

## LOOKING BEYOND THE TRADITIONAL CONCEPT OF ECONOMIC GROWTH: ALTERNATIVE MEANINGS AND MEASURES OF NATIONS' ECONOMIC AND SOCIAL PROGRESS

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### **ABSTRACT**

*This paper gives some arguments for the need to redefine economic progress or to shift beyond Gross Domestic Product (GDP) as an indicator of economic growth and development of nations. The novel alternative measures of progress and well-being (e.g. Human Development Index, Legatum Prosperity Index, Genuine Progress Indicator, Measure of Domestic Progress, Green Gross Domestic Product, Index of Sustainable Economic Welfare, Gross National Happiness Index, Happy Planet Index, Environmental Performance Index) are presented and discussed. As opposed to GDP, which emphasizes economic quantity only, such new indicators evaluate what truly matters to people (i.e. the quality of life) and what matters to the planet (i.e. resource depletion). They also promote sustainable development. The study provides some empirical illustrations of the selected measures using international data drawn from the literature and statistical databases (e.g. World Database of Happiness, The new economics foundation's database, the UNDP HDI database, Yale University and Columbia University and Legatum Institute). The paper concludes, among other things, that economists generally agree: the way economic and social progress is measured should evolve over time. However, there is lack of consensus on whether the GDP-based system should be improved upon, replaced by other approaches, or complemented by other indicators. When considering various indexes on economic well-being, numerous methodological and political issues could be addressed.*

Keywords: economic growth and development, nation well-being, happiness economics

### **INTRODUCTION**

*"If policy-makers are to make well-being a central objective they have to have ways of measuring it".*

Lord Richard Layard (cited in Michaelson *et al.*, 2009).

Assessing a country's economic and social progress is an easier said than done task and has attracted a lot of attention in the recent years. For more than a half-century, the most commonly accepted measure of a country's overall performance and economic progress has been its economic growth as measured by changes in real output or Gross Domestic Product – GDP (Costanza *et al.*, 2009).

In this paper, the analysis is focused on the novel alternative measures of progress, wealth and well-being of the nations. The purpose is first, to present those measures, and then to evaluate selected European countries with respect to

each measure for which data are available as well as to assess the correlation between those measures.

The rest of this paper is organized as follows. In the next section, the description of materials and methods is provided. Then, brief summary of insights from the literature focusing particularly on GDP and other indicators is presented. Some alternative measures are defined and their sources are introduced. After that, the results of cross-country empirical analysis (with respect to each individual measure of economic and/or human progress) are presented and discussed. The last section provides some concluding remarks.

## **MATERIALS AND METHODS**

The basic data used here are indicators drawn from the relevant literature and statistical databases such as the World Development Indicators (World Bank), the Human Development Index (United Nations Development Programme – UNDP), National Accounts of Well-being and the Happy Planet Index 2.0 (The new economics foundation) and the Legatum Prosperity Index (Legatum Institute).

The empirical analysis generally focuses on European region and covers 22 countries: Austria, Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine and United Kingdom. National comparisons among that group in relation to association (correlation) between selected indicators at a given time were shown by plotting the pairs of indexes on the same graph. Additionally the Pearson coefficients of correlations were found, which are shown by fitting line in the scatter plots.

## **MEASURES OF ECONOMIC AND HUMAN PROGRESS**

Looking historically at state's goals for achievement, 19th century governments measured their success by their military prowess while 20th century governments by GDP growth.

The problems involved in applying GDP as a measure of well-being and economic welfare as well as the drawbacks of macro-economic policies purported to stimulate economic growth have long been recognized by economists and other social scientists, and resulted in the development and promotion of alternative measures for policy making. Consequently, 21<sup>st</sup> century governments started to measure their success by progress in well-being and human flourishing or happiness (gr. *eudaimonia*)<sup>1</sup>.

### **Critique of the GDP and economic growth paradigm**

If by (economic) growth we mean the expansion of output of goods and services, then economic index we call GDP, or rather real GDP which measures growth in

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<sup>1</sup> The roots of this concept are in ancient Greek philosophy. For Aristotle (384-322 B.C.), *eudaimonia* (happiness, human flourishing) is one of the two purposes of the individual human action of using wealth (i.e. economic action). Another purpose is to use things that are necessary for life (i.e., survival).

terms of monetary units adjusted for inflation, is perfectly satisfactory. GDP has been constructed for this purpose. It was the Nobel Memorial Prize in Economics winner (in 1971) *Simon Kuznets* who firstly proposed original model of national economic accounts presented in his research paper in 1934 (*Kuznets*, 1934) and in a report to the US Congress in 1937. In 1942, annual estimates of US Gross National Product were introduced to complement the estimates of National Income and to facilitate war time planning. *Wassily Leontief* (winner of the 1973 Nobel Prize in Economics) during the mid-1940s acted as a consultant for the US Bureau of Labor Statistics and developed input-output accounts that subsequently became an integral part of the National Income and Product Accounts (NIPA). Not long after the Second World War the use of input-output analysis began to gain an institutional presence throughout the world (*King*, 2011).

