

Does Effective Social Policy Guarantee Happiness?

Yuriy V. Timofeyev, Galina V. Timofeyeva

Abstract— In the paper it is questioned whether effective state social policy provides happiness and social progress. For this purpose selected correlations between Human Development Index (HDI), share of public social expenditures in GDP, the Happy Planet Index (HPI), GDP per capita, and Government Effectiveness are examined and the results are graphically presented. It is shown how a government can affect well-being and happiness in different countries of modern world. Also, it is tested the hypothesis about existence of a certain optimum of well-being and public social expenditures, which affect direction of social progress. It is concluded that efficient social policy and wealth are not the only factors determining human happiness.

Keywords—government effectiveness, happiness, social progress, state social policy

I. INTRODUCTION

TO begin with, it is fairly likely most people suppose state social policy to make positive impact on human well-being and be one of the major generators of social progress by reason modern state social policy is characterized by complex of measures aimed at sustaining social development and reducing negative effects of market economy in public wealth distribution. However, despite significant achievements of social policy in 20th century and in the early 21st century, its impact on social progress and people's happiness is still under discussion.

Maximizing social welfare as the ultimate goal of economic policy had already been promoted by Bentham [1] and Edgeworth [2] and, in modern economics, by exponents of quantitative economic policy [3], [4]. However, a major drawback to this approach was that the social welfare function could not be empirically measured. This situation has changed dramatically. Happiness research has designed several indicators of subjective well-being, relying on different measurement techniques (for a discussion see [5]).

The major impact of the paper consists of clarifying understanding of social progress and enlarging the knowledge about factors, which determine social progress, and interrelation between the latter and social policy efficiency. Actually, the paper question how happiness and social progress correlate and how social policy affects social progress.

Previous analyses on this topic have highlighted that a certain correlation exists between physical quality of life index and total government expenditures per capita. However, none of these previous studies have taken correlation between HPI and Government Effectiveness into consideration. Using the recent Human Development Report data (2010), OECD datasets, the (un)Happy Planet Index Calculations, and World Bank calculations of Government Effectiveness, this article attempts to answer the following questions: Does social policy determine social progress and human happiness; if yes, then to what extent? Microsoft Office Excel software is used to graphically present the findings.

The paper consists of four sections: an introduction, followed by the literature review, which clarifies main theoretical issues of happiness, social policy and social progress (e.g., definition, factors, and description of measurable indicators). Next, correlations between indicators, which characterize happiness and social progress at large, are analyzed. Statistical methods to examine the following correlations were used: firstly, between HDI and relative public social expenditures; secondly, between HDI and HPI, thirdly, between HPI and GDP per capita, fourthly, between GDP per capita and Government Effectiveness, and, lastly, between HPI and Government Effectiveness. Finally, some policy recommendations regarding social progress issues are presented and then concluding comments are made.

II. LITERATURE REVIEW

By reason happiness is highly valued, a continuous growth of the related empirical research is observed, which find a broad public support. Happiness is defined as the subjective 'enjoyment of one's life as-a-whole'. In other words: how much one likes the life one leads. Current synonyms are 'life-satisfaction' and 'subjective well-being'. This concept is delineated in more detail in the basic work 'Conditions of happiness' [6].

Emphasis on 'quality-of-life', rather than mere quantity of life years is growing because happiness is considered as one of the major goals of social policy. Fortunately, advances of modern science provide wide opportunities to conduct empirical research, which explain how happiness interrelates with social progress and whether it is possible to affect social progress within state social policy.

In 1974 Easterlin formulated the "paradox of happiness" [7]. The numbers showed that notwithstanding the fact that income per capita had tripled in the last decades in western countries, the percentage of people declaring to be "happy" had stayed the same. During the same period, the international

comparison seemed to provide a similar result. There was a distinct difference in happiness between rich and poor countries, however, within each group of states more GDP per capita did not appear to be associated with more happiness.

In order to find out how well-being affects happiness researchers also calculated the relationship between economic performance and well-being by considering the GDP per capita and the propensity to commit suicide in a certain society. One can not deny that this is a powerful indicator of how unhappy a community is. Happy people are also less likely to commit suicide [8], [9]. Although one may consider that the richer you are, the more you enjoy life and, thus, the less likely you are to commit suicide, the evidence suggests that this is not immediately true. Societies seem to become unhappier the more competitive (and consequently wealthier) they are, and suicides slightly increase with the wealth of its members. Interestingly, the majority of the western countries, while they experience higher GDP per capita, also report higher suicide rates than the developing countries [10].

The most intriguing findings among the recent researches produced several unexpected results

1. Happiness is not relative. Enjoyment of life appears not to depend on comparison, in particular not on social comparison. This finding contradicts cognitive theories of happiness and supports affective explanations [11].

2. Happiness is not very trait like; over a lifetime it appears to be quite variable. This finding does not fit notions of stable personality in psychology [12], [13].

The majority of mankind appears to enjoy life. Unhappiness is the exception rather than the rule. This is at odds with the results of misery counting in sociology [14].

3. Happiness tends to rise in modern societies. This contradicts longstanding pessimism about modernization [15].

4. In modern western nations happiness differs little across social categories such as rich and poor or males and females. The difference is rather in psychological competence [16]. This result is at odds with current sociology of deprivation.

