

Social compensation as an indicator of national budgetary policy fairness and effectiveness

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Abstract. Paper offers new, author's method to calculate "social compensation" index (as aggregated macro economical one) reflecting the role of the state in social compensation policy implementing (fair policy and effective policy); analyzes these indices changes with dynamics of Ginny coefficient in the countries of the world, assess the effectiveness of the national social compensation program in countries grouped by the level of per capita income; gives recommendations on directions and principles of national policy of social compensation modernization which is relevant for the dynamics of the global market situation.

1 Introduction

The success of modern state economic progress is connected not only with its achievement of a certain level of material prosperity, forming of comfortable conditions for doing business necessarily reflected in the country's attractiveness to foreign capital, but with efficiency of country's economic success converting in the quality of own citizens life (the level of personal incomes, the state of social infrastructure, the completeness and targeting of social programs, the development of human potential and so on).

In this paper we used the term "social compensation", which in the authors' interpretation is understood as the conversion of macroeconomic achievements and economic results of the national (and attracted foreign) business to high standards of the quality of population life implemented with the participation of the state.

At the same time, the state can act as a benefits redistributor from business to the population (fair strategy of social compensation) or as a stimulator of this conversion through creating of comfortable conditions (effective strategy of social compensation).

The research problem lies in the fact that the state needs to determine the conditions under which the choice of the first or second social compensation strategy will be more appropriate, as well as to assess the prospects for the social compensation strategies implementing in the dynamics of world and national markets.

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2 Literature review

The problem of the state's social spending impact on economic growth stimulating was explored in the context of cross-country analysis, and also at the theoretical level of budget expenditures redistribution and sectoral development stimulating modelling [1-4].

In the category of cross-country studies, for example [5, 6] considered the impact of globalization on the composition of government expenditures on the example of 60 countries and determined that globalization did not influence the composition of government expenditures in a notable way, even taking in account that governments may attempt to curtail the welfare state, which is often seen as a drag on international competitiveness, by reducing especially their expenditures on transfers and subsidies.

A similar study, but in the case of OECD countries [5] also show that globalization (measured by an index encompassing 23 variables) did not in general decrease leeway for independent national economic policy, increasing social integration also influences policies, while political integration does not matter for economic policy in most specifications.

In direction of modeling the process of budget funds redistributing for economic growth and quality of life stimulation Robert J. Barro [7, 8] extended endogenous-growth models to include tax-financed government services that affect production or utility и продемонстрировал, что Growth and saving rates fall with an increase in utility-type expenditures; the two rates rise initially with productive government expenditures but subsequently decline.

More "socialized" research [9], based, in part, on the author's original aggregated index of the "quality of life" led to the unexpected conclusion that government consumption expenditure is considerably higher than is necessary to maximize the physical quality of life, and that a reduction in government consumption expenditure would not lower quality of life.

Hannu Tanninen [10] investigated the relationship between income inequality and growth by utilizing the recently published Deininger-Squire data set and found a negative relationship between inequality and growth on the basis of reduced-form growth equations (high level of income inequality leads to a higher demand for redistribution, which in turn affects growth through resource allocation out of investment or through incentive-distorting taxes needed to fund the redistribution).

Trish Kelly [11] traced the dynamics of the social programs affecting economic growth, he also identified factors that determine the quality of the process of budget funds redistribution in modern macroeconomic conditions.

Studies by Peter H. Lindert [12] and James R. Hines [13] have affected not only the budget distribution issues, but also the formation of budgetary funds for the social programs implementation. So, the first one, assessed limits of social taxation, and the second analyzed the effectiveness of social compensation tools using at the expense of budget expenditures and stimulating of business social programs.

Robert A Amano, Tony S Wirjanto [14] considered a two-good permanent-income model and estimated preference parameters to shed some light on whether private and public consumptions are best described as complements, substitutes, or unrelated occurrences.

The present study attempts to evaluate an effectiveness of social compensation in countries of the world.

3 Research Methodology

For the study we used the World Bank's statistical information and following macroeconomic indicators of the world's development in 2018: state budget revenues;

average tax rate in the countries; countries' GDP; average rate of loans for business in the countries; inflation rate in the national economies.

The study evaluated statistical information of 95 world's largest countries with a relatively stable socio-economic situation in 2018.

The study was based on a comparison of synthetic indicators reflecting
the fairness of social compensation of tax payments received from business;
the fairness of social compensation of business contribution to the national GDP formation.