According to *Samuelson and Nordhaus* (2005), “While the GDP and the rest of the national income accounts may seem to be arcane concepts, they are truly among the great inventions of the twentieth century”.

Many economists, however, follow Kuznets who cautioned against equating GDP growth with economic or social well-being (*Costanza et al.*, 2009). GDP is a measure of economic activity (performance) and provides us with a general idea of how much an economy produces, not necessarily how well off we are.

According to *Oswald* (1997), “*Economic performance is not intrinsically interesting. No-one is concerned in a genuine sense about the level of gross national product last year or about next year’s exchange rate. People have no innate interest in the money supply, inflation, growth, inequality, unemployment, and the rest (...) Economic things matter only in so far as they make people happier*”.

There are methodological problems with GDP; for instance natural disasters, resource depletion, crime and military conflicts are treated as economically beneficial while non-monetized or unpaid activities (e.g. parent-child interactions, the products of peasant agriculture) are ignored or poorly estimated. GDP seems to fail to measure key aspects of quality of life; moreover it encourages activities that are counter to long-run well-being of the community as a whole.

Economic growth as measured by GDP change is most likely necessary but not sufficient to ensure that all members of society benefit from it, to improve human well-being and reduce poverty for groups marginalized from society, to promote human development, to induce environmental improvement or generally to ensure the prosperity of a nation.

In 1974, Richard Easterlin published a study in which he argued that economic growth did not necessarily lead to more satisfaction (happiness). So-called the *Easterlin Paradox* – key concept in economics of happiness – suggests that average levels of well-being increase up to middle income levels and then rapidly level off. People in less developed countries did become happier once they could afford basic necessities, but beyond that, further gains simply seemed to reset the bar (*Leonhardt*, 2008).

Nevertheless, a question arises as to whether there exists a possibility to find ways to increase welfare and well-being (progress) without automatically increasing the GDP, i.e. without economic growth. In a certain basic sense the distinction between growth and progress is the *difference between “more” and “better”* (*Ayres*, 1996, 118. p).

Often the growth skeptics (e.g. *De Graaf et al.*, 2001; *Easterbrook*, 2003) argue that the developed world, obsessed with economic growth at any cost, is suffering from *affluenza* or luxury fever; that causes damage to our health, our families, our communities, and our environment<sup>2</sup>.

In 2007 the UK Conservative Party's Quality of Life Policy Group noted that "*in wealthy countries, a continuing increase in economic growth is not increasing wellbeing*" and promoted the development of a more reliable indicator of progress than GDP (*Michaelson et al.*, 2009).

Considering welfare, we should take into account not merely final goods and services produced within country or total expenditure but also address the questions of taxes, transfer programs, subsidies, health care reform, regulation, environmental policy, education reforms, social security system, equity, indebtedness etc. (*Ayres*, 1996; *Slesnick*, 1998). Several economists, including myself, would probably agree with a French representative of the physiocratic school – Victor de Riqueti, known as the *Marquis de Mirabeau* who said: "*You who look only for money without taking notice of where it goes or where it comes from, you are the true ministers of chaos*" (quoted in *Kwass*, 2004, 196. p.).

To go beyond GDP framework requires normative judgments concerning the measurability and comparability of welfare across heterogeneous agents as well as an aggregation of welfare micro-level results to social outcomes. Economists have been increasingly willing to apply subjective well-being indicators to address economic and public policy issues that involve non-marketed goods or inconsistent preferences.

### **Alternative measures of well-being, economic welfare and sustainability**

From the review of the literature it appears that *well-being* is a multi-dimensional phenomenon that is much broader than its narrow economic dimension. It includes both non-monetized aspects of economy and important non-economic aspects, such as personal relationships, health conditions as well as governance and environmental issues.

Several researchers and institutes have proposed alternatives that try to adjust or supplement GDP or go far beyond GDP. Distinction between concepts of economic welfare, well-being and sustainability as well as their widely used indicators are shown in *Table 1*.

Yale economists *Nordhaus and Tobin* (1972) invented the *Measure of Economic Welfare* (MEW)<sup>3</sup> as an alternative to GDP in order to better recognize the relationship between economic growth and welfare. The MEW adjusted GDP to include an assessment of the value of leisure time and the amount of unpaid work in an economy (increase in the welfare value of GDP) as well as the value of the environmental degradation caused by consumption and industrial production (reduction in the welfare value of GDP). The MEW is regarded as the precursor of later indicators of sustainable development.

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<sup>2</sup> Word *affluenza* is derived from the word affluence, meaning: (a) an abundant flow or supply - profusion; (b) abundance of property – wealth (Merriam-Webster Dictionary).