5. Differences in happiness within nations (as measured by standard deviations) tend to get smaller. This contradicts notions about growing inequality in sociology [17].

6. Liberalist intuition is confirmed in the finding that people tend to be happiest in individualistic society, but the socialist expectation that people will be happier in a welfare state is not corroborated [18].

7. It is impossible to increase the general quantity of happiness by reallocating resources from less to more satisfactory uses, as you can reallocate resources from less to more productive means in order to increase the overall efficiency of a system. The following graph clarifies the argument. Although some activities increase happiness more than others, there seems to be a negative correlation between them [19].

More, happiness research has already produced many insights, which can be introduced into the political discussion process. They include policy issues like, for example, the

relation between working time regulations and people's subjective well-being [20]. A competent overview of selected findings, with policy relevance, is provided by Diener and Seligman [21].

Admittedly, GDP is imperfect measure of neither aggregate well-being and living standards nor happiness. As a consequence, it is even less suitable for assessing social progress or the sense of well-being. Admittedly, there is a positive correlation between subjective well-being and per capita GDP [22]. Nevertheless, it would be an oversimplification to limit the assessment of well-being to that of per capita GDP. Many dimensions affecting well-being fall outside the scope of GDP, above all because they are non-economic. The concept of quality of life encompasses all of the factors that affect perceptions of well-being. The determinants of quality of life have been the subject of a vast field of academic research stretching over many years, inspired notably by the work of Sen. Now we need to put the findings of this research into practice, in institutional and economic policy terms.

The factors that go to make up the quality of life can be determined according to Sen's "capability" approach [23]. Capabilities refer to individual's capacity to choose among different states and actions (functional capabilities) in their lives. They are seen as intrinsic determinants of the quality of life. According to this approach, measuring quality of life entails identifying these factors, together with the means to evaluate them.

Various dimensions of the quality of life raise the question of how to aggregate them. As the European Commission points out, this is the greatest challenge when assessing the quality of life. The commonest method is the one illustrated by the Human Development Index (HDI).

Most of the empirical work undertaken so far on happiness research in economics has been based on representative, large-scale sampling of individuals' global evaluations of their life satisfaction. The great advantage of this measurement approach is its good performance compared to its cost, as well as its availability for a large number of countries and time periods. Thus, for example, the surveys on life satisfaction contained in the World Values Survey today cover 80 countries, representing over 80 percent of the world's population over 4 periods of time [24]. For many tasks, self-reported measures of life satisfaction have proved to perform in a satisfactory way, especially for the issues economists are mostly interested in. So far, it is the best empirical approximation to the concept of individual happiness.

There is now wide-spread consensus among scholars that experienced utility and well-being can be measured with some degree of accuracy [25]-[27]. One indicator that such measurements capture important aspects of well-being in a credible way is shown by the fact that they correlate with behavior and aspects generally associated with happiness. Reliability studies have found that reported subjective well-being is moderately stable and sensitive to changing life

circumstances [28], [29]. Consistency tests reveal that happy people smile more often during social interactions [30], are rated as happy by friends and family members [31], [32] and by spouses [33], express positive emotions more frequently, are more optimistic, are more sociable and extravert, and sleep better [34], [35].

Practically all factors that are intuitively seen as measuring improvement, from wealth, safety and health, to knowledge, freedom, and equality, are strongly correlated with social well-being, as measured through life satisfaction questionnaires. They can therefore be used as objective indicators of progress. Each of these basic factors that correlate with social well-being shows a consistent, on-going improvement over the last century. Unless we would have overlooked essential components of social well-being - which seems unlikely - this proves the objective existence of progress over at least the past century [36].

Admittedly, OECD has made a remarkable attempt to measure progress and the well-being of society. According to OECD, the final scope of factors needed to assess the progress, should include key indicators such as health, education, and the environment, along with economic factors such as employment, productivity and purchasing power. The development of such indicators, understood and known by society as a whole, can provide a clear opportunity to improve the ways in which policies are made. OECD, thus, does not focus on happiness as such.

Taking these points into consideration the next logical step would seem to be to construct a National Happiness Indicator (in consonance with Gross National Income) for governments to be able to maximize National Happiness. The United Kingdom and Australia, as well as certain other countries, are committed to producing national measures of well-being and, already back in the 1970s, the Kingdom of Bhutan proclaimed that it wanted to maximize Gross National Happiness rather than Gross National Income. On the scientific side, a group of fifty well-known scholars is promoting the idea of "National Indicators of Subjective Well-Being and Ill-Being" [37], [38]. It has been argued that "Gross National Happiness" is the answer to the paradox that, in cross-sections, happiness is positively correlated with individual income, but over time, average happiness is essentially constant, despite a sharp increase in average income levels [39]-[41]. The use of National Happiness Indicators has also been suggested by "libertarian paternalists" [42, p.22] to overcome the problem that individuals are not always able to maximize their own utility.

The possibility of adequately measuring happiness has led to new visions being formed in economics and other social sciences. The most important is certainly the call to use the measurements to *maximize aggregate happiness as a social welfare function* using the instruments of state social policy. This paper deals with this new vision and inquires whether the maximization of (measured) happiness is a worthwhile approach to pursue. Our discussion suggests that *it is not*;

there are major objections to this approach. We present an alternative view of how the insights gained from happiness research may contribute to policy-making.