The logic of these indicators selecting based on the Government role as a redistributor of budget funds collected from business in tax form in favor of social programs, and the Government efficiency in spending of the national GDP part (also generated by business) on the needs of social development.

As a reference point we used a hypothesis that in the effective state the first indicator (social compensation of taxes paid by business) should be lower than the second (social compensation of business contribution to GDP), since social compensation can be maintained at a high level not only due to high taxes, but also public-private partnership, social investment, outsourcing (for example, development of insurance medicine, private education, etc.), encouraging a small business and so on. In this case, the high budget expenditures on the social sphere will be compensated not only by .tax payments of the business, as by, for example, the state (municipal) quota (a fixed state / municipal quota of places in private schools), tax preferences (for example, for new technologies development, increase of administration and market regulation effectiveness, implementation of business social responsibility programs) and so on. An effective state focuses on business stimulating to co-execute the function of social compensation.

On the other hand, the fair state accentuates own role of budgets redistributor.

High level of social compensation in such states is justified by high tax payments from business. A fair state is more independent in the process of making decisions about social compensation, but it may be less attractive to business (this strategy is effective only in the case of insignificant demand in domestic markets), and also to assume the emergence of corruption schemes in budget distribution.

4 Results

The calculation of the coefficients of the state policy of social compensation efficiency and fairness was carried out on the basis of comparing the shares of a particular country in the global amount of paid taxes, social payments and GDP in 2018 (World Bank statistics).

Table 1 shows the indicators of social compensation of taxes paid by business and indicators of social compensation of business contribution to national GDP formation in the countries of the world in 2018.

According to Table 1 it can be seen that the indices of social compensation of taxes paid by business are the lowest in countries with low government expenditures on the social sphere and relatively medium or low tax rates for business. The outsiders of the rating are countries in which state high social expenditures are formed not due to the business tax payments (but for example, by exploiting the country's resource potential, activities of state corporations, or loans from international organizations).

Indicators of social compensation of business contribution to national GDP formation are low in countries where the share of government social spending remains at a minimum (Guinea, Ukraine, Zimbabwe, Bangladesh, Philippines), or where the largest contribution to GDP was realized not by private business but by state companies (Russia, Iran, India). In the end of the rating there are mostly highly developed countries, in which both public spending on social programs and the contribution of private businesses to GDP are high.

Table 1. Indicators of social compensation of taxes paid by business and indicators of social compensation of business contribution to the National GDP formation in the world in 2018 (made by the author).

Indicators of social compensation of taxes paid by business			Indicators of social compensation of business contribution to the national GDP formation		
№	Country	Indicator	№	Country	Indicator
1	Poland	49.31	1	Guinea	16.14
2	Argentina	63.12	2	India	20.96
3	India	63.83	3	Zimbabwe	24.22
4	Korea, South	68.38	4	Ukraine	24.85
5	Botswana	72.8	5	Burundi	26.08
6	United States	72.82	6	Iran	30.81
7	Israel	73.29	7	Bangladesh	31.33
8	Moldova	83.07	8	Mauritius	32.06
9	China	83.22	9	Philippines	32.11
10	Turkey	83.8	10	Russia	32.75

As can be seen from Table 2 countries that implement a fair policy (social compensation of the business contribution to GDP higher than a similar compensation of paid taxes) are world economically developed countries, whereas countries with effective budget policy are mainly represented by states with a high share of the profitable public sector (Iran, Algeria, Saudi Arabia), or the either countries consciously implementing liberal reforms (Paraguay, Ukraine, Tunisia), or simply feeling a severe shortage of their own budget sources (Bangladesh, Burundi, Niger).

At the second stage of the research the social compensation (of tax paid by business and business contribution in national GDP formation) indicators of the countries of the world in 2018 were compared (Table 2).

We can note the first interesting conclusion: that among the countries with effective budget policy there is practically no successful economically developed and stable one (with the exception of countries where state companies exploit natural potential).

Moreover, conscious liberalization of the state budget policy, development of extra-tax and extra-budget schemes of social compensation, most likely simply deprives the state of regulatory competencies and its effectiveness as an actor of own economic system and economic sovereignty. The problem of budgetary policy liberalization is repeatedly reinforced in countries with non-clear near-budgetary relations and corruption, which reduce the effectiveness of social compensation programs, their targeting and expediency (Ukraine, the Philippines, the countries of Africa).