<sup>3</sup> Nordhaus and Tobin calculated the MEW for the years from 1929 to 1965 in the USA.

**Table 1**

**The notions and indicators of well-being, economic welfare and sustainability**

<b>Economic welfare</b>	<b>Well-being (human welfare)</b>	<b>Sustainability</b>
Faring well, prosperity (wealth) Economic well being of an individual, group, or economy	Living and faring well Objective: external, e.g. basic needs Subjective: happiness	Continuation at the same pace or capability of lasting indefinitely
Measures capture the contribution of a nation's economy to the overall level of well-being enjoyed by its citizens	Measures aim to comprehensively evaluate either a single person's life situation or the life situation of a group of people	Measures investigate whether the current levels of well-being and economic welfare can be sustained into the future
<b>Indicators</b>		
GDP Net Domestic Product Measure of Economic Welfare ( <i>Nordhaus and Tobin, 1972</i> ) Index of Sustainable Economic Welfare ( <i>Daly and Cobb, 1989</i> ). Genuine Progress Indicator ( <i>Cobb et al., 1995</i> and <i>Redefining Progress</i> ) Measure of Domestic Progress (new economics foundation) Index of Economic Well-being (Centre for the Study of Living Standards)	GDP Fulfillment of Hierarchical Needs Index ( <i>Clarke, 2005</i> ) Human Development Index (UNDP) Happiness/Life Satisfaction (World Happiness Database, Eurobarometer) Happy Planet Index (new economics foundation) National Accounts of Well-being (new economics foundation) Subjective well-being (OECD, the EU) Legatum Prosperity Index (Legatum Institute)	Sustainable Development Indicators (UN Commission for Sustainable Development) Ecological Footprint ( <i>Wackernagel and Rees, 1996</i> ; Global Footprint Network) Environmental Sustainability Index (University of Columbia and University of Yale) Happy Planet Index (new economics foundation) Genuine Savings (World Bank)

Source: Based on *Bleys* (2009), *Lamm* (2003) and other cited literature

One of the most popular alternatives to GDP was the *Index of Sustainable Economic Welfare* (ISEW) developed by *Herman Daly and John Cobb* (1989) in the late 1980s. A refined version of the ISEW is monetary-based economic indicator – *Genuine Progress Indicator* (expressed in USD per capita) that starts with the same personal consumption data as GDP, but it adjusts for factors such as income distribution, adds factors such as the value of household and volunteer work and deducts factors such as the costs of crime and pollution. GPI includes 26 economic, social, and environmental components to give a clearer view of society's well-being.

According to *Sen* (1999), the true measure of human development is that an individual has the capabilities necessary to lead the kind of life he/she values. Well-being is an indicator of how well people are functioning or what capabilities people

have. Those features are considered by the Human Development Index that assesses a nation's achievement in three dimensions of human development: long and healthy life (as measured by life expectancy at birth), knowledge (indicated by literacy rates and school enrolment rates) and decent standard of living (per capita GDP). Only the first two components are adequate proxies for well-being as they address specific societal goals.

Many of objective indicators of well-being (including the Human Development Index) do not measure trust, gender equality, job security, environmental matters, crime, political stability etc. Subjective well-being helps reveal the progress of societies – quality of life. *Diener et al.* (2009) explain how subjective indicators of well-being can offer useful input for policy purposes and suggest that people and policy should more worry about well-being, and are less concerned about economics and income.

*National Accounts of Well-being* of the new economics foundation proposes novel way of assessing societal progress as they capture the multi-dimensional nature of well-being. They look beyond simply life satisfaction; they include also personal and social dimension as well as feelings, functioning and psychological resources. Combined well-being indicator is obtained by bringing together personal well-being and social well-being indicators. Personal well-being is made up of five main components (Emotional well-being, Satisfying life, Vitality, Resilience and self-esteem and Positive functioning), while social well-being is made up of two main components (Supportive relationships and Trust and belonging). Additionally, a satellite indicator of well-being at work (measure of job satisfaction, satisfaction with work-life balance, the emotional experience of work, and assessment of work conditions) is created (*Michaelson et al.*, 2009). The accounts are limited to 22 European countries included in the dataset.

The world's global assessment of wealth and well-being is offered by the *Legatum Prosperity Index* that analyses 110 nations worldwide (*Legatum Institute*, 2010). It consists of eight sub-indexes: Economy, Entrepreneurship and opportunity, Governance, Education, Health, Safety and security, personal freedom, Social capital. Every sub-index provides us with an economic assessment as well as an assessment of subjective wellbeing or happiness of citizens. It actually does not measure if people are happy but what factors make them happier.

Environmental economists maintain that we can attain sustainability within our current economic systems by modifying the principles of neoclassical economics (which states that there is not a limit to growth) through improvements in technology and efficiency to address environmental challenges. However, ecological economists state that any economy dependent on growth is ultimately