III. SOCIAL PROGRESS AND SOCIAL POLICY EFFICIENCY

In the report of the National Centre of Policy Analysis [43] a correlation between physical quality of life index and total government expenditures per capita in 112 countries of the world was analyzed. Social progress here is fairly defined as achievement of optimum physical quality of life level. A statistical regularity revealed there bring us to a conclusion that growth of total government expenditures per capita causes increase of physical quality of life index at logarithmic path and at a rate of approximately 2.5K USD levels off within the range of 0.8-0.9.

Undoubtedly, the figure of total government expenditures per capita to a great extent defines the figure of government social expenditures per capita. However, such analysis is not quite correct whereas, total government expenditures per capita can differ significantly from government expenditures on defense, general public services, public order and safety, economic affairs, etc. By this reason, it is offered analyze similar correlation for such indicators as Human development index (HDI) and public social expenditures per capita in order to determine the regularities connected with social progress.

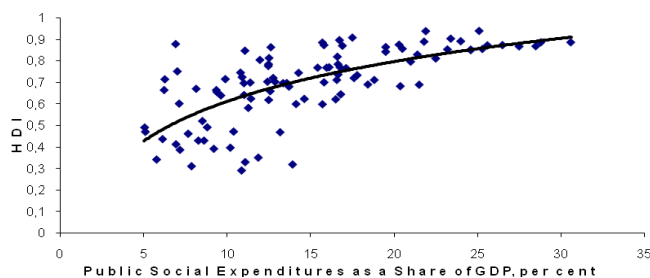


Fig. 1 Correlation between Human Development Index (2010) and Share of Public Social Expenditures at GDP in %

Source: calculated by the author with MS Office Excel 2003 software on base of [44], [45].

As can be seen from fig. 1, the general trend is characterized by HDI, which can characterize life quality at large, increase together with growth of share of public social expenditures in GDP. Remarkably, range, in which share of public social expenditures in GDP and HDI vary, is 5-30% and 0.38-0.94 respectively.

The similar ideas were proved by OECD experts on the base of statistical data of the net national income (NNI) per capita and share of public social expenditures in NNI. Actually, between GDP per capita and NNI per capita a straight close line dependency exists, i.e. in countries with higher NNI per capita share of public social expenditures in NNI is also higher. However, though NNI per capita is more suitable for measurement of well-being and, consequently, can be used for measurement of state social policy efficiency. By reason that high level of uncertainty at measurement of international

capital flows exists, this approach is justified only for OECD countries, because capital flows are more transparent there compared with the other countries.

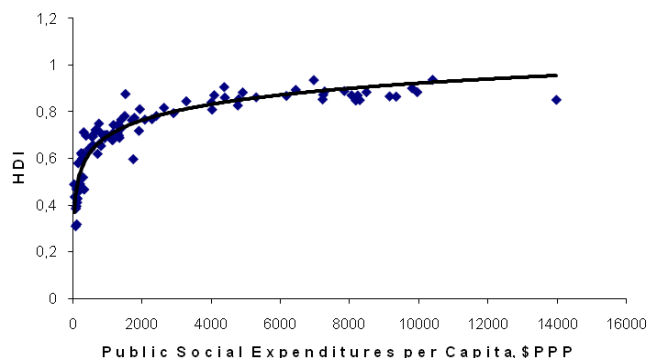


Fig. 2 Correlation between Human Development Index and Public Social Expenditure per Capita

Source: calculated by the author with MS Office Excel 2003 software on base of [46].

Correlation between HDI and public social expenditures per capita presented at fig. 2 allows hypothesizing about existence of a certain optimum volume of state social expenditures per capita, which is necessary for achievement and further maintenance of high level of social development. Judging by the graph it is in the range of 3.5-4.5K USD per capita.

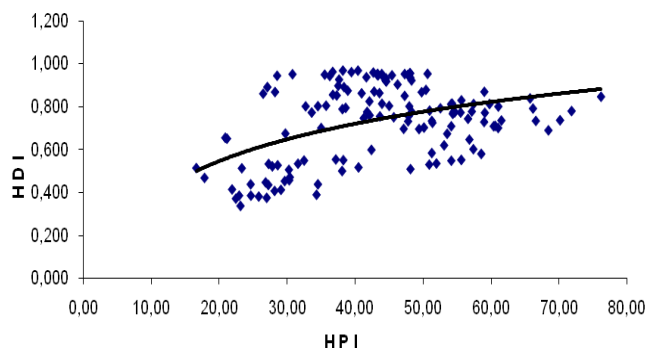


Fig. 3 Correlation between Human Development Index and Happy Planet Index

Source: calculated by the author with MS Office Excel 2003 software on base of [47], [48].

Fig. 3 shows how HDI and HPI are correlated. Apparently, there is a direct correlation (HDI growth is followed by HPI rise), while there is none between GDP per capita and HPI. More, polynomial trend line shows that HPI rises dramatically at the interval [0; 10,000] and then after reaching a certain level (around 20K USD) starts decreasing.