Thus, the desire for effective budgetary policy, which consists in the implementation of social compensation programs through extra-tax budget revenues, the development of quota mechanisms, business social responsibility programs, etc., anywhere in the world (except countries with state-owned companies with exclusive rights to exploit natural potential) did not lead to the formation of a stable, developed and sufficient socio-economic system.

At the final stage of the study, the fairness / efficiency indicators of the countries budget policy were compared with the indicator of the equality of wealth distribution in the social and economic system (Ginny coefficient). It was estimated that, on average, the Ginny coefficient in countries implementing a fair budget policy (24 countries of the analyzed) was 0.65, while the 71 countries implementing a more or less effective budget strategy had an average Ginny coefficient of 0.71 . Given that for 95 analyzed countries, the Ginny coefficient varies from a minimum of 0.54 in Japan to a maximum of 0.84 in Namibia, a difference of 0.6 is very significant (20% of the assessment range) (Table 3).

Table 2. Indicators of social compensation of the countries of the world in 2018 (made by the author).

LEADERS				OUTSIDERS			
№	Country	Comparison of indicators of social compensation	Ginny coefficient	№	Country	Comparison of indicators of social compensation	Ginny coefficient
1	Switzerland	0.46	0.62	76	India	3.04	0.72
2	Israel	0.47	0.67	77	Cote d'Ivoire	3.06	0.71
3	Belgium	0.51	0.66	78	Uganda	3.17	0.72
4	France	0.52	0.64	79	Philippines	3.27	0.71
5	Austria	0.53	0.64	80	Indonesia	3.362	0.76
6	New Zealand	0.55	0.65	81	Mali	3.394	0.75
7	Finland	0.56	0.59	82	Saudi Arabia	3.458	0.73
8	Iceland	0.6	0.66	83	El Salvador	3.6	0.74
9	Germany	0.62	0.66	84	Zimbabwe	3.63	0.84
10	Ireland	0.62	0.58	85	Mauritius	3.64	0.66
11	China	0.67	0.55	86	Paraguay	3.76	0.76
12	UK	0.71	0.69	87	Mozambique	3.9	0.68
13	Italy	0.73	0.6	88	Kyrgyzstan	3.93	0.68
14	Australia	0.74	0.62	89	Burundi	3.97	0.69
15	Spain	0.75	0.57	90	Ukraine	4.43	0.66
16	Canada	0.79	0.68	91	Niger	4.66	0.72
17	Korea, South	0.82	0.57	92	Tunisia	4.86	0.69
18	Estonia	0.85	0.67	93	Bangladesh	6.14	0.66
19	Slovenia	0.88	0.62	94	Algeria	6.5	0.67
20	United States	0.93	0.8	95	Iran	8.17	0.7

It can be concluded that in countries with a budget policy aimed at maximizing accumulation and further spending of budgetary funds on behalf of the state, wealth among property groups is distributed more evenly (by about 20%), thus, fair budgetary policy seems more oriented to maintain social stability and low level of material differentiation.

After analyzing the countries grouped for dozens by increasing of social compensation indicators (Table 3), one can see that the corresponding average Ginny coefficient changes wavy, starting from a minimum in countries with fair social compensation, reaching a maximum in the countries of the sixth dozen (that are already focusing on an effective model of social compensation) and again falling to the last dozen. Consequently, there is no direct correlation between the fairness / efficiency of the state budget policy and the level of property differentiation in the countries of the world.

That allows making a conclusion that in their maximums, state programs of fair and effective compensation are highly effective and leading to property differentiation reduction in the society. However, as can be seen from the results of the last column of Table 3, the impact of fair social compensation will be high in high-income countries (maximum per capita income in the top ten countries is about 83000 USD), and effective budget policy - in poor countries (per capita income is about 10000 USD).

To confirm this conclusion, we can detail the first dozen and the last five of the analyzed states (Table 4).

As can be seen, in general, more affluent states of the ten use fair social compensation policy which shows the highest effectiveness in reducing property differentiation (for example, in Ireland, France and Switzerland).

Table 3. Indicators of social compensation, Ginny coefficient and GDP per capita in the world (by dozens of the countries, 2018).

