0.47	0.41	0.00	0.55	0.04
23. Num	ber of unive	rsity student	ts per 10000) inhabitants	5,\						
Decreasi	ng function:	calculation	by formula (3), consider	ing the ne	egative im	pact				
X ⁽²³⁾	501	475	467	448	432	428	425	422	419	416	412
<i>x</i> ⁽²³⁾	1.00	0.71	0.62	0.40	0.22	0.18	0.15	0.11	0.08	0.04	0.00
29. Emig	29. Emigration, thousand people.										
Decreasi	ng function:	calculation	by formula ((4)							
X ⁽²⁹⁾	39.7	30.4	25.1	22.6	19	20.1	20.6	17.7	15.8	14.6	12
<i>X</i> ⁽²⁹⁾	0.00	0.34	0.53	0.62	0.75	0.71	0.69	0.79	0.86	0.91	1.00

Table 4. Some examples of IISEP calculation

Source: own research.



Fig. 3. Dynamics of changes in efficiency of IISEP in Latvia in 2010-2020

Source: own research.

Although pandemic mitigation measures are being phased out, macroeconomic indicators of the global economic development show the lasting impact of Covid-19 on the regional economy, and a further decline in Latvia's IISEP (y) could be predicted for 2021-2022.

4. Conclusion

The identification of criteria for assessing the effectiveness of implementation of social policy made it possible to justify approaches to the quantitative measurement of its level.

The effectiveness of the SEP was determined through a system of indicators combined in eight areas of socio-economic policy: social protection, employment, household income, poverty, healthcare, education, demography, and economic policy; 32 different factors with a consideration period of ten years (from 2010 to 2020) were selected and the corresponding statistical data were collected.

Two different approaches of calculating the effectiveness of Latvia's SEP were used, individual and group. The analysis of individual indicators shows extremely slow changes in the social well-being of Latvia's inhabitants, and positive trends in the dynamics of Latvia's SEP over the last ten years. The calculation of the complex indicator IISP shows an improvement in the effectiveness of Latvia's SEP for the entire period of consideration from 2010 to 2020, and the Covid-19 pandemic impact in 2019 as well. Thus, both approaches provide similar results.

This study is important because it represents the first trial version of a comprehensive assessment of the effectiveness and efficiency of Latvia's SEP and, accordingly, the level of well-being of the population of Latvia. The SEP assessment methodology is open for discussion and adjustments.

References

- Atkinson, T., Cantillon, B., Marlier E., and Nolan, B. (2002). *Social indicators: The EU and social inclusion*. Oxford: Oxford University Press.
- Ayvazyan, S. A. (2000). Integral'nye indikatory kachestva zhizni naseleniya: ikh postroenie i ispol'zovanie v sotsial'noekonomicheskom upravlenii i mezhregional'nykh sopostavleniyakh. [Integral indicators of the quality of life of the population: Their construction and use in socio-economic management and interregional comparisons]. TsEMI RAN.
- Belchik, T. A. (2013). Otsenka rezul'tativnosti sotsial'noy politiki. [Evaluation of the effectiveness of social policy]. *Fundamental'nye Issledovaniya*, 1(1).
- Biernacki, M., and Guzek, W. (2019). Assessment of socio-economic development of selected European Countries with the Use of a modified HDI (Proceedings of the 22nd International Scientific Conference on Applications of Mathematics and Statistics in Economics (AMSE 2019)). Retrieved from https://doi.org/10.2991/amse-19.2019.14
- Bikava, A., and Skride, A. (2018). Evaluation of healthcare policy in Latvia. SHS Web of Conferences 40, 02002. Retrieved from https://doi.org/10.1051/shsconf/20184002002
- Born, K. E, Henning, H., and Schick, M. (1996). *Quellensammlung zur Geschichte der deutschen Sozialpolitik 1867 bis 1914. Einführungsband*. Wiesbaden: Franz Steiner.
- Corazza, I., Kļaviņa, K., Lepiksone, J., and Nuti, S. (2019). Health system performance assessment in small countries: The case study of Latvia. *The International Journal of Health Planning and Management*, 34(4), 1408-1422.
- Cordero, J. M., Pedraja-Chaparro, F., Pisaflores, E.C., Polo, C. (2017). Efficiency assessment of portuguese municipalities using a conditional nonparametric approach. *Journal of Productivity Analysis*, 48(1), 1-24.
- Erreygers, G., and Van Ourti, T. (2011). Measuring socioeconomic inequality in health, health care and health financing by means of rank-dependent indices: A recipe for good practice. *Journal Of Health Economics*, *30*(4).
- International Labour Organisation [ILO]. (1962). ILO convention No. 117. Social policy (basic aims and standards).
- Kanaeva, O. A. (2011). Sotsial'naya politika kompanii: iskhodnye posylki analiza. [Social policy of the company: initial assumptions of the analysis.] *Vestnik Sankt-Peterburgskogo Universiteta. Ekonomika*, 4.
- Karkazis, J., and Thanassoulis, E. (1998). Assessing the effectiveness of regional development policies in Northern Greece using data envelopment analysis. *Socio-Economic Planning Sciences*, *32*(2), 123-137.
- Klinke, S. (2021). *Plot.matrix: Visualizes a matrix as heatmap. R package version 1.6.2021*. Retrieved from https://CRAN.R-project.org/package=plot.matrix
- Kulakov, M. V., and Lysunets, M. V. (2017). Social policy in the development strategy of the European Union. *Financial Journal*, 3, 37-48. Retrieved from https://www.nifi.ru/images/FILES/Journal/Archive/2017/3/articles/fm_
- Latvija Eiropas Savienībā. (2019). Sociālā politika un veselība. Retrieved from https://www2.mfa.gov.lv/arpolitika/eiropassavieniba-arpolitika/sabiedribas-informesana-es-jautajumos/ricibas-jomas/sociala-politika-veseliba
- Latvijas Republikas Satversme. (1922). Latvijas Vēstnesis, 43. Retrieved from https://likumi.lv/ta/id/57980-latvijas-republikassatversme

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Law, J. (2009). A dictionary of business and management (5 ed.). Oxford: Oxford University Press.