The idea of leadership of the indicator of GDP growth was introduced by United Nation Organization's experts while elaborating national accounts system in 1947 and only in the beginning of 21st century was questioned [49]. Obviously, this approach does not take into account other factors like socio-cultural and ecological ones, which also determine population's well-being and life satisfaction. Moreover, such approach absolutely rejects recognized achievements of the

theory of civilizations. By this reason, HPI should be introduced into the state social policy study. Social progress is considered here from positions of long-term population well-being maintenance at optimum level of natural resources consumption.

In specific researches it is questioned the idea of social progress based, mainly, on economic growth which dominated in the majority of countries for more than half a century. Marginal economic theory tells that after having reached a certain optimum, a figure starts decreasing. Economic growth should be analyzed the same way.

TABLE I
 HPI AND GOVERNMENT EFFECTIVENESS IN 1990, 2000, AND 2005
 IN SELECTED COUNTRIES

Countries	1990		2000		2005	
	HPI	GE	HPI	GE	HPI	GE
Argentina	43.7	0.0824	48.3	0.0824	59.0	-0.25
Mexico	52.7	0.2838	49.3	0.2838	55.6	0.0087
US	34.2	1.8208	33.0	1.8208	30.7	1.5162
Germany	37.2	1.9273	46.5	1.9273	48.1	1.5175
Sweden	52.1	1.9731	56.5	1.9731	48.0	1.8543
Finland	42.0	2.0405	47.3	2.0405	47.2	2.0833
Italy	46.3	0.9001	46.1	0.9001	44.0	0.7093
France	39.9	1.6475	42.0	1.6475	43.9	1.6576
UK	41.1	1.874	41.8	1.874	43.3	1.722
Spain	46.4	1.7735	40.9	1.7735	43.2	1.4523
South Africa	28.0	0.5785	23.1	0.5785	29.7	0.8072
China	68.8	-0.134	59.1	-0.134	57.1	-0.206
India	58.1	-0.164	44.7	-0.164	53.0	-0.069
Korea	50.0	0.7486	44.9	0.7486	44.4	1.0378
Japan	38.9	0.997	40.5	0.997	43.3	1.3204
Moldova	-	-0.634	45.8	-0.634	54.1	-0.732
Slovenia	31.9	0.8044	46.6	0.8044	44.5	0.9997
Romania	36.0	-0.393	42.9	-0.393	43.9	-0.076
Poland	34.1	0.6505	37.1	0.6505	42.8	0.6131
Bulgaria	29.6	0.0149	43.0	0.0149	42.0	0.2614
Ukraine	-	-0.684	32.2	-0.684	38.1	-0.463
Russia	24.0	-0.677	25.4	-0.677	34.5	-0.36
Serbia	-	-0.87	43.9	-0.87	47.6	-0.338

Source: [52], [53].

Besides visible environmental effect politicians' and economists' obsession of economic growth idea make us ignore of other prominent aspects of life. Therefore, HPI taking into account ecological factor is important since gives a new vision of social progress, where economic growth is not the only factor. Besides, similar researches allow defining prospective directions of social policy which "will lead to economic restoration and employment growth - in the short-term period, power safety and to technological innovations - in intermediate term, and to a sustainable development - in long-term" [50; p. 9].

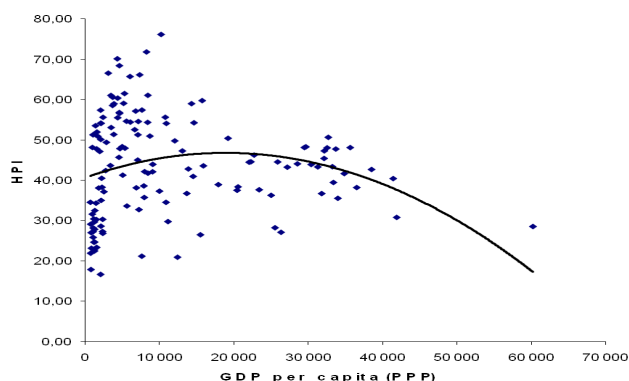


Fig. 4 Correlation between Happy Planet Index and GDP per Capita (PPP)

Source: calculated by the author with MS Office Excel 2003 software on base of [51].

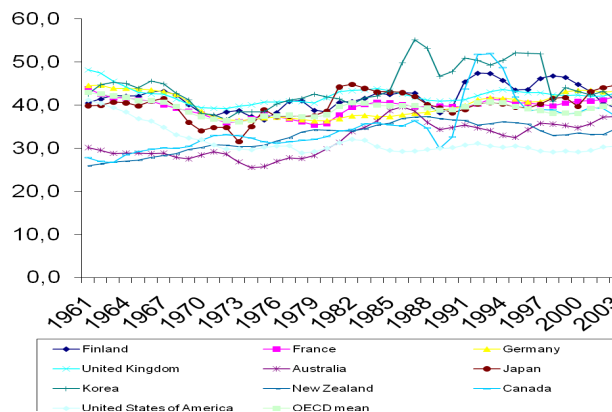


Fig. 5 The Happy Planet Index Development in OECD Countries in 1961-2005

Source: calculated by the author with MS Office Excel 2003 software on base of [54].