	Countries	Correlation of social compensation indicators	Ginny coefficient	GDP per capita
1	Switzerland, Belgium, France	0.46 – 0.62	0.63	82911
2	China, UK, Australia, United States	0.67-0.93	0.64	78494
3	Argentina, Brazil, Turkey, Japan	0.94 -1.04	0.67	41314
4	Portugal, Poland, Hungary, Zambia	1.04 -1.22	0.68	26942
5	Singapore, Jordan, Kenya, Azerbaijan	1.25-1.62	0.7	22184
6	Namibia, South Africa, Malaysia	1.62-2.09	0.73	9984
7	Colombia, Egypt, Russia, Thailand	2.11-2.77	0.71	10940
8	Georgia, India, Philippines, Indonesia	2.83-3.36	0.72	6977
9	Saudi Arabia, Paraguay, Ukraine	3.39-4.43	0.72	13900
10	Tunisia, Bangladesh, Algeria, Iran	4.66-8.17	0.69	10057

For example, in Iceland, social compensation is more fair than in Ireland, but less effective (Iceland is poorer than Ireland), a similar situation in the pair Israel-Switzerland or Austria-France.

Among the countries of the latter group (five), an effective policy of social compensation does not have high achievements in Niger (the poorest country of the group) and Iran (which, although is the richest state in the group, can not be considered as a demonstration example because of the huge public sector that actively exploits the country's natural potential and form the revenue side of the country's budget not only by tax payments, but also, for example, by profits). A detailed analysis of the countries of group 9 (ten states) also demonstrates a certain "wave" of the ratio of social compensation indicators with GDP per capita growth (Table 5). The wave reaches its maximum (the maximum efficiency of the social compensation policy) in Ukraine, which occupies an average position in the ranking of the countries of the group on per capita income.

Table 4. Indicators of social compensation, Ginny coefficient and GDP per capita in the world (the first dozen, 2018).

	Countries	Correlation of social compensation indicators	Ginny coefficient	GDP per capita
1	Finland	0.56	0.59	53154
2	New Zealand	0.55	0.65	55823
3	Israel	0.47	0.67	64633
4	Austria	0.53	0.64	73047
5	Iceland	0.6	0.66	81945
6	Belgium	0.51	0.66	86205
7	Germany	0.62	0.66	90768
8	Ireland	0.62	0.58	91432
9	France	0.52	0.64	94557
10	Switzerland	0.46	0.62	137549

5 Discussion

A detailed analysis of groups of countries suggests that the high effectiveness of fair policy of social compensation applying is a characteristic of countries with high per capita income, whereas in poor countries of the world, fair social compensation loses its effectiveness and expediency, giving way to effective social compensation. In rich countries with a strong domestic demand, the business is able to concentrate significant amounts and pay high taxes for the realization of own access to large consumer markets. The high level of taxes will not turn into a factor of investment attractiveness and country high competitiveness reducing if these payments are compensated by high domestic demand and state efficiency as a redistributor of budgetary funds (rational policy of social compensation).

In the world poorest countries with limited domestic demand, the state's task is not only to ensure the social peace and stability, but also to maintain a high investment attractiveness and competitiveness of the national business environment. In addition, in poor countries that are prone to corruption, business is often able to carry out social compensation more rationally and efficiently than the authorities. In this connection, the rationality of effective social compensation increases dramatically.

6 Conclusions

The conducted research and hypotheses testing allow to set a number of recommendations for modernization of the national policy of social compensation.

- Based on conclusion that nowhere in the world (neither rich nor poor) the effective strategy of social compensation has led to the formation of stable society with a minimum property differentiation, that confirms the persistence of business social irresponsibility in the 21st century, it can be determined that the state does not should be eliminated from social compensation programs, allowing the business to independently implement social responsibility strategies in exchange for tax benefits and preferences. With all the existing inefficiencies of the authorities and governments, the state should coordinate the interactions between business and society, not allowing its own merging with either the first (oligarchy) or the second (radical socialism);

- The government's balance between society and business should be ensured by combining a fair and effective social compensation policy, which effectiveness changes with the welfare of society (the growth of the country material well-being should be accompanied by a transition to more fair social compensation, primarily due to tax increase, and vice versa, the government must make effective social compensation in case of living or business conditions deterioration in the country);

- As it was determined in the study, oftenly the obtained results can not be considered as demonstrative due to the powerful public sector in the economy of analyzed countries, which exploits the natural resource potential and generates the revenue part of national budget not only by paid taxes, but also, for example, by own income.

In connection with this, in the future, the co-authors research activities can expand the number of indicators of the world's countries (for example, state's share in the economy, share of natural resource exploiting in the national GDP) which will help to determine conclusions more relevant to the modernization of national programs of social compensation in the conditions of globalization dynamics.

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