- OECD. (2019). Society at a glance 2019. Retrieved from https://doi.org/10.1787/19991290
- Orudzheva, A. G. (2014). Blagosostoyanie naseleniya kak prioritetnoe napravlenie sotsial'noy politiki v Azerbaydzhanskoy Respublike. [Welfare of the population as a priority direction of social policy in the Republic of Azerbaijan.] *Ekonomika i Upravlenie: Nauchno-Prakticheskiy Zhurnal, 3.*
- Polushkin, N. (2014). Effektivnost' sotsial'noy politiki gosudarstva. [The effectiveness of the social policy of the state]. *Problemy i Mekhanizmy Ustoychivogo Sotsial'no-Ekonomicheskogo Razvitiya Territorii, 1.*
- Shtals, E., Tsaurkubule, Zh., Konstante, R., and Alksnis, A. (2020). Evaluation of the Technical Efficiency of Latvia's Municipal Long-Term Care Centres for the Elderly. *Sociālo zinātņu vēstnesis, 2*(32), 66-95.
- Stanković, J., Marjanović, I., and Stojković, N. (2021). DEA assessment of socio-economic development of European countries. Management, Journal of Sustainable Business and Management Solutions in Emerging Economies, 26(1), 13-24.
- Terziev, V., and Dimitrova, P. (2017). Sotsial'naya politika kak instrument obshchestvennogo razvitiya. [Social policy as an instrument of social development]. Universum: Jekonomika i Jurisprudencija: Jelektron. Nauchn. Zhurn, 2(35). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3153507
- Tsaurkubule, Zh. (2011). Mekhanizm realizatsii sotsial'noy politiki Latvii v sovremennykh usloviyakh. [Mechanism for the implementation of the social policy of Latvia in modern conditions.]. Problemy Prognozirovaniya i Gosudarstvennogo Regulirovaniya Sotsial'no-Ekonomicheskogo Razvitiya, 3.
- Tsaurkubule, Zh. (2015). Improving social policy of Latvia as a factor of sustainable development of the state. In Unia Europejska w 10 lat po największym rozszerzeniu (p. 380).
- Tsaurkubule, Zh. (2017). Evaluating the efficiency of the state socio-economic policy of Latvia. Contemporary economics. University of Finance and Management in Warsaw, 11(3).
- UN. (1948). Universal Declaration of Human Rights. Retrieved from https://www.un.org/en/about-us/universal-declarationof-human-rights
- UN. (1989). Handbook on social indicators. Retrieved from https://digitallibrary.un.org/record/59759
- UN. (2021). United Nations Development Programme. Retrieved from: https://hdr.undp.org/
- Večerník, J. (2009). Czech society in the 2000s: A report on socio-economic policies and structures. Praga: Alibris.
- Voronov, V., and Lavrinenko, O. (2011). Dohody naselenija Latvii: uroven', differenciacija, dinamika. [Incomes of the population of Latvia: level, differentiation, dynamics.] *Sociologicheskie Issledovanija*, *9*.
- Whelan, C., Nolan, B., and Maître B. (2014). Multidimensional poverty measurement in Europe: An application of the adjusted headcount approach. *Journal Of European Social Policy*, 24(2).
- Zhang, H., Hara, K., Yabar, H., Yamaguchi, Y., Uwasu, M., and Morioka, T. (2009). Comparative analysis of socio-economic and environmental performances for Chinese EIPs: Case studies in Baotou, Suzhou, and Shanghai. *Sustainability Science*, *4*, 263-279.

Polityka społeczno-gospodarcza Łotwy: ocena wydajności i skuteczności

Streszczenie: Artykuł przedstawia przegląd naukowo-analityczny oraz określa istotę pojęcia polityki społecznej z uwzględnieniem autorskiej wersji wyodrębnienia podejść do definicji polityki społecznej na poziomie makro i mikro, a także w kontekście jej powiązania z ekonomią. Opracowano system wskaźników oceny realizacji polityki społecznej oraz zaproponowano metodologię oceny jej skuteczności opartą na analizie porównawczej dynamiki zmian głównych wskaźników rozwoju społeczno-gospodarczego Łotwy. Metodologia badania opiera się na wyznaczeniu integralnego wskaźnika agregującego osiem głównych obszarów polityki społeczno-gospodarczej mierzonego za pomocą 32 zidentyfikowanych wskaźników na podstawie ocen ekspertów. W opracowaniu przedstawiono dwa różne podejścia do oceny dynamiki zmian głównych wskaźników rozwoju społeczno-gospodarczego Łotwy w okresie 2010-2020. Analiza ankietowanych danych wykazała niezwykle powolne zmiany w dobrostanie społecznym mieszkańców Łotwy, cechujące się pozytywną dynamiką, wskazując na poprawę ogólnej polityki społecznej Łotwy. Uzyskane wyniki mogą posłużyć do monitorowania skuteczności polityki społeczno-gospodarczej (PSG) Łotwy oraz opracowywania programów poprawy dobrobytu mieszkańców tego kraju.

Słowa kluczowe: Łotwa, istota polityki społecznej, wskaźniki polityki społeczno-gospodarczej, wskaźniki integralne, skuteczność polityki społeczno-gospodarczej, ocena efektywności