Open Science Index, Psychological and Behavioral Sciences Vol:6, No:3, 2012 publications.waset.org/8535.pdf

Fig. 4, which represents correlation between HPI and GDP per capita, is rather indicative. Remarkably, growth of well-being is followed by very slow increase of life satisfaction, and, after having reached 20K USD per capita, even starts declining. This brings us to the conclusion that though GDP per capita is an important indicator of state social policy effectiveness, it, however, does not give the whole picture. Consequently, study of correlation between HPI and government effectiveness indicator seems significant. For this purpose the given indicators will be considered in dynamics.

The table reflects dynamics of HPI and government effectiveness in 2000 and 2005. While growth of government effectiveness was followed by slight increase of HPI in France, Japan, Russia, Serbia, Romania, India, Southern Africa, and on the Ukraine (the only country where a fall of HPI compared to 1990 year is observed is India); fall of government effectiveness was followed by decrease of HPI in the USA, Italy, Sweden, and China. By contrast, decline of government effectiveness was followed by increase of HPI in Great Britain, Germany, Spain, Poland, Moldova, Argentina and Mexico, while rise of government effectiveness was followed by a little drop of HPI in Finland, South Korea, Bulgaria and Slovenia.

Thus, though there is no obvious correlation between the indicators (people in different countries unequally react to changes of government effectiveness within the equal time periods), its presence can not be denied at all, because there are few data available. Importantly, if demographic factor is introduced into the analysis direct correlation becomes obvious: milliards (!) of people in most non-OECD countries (e.g. China and India) characterized by low government effectiveness are, unfortunately, unhappy.

Fig. 5 shows how HPI developed in a few OECD countries in 1961-2005. Apparently, despite wild fluctuations in South Korea and Canada in 1986-2000) relative stability of HPI the majority of OECD countries for a rather long period of time is observed. HPI fluctuated in the range 25-50, and the average figure for OECD total was around 40 ± 3 that does not exceed the average figure for all countries of the world.

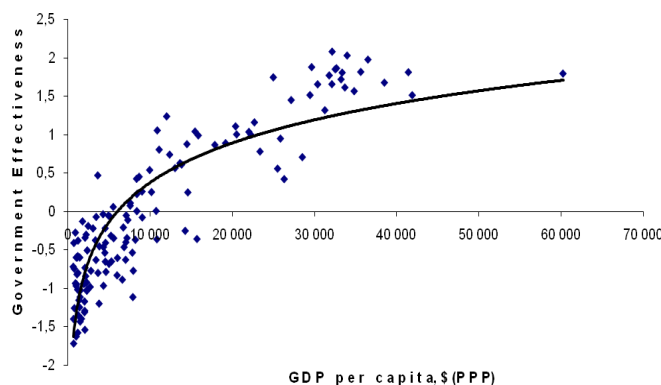


Fig. 6 Correlation between GDP per capita (PPP) and Government Effectiveness

Sources: calculated by the author with MS Office Excel 2003 software on base of [55], [56].

Fig. 6 reveals presence of direct correlation between GDP per capita and government effectiveness. Not surprisingly, there is a significant number of the countries (mainly developing economies) with GDP per capita less than 10K USD by PPP, which are characterized by negative government effectiveness; government effectiveness figures up to 1.2 correspond to GDP per capita figures 10K to 30K USD (mainly countries of Latin America and the majority of post-socialistic transition economies); developed countries with high level of government effectiveness (above 1.2) always have high level of GDP per capita.

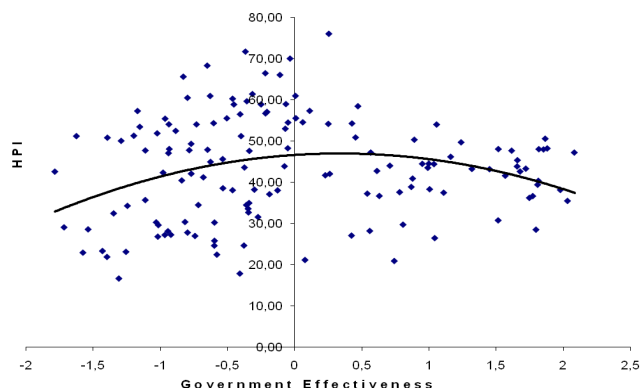


Fig. 7 Correlation between the Happy Planet Index and Government Effectiveness

Sources: calculated by the author with MS Office Excel 2003 software on base of [57], [58].

Consequently, correlation between government effectiveness and HPI (Fig. 7) represents considerable interest. Apparently, polynomial trend line divides economies into 4 groups: in the first effective policy is combined with life satisfaction level above the average (right top quadrant), in the second effective policy corresponds to life satisfaction level below the average (right bottom quadrant), in the third less efficient policy is combined with life satisfaction level above an average (left top quadrant), and in the fourth less efficient policy corresponds to life satisfaction level below an average (left bottom quadrant).

Thus, there are a lot of countries with “inefficient” state policy, and their population more exceeds 3 milliards. However, there are more countries among these with ones with level of satisfaction above the average. Remarkably, in the second quadrant concentrates the majority of OECD countries including the USA, Canada, Japan, New Zealand, Denmark, and Luxembourg. Not surprisingly, Russia with coordinates (34.5; - 0.3) is in the fourth quadrant.

Taking these points into consideration it might be reasonably concluded that government effectiveness, i.e. state social policy efficiency, *does not* determine human happiness measured through HPI: determination coefficient is extremely low (0.5%). However, after graphical presentation of the ‘happiness-effectiveness’ quadrants it seems more correct to hypothesize about existence of a certain optimum level of efficiency in the range [0; 0.5] at which life satisfaction is maximized.

Also, presence of considerable number of the countries referring to the third quadrant, allows concluding about existence of few restrictions in methodology applied by World Bank experts at government effectiveness calculation, i.e., the given technique does not cover the whole factors determining life satisfaction level.

IV. POLICY RECOMMENDATIONS

The maximization of aggregate happiness as a social welfare function is a doubtful approach for several reasons.

First, governments are not composed of purely benevolent politicians wanting to make the population as happy as possible. More, the personal interests of politicians also matter. Second, the essential elements of democratic governance are disregarded: democracy consists of interaction between politicians and citizens on many different levels, structured by the constitution and not simply recording the reported well-being of the citizens. Third, the government has an incentive to manipulate the happiness indicators and to create new ones to suit their goals. Last, the individuals have an incentive to misrepresent their happiness levels strategically in order to influence government policy in their favor. Some might also argue that problems of cardinality and interpersonal comparability can never be fully overcome.

Of course, these arguments do *not* mean that the maximization of GNP would be preferable to maximizing aggregate happiness (however that is conceived). We argue that happiness research should not aim at constructing a social welfare function at all, but that the insights provided by happiness research should be used in a different way.

The results gained from happiness research should be taken as inputs into the political process. (As well, of course, as making more informed decisions on their individual lives such as taking recourse to appropriate self-binding mechanisms in order to overcome problems of utility misprediction identified by happiness research). These inputs have to prove themselves in political competition and in the discourse among citizens, and between citizens and politicians. This vision differs fundamentally from an approach emphasizing the maximization of a social welfare function.

The arguments raised should not be understood as arguing against better measures of happiness. Broadly speaking, measuring citizens’ happiness should not focus on generating an ever better single aggregate indicator, but rather on improving possibly many different indicators and bringing new insights into the various aspects of individual well-being.

V. CONCLUSION

The objective of the paper was to outline how state social policy can affect human happiness. It is examined how happiness, social progress and state social policy are interrelated. For this purpose, firstly, correlation between Human Development Index (HDI) and share of public social expenditures in GDP has been calculated in order to show how government social spending affects well-being. Secondly, correlation between HDI and the Happy Planet Index (HPI) has been measured for estimating interrelation between the composite indicators. Thirdly, correlation between HPI and GDP per capita has been calculated to show to what extent wealth determine happiness. Fourthly, correlation between GDP per capita and Government Effectiveness has been examined to show to what extent policy efficiency determine the major factor of happiness; and, lastly, correlation between HPI and Government Effectiveness has been calculated. This allowed hypothesizing about existence of a certain optimum

level of efficiency in the certain range at which life satisfaction is maximized.

The huge progress in the measurement of individual welfare makes it tempting to pursue the old dream of maximizing aggregate happiness as a social welfare function. Improvements in individual well-being are claimed to be measured directly and politics is seen as following advice and implementing it with suitable interventions in the political process.

Importantly, there are a few restrictions of the applied methodologies. Firstly, HDI is not methodologically perfect because of existing institutional differences between countries. Secondly, research of correlation between HPI and state social policy efficiency is essentially limited because the indicator of government effectiveness relates not only to social policy, but also to national economy at large. Lastly, objectivity of the analysis by reason of absence of comparable data owing to distinctions in applied methodologies.

Thus, perspective directions of the further researches in the given sphere follow. The first assumes inclusion in the analysis of indicators of efficiency of the state social expenses, while the second – addition or even replacement of HPI by, for instance, suicide rates for carrying out alternative calculations and further comparison their results with the ones got in this research. Besides, it makes sense to expand whenever possible an investigated time. The main thing, it will allow making more exact forecasts of the future development.

The calculated regularity between share of state social expenditures in GDP and HDI can lead to a conclusion that the only policy recommendation is reforming towards the OECD countries model. However, maintenance of GDP per capita growth is not the only overall objective of state social policy, which necessarily causes social progress. Therefore, the primary goal of social policy makers is not only improving usual life quality indicators, but also taking into account ecological factor since it gives a new vision of social progress, where economic growth is not the only factor determining a sustainable development in long-term.

ACKNOWLEDGMENT

Financial support of the Institute of World Economy and Finance, Volgograd State University; the Russian Foundation for Humanities (RFH) and Administration of Volgograd Region (grant No. 12-12-34000) is gratefully.

REFERENCES

- [1] J. Bentham, *An Introduction to the Principles of Morals and Legislation*. Oxford: Clarendon Press, 1789.
- [2] F. Y. Edgeworth, *Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences*. London, UK: Kegan Paul, 1881.
- [3] H. Theil, *Optimal Decision Rules for Government and Industry*. Amsterdam: North Holland, 1964.
- [4] J. Tinbergen, *Economic Policy: Principles and Design*. Amsterdam: North Holland, 1956.
- [5] D. Kahneman, A. B. Krueger, "Developments in the measurement of subjective well-being," *Journal of Economic Perspectives*, vol. 20, issue 1, pp. 3-24, Winter 2006.
- [6] R. Veenhoven, *Conditions of Happiness*. Kluwer Academic, Dordrecht, Boston, 1984.

- [7] R. A. Easterlin, "Does Economic Growth Improve the Human Lot? Some Empirical Evidence," in *Nations and Households in Economic Growth: Essays in Honour of Moses Abramowitz*, Paul A. David and Melvin W. Reder, Ed. New York and London: Academic Press, 1974, pp. 89-125.
- [8] E. Durkheim, *The Division of Labor in Society*. Moscow: Nauka Press, 1991.
- [9] K. Honkanen, R. Honkanen, H. Viinamaki, K. Heikkila, J. Kaprio, and M. Koskenvuo, "Life Satisfaction and Suicide: A 20-Year Follow-up Study," *American Journal of Psychiatry*, vol. 158, issue 3, pp. 433-439, March 2001.
- [10] F. Grillo, S. Benians, M. Cirovic, A. Parvez, and G. Emma, "The pursuit of happiness (Ethics, politics, globalization and economics of well-being)," *The Italian Thinktank Draft*. Rome, June 2010. Position Paper.
- [11] R. Veenhoven, "Is happiness relative?," *Social Indicators Research*, vol. 24, February 1991, pp.1-34.
- [12] J. J. Ehrhardt, W. E. Saris, and R. Veenhoven, "Stability of Life-Satisfaction over Time: Analysis of Change in Ranks in a National Population," *Journal of Happiness Studies*, vol. 1, no. 2, June 2000, pp. 177-205.
- [13] R. Veenhoven, "Is happiness a trait? Tests of the theory that a better society does not make people any happier", *Social Indicators Research*, vol. 32, no. 2, June 1994, pp. 101-160.
- [14] R. Veenhoven, *Happiness in Nations: Subjective Appreciation of Life in 56 nations 1946-1992*. RISBO: Erasmus University Rotterdam, 1993.
- [15] R. A. Cummins, "Personal income and subjective well-being: a review", *Journal of Happiness Studies*, vol. 1, no. 2, June 2000, pp. 133-158.
- [16] B. Headey and A. Wearing, *Understanding happiness, a theory of subjective well-being*. Longman Cheshire, Melbourne, 1992.
- [17] R. Veenhoven, "The four qualities of life", *Journal of Happiness Studies*, vol. 1, March 2000, pp. 1-39.
- [18] R. Veenhoven, "Wellbeing in the welfare state: level not higher, distribution not more equitable", *Journal of Comparative Policy Analysis*, vol. 2, no.1, April 2000, pp. 91-125.
- [19] F. Grillo, S. Benians, M. Cirovic, A. Parvez, and G. Emma, "The pursuit of happiness (Ethics, politics, globalization and economics of well-being)," *The Italian Thinktank Draft*. Rome, June 2010. Position Paper.
- [20] A. Alesina, E. Glaeser, and B. Sacerdote, "Work and leisure in the United States and Europe: why so different?," in *NBER Macroeconomics Annual 2005*. Mark Gertler and Kenneth Rogoff, Ed. Cambridge, MA: MIT Press, pp. 1-64.
- [21] E. Diener, M. Seligman, "Beyond money: toward an economy of well-being", *Psychological Science in the Public Interest*, vol. 5, no. 1, July 2004, pp. 1-31.
- [22] Measuring economic performance and social progress: the findings of the Stiglitz-Sen-Fitoussi Commission, *Trésor-Economics*, no. 67, December 2009, pp. 1-9.
- [23] A.K. Sen, *Commodities and Capabilities*. Amsterdam: North Holland, 1985.
- [24] B. S. Frey, A. Stutzer, *Should National Happiness Be Maximized?* Institute for Empirical Research in Economics University of Zurich, 2007. Working Paper No. 306.
- [25] E. Diener, *Guidelines for National Indicators of Subjective Well-Being and Ill-Being*. Mimeo, University of Illinois at Urbana Champaign, 2005.
- [26] D. Kahneman, A. B. Krueger, "Developments in the measurement of subjective well-being," *Journal of Economic Perspectives*, vol. 20, issue 1, pp. 3-24, Winter 2006.
- [27] D. Kahneman, E. Diener, and N. Schwarz (eds), *Well-Being: The Foundations of Hedonic Psychology*. New York, NY: Russell Sage Foundation, 1999.
- [28] J. J. Ehrhardt, W. E. Saris, and R. Veenhoven, "Stability of Life-Satisfaction over Time: Analysis of Change in Ranks in a National Population," *Journal of Happiness Studies*, vol. 1, no. 2, June 2000, pp. 177-205.
- [29] U. Schimmack, S. Oishi, "The influence of chronically and temporarily accessible information on life satisfaction judgments", *Journal of Personality and Social Psychology*, vol. 89, no. 3, September 2005, pp. 395-406.
- [30] J.-M. Fernández-Dols, M.-A. Ruiz-Belda, "Are smiles a sign of happiness? Gold medal winners at the Olympic games", *Journal of*

- Personality and Social Psychology*, vol. 69, no. 6, December 1995, pp. 1113-1119.
- [31] H. S. Lepper, "Use of other-reports to validate subjective well-being measures", *Social Indicators Research*, vol. 44, no. 3, July 1998, pp. 367-379.
- [32] E. Sandvik, E. Diener, and L. Seidlitz, "Subjective well-being: the convergence and stability of self-report and non-self-report measures" *Journal of Personality*, vol. 61, issue 3, September 1993, pp. 317-342.
- [33] P.T. Costa, R.R. McCrae, "Personality in adulthood: a six-year longitudinal study of self-reports and spouse ratings on the neo personality inventory", *Journal of Personality and Social Psychology*, vol. 54, no. 5, May 1988, pp. 853-863.
- [34] R. H. Frank, "The frame of reference as a public good", *Economic Journal*, vol. 107, issue 445, November 1997, pp. 1832-1847.
- [35] B.S. Fre, A. Stutzer, "What can economists learn from happiness research?", *Journal of Economic Literature*, vol. 40, issue 2, June 2002, 402-435.
- [36] F. Heylighen, J. Bernheim, "Measuring Global Progress Through Subjective Well-Being", in *2001 Proc. 3rd Conference of the ISQOLS* (University of Girona Press), pp. 515-528.
- [37] E. Diener, *Guidelines for National Indicators of Subjective Well-Being and Ill-Being*. Mimeo, University of Illinois at Urbana Champaign, 2005.
- [38] D. Kahneman, A. B. Krueger, D. A. Schkade, N. Schwarz, and A. A. Stone, "Toward National Well-Being Accounts", *American Economic Review*, vol. 94, issue 2, May 2004, pp. 429-434.
- [39] R. Di Tella, R. MacCulloch, "Some Uses of Happiness Data in Economics", *Journal of Economic Perspectives*, vol. 20, issue 1, Winter 2006, pp. 25-46.
- [40] R. Di Tella, R. J. MacCulloch, and A. J. Oswald, "Preferences over inflation and unemployment: evidence from surveys of happiness", *American Economic Review*, vol. 91(1), issue 1, March 2001, pp. 335-341.
- [41] R. Di Tella, R. J. MacCulloch, and A. J. Oswald, "The Macroeconomics of Happiness", *Review of Economics and Statistics*, vol. 85, no. 4, November 2003, pp. 809-827.
- [42] C. R. Sunstein, *Willingness to Pay Versus Welfare*. Mimeo, University of Chicago, 2007.
- [43] United Nations, *Human Development Report 2010: The Real Wealth of Nations: Pathways to Human Development*. Palgrave Macmillan, New York, 2010.
- [44] G.W. Scully, *National Center for Policy Analysis Report no. 232*, Dallas: NCPA, 2000.
- [45] OECD Factbook 2010: Economic, Environmental and Social Statistics. Paris: OECD, 2010.
- [46] United Nations, *Human Development Report 2010: The Real Wealth of Nations: Pathways to Human Development*. Palgrave Macmillan, New York, 2010.
- [47] United Nations, *Human Development Report 2010: The Real Wealth of Nations: Pathways to Human Development*. Palgrave Macmillan, New York, 2010.
- [48] S. Abdallah, S. Thompson, J. Michaelson, N. Marks, and N. Steuer, *The (un)Happy Planet Index 2.0. Why good lives don't have to cost the Earth*. London: NEF, 2009.
- [49] R. Di Tella, R. J. MacCulloch, and A. J. Oswald, "The Macroeconomics of Happiness", *Review of Economics and Statistics*, vol. 85, no. 4, November 2003, pp. 809-827.
- [50] *Prosperity Without Growth? The Transition to a Sustainable Economy*. Sustainable Development Commission Report, 2009.
- [51] S. Abdallah, S. Thompson, J. Michaelson, N. Marks, and N. Steuer, *The (un)Happy Planet Index 2.0. Why good lives don't have to cost the Earth*. London: NEF, 2009.
- [52] S. Abdallah, S. Thompson, J. Michaelson, N. Marks, and N. Steuer, *The (un)Happy Planet Index 2.0. Why good lives don't have to cost the Earth*. London: NEF, 2009.
- [53] D. Kaufmann, A. Kraay, and M. Mastruzzi, *The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues*. World Bank Policy Research, 2010.
- [54] S. Abdallah, S. Thompson, J. Michaelson, N. Marks, and N. Steuer, *The (un)Happy Planet Index 2.0. Why good lives don't have to cost the Earth*. London: NEF, 2009.
- [55] S. Abdallah, S. Thompson, J. Michaelson, N. Marks, and N. Steuer, *The (un)Happy Planet Index 2.0. Why good lives don't have to cost the Earth*. London: NEF, 2009.
- [56] D. Kaufmann, A. Kraay, and M. Mastruzzi, *The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues*. World Bank Policy Research, 2010.
- [57] S. Abdallah, S. Thompson, J. Michaelson, N. Marks, and N. Steuer, *The (un)Happy Planet Index 2.0. Why good lives don't have to cost the Earth*. London: NEF, 2009.
- [58] D. Kaufmann, A. Kraay, and M. Mastruzzi, *The Worldwide Governance Indicators: A Summary of Methodology, Data and Analytical Issues*. World Bank Policy Research, 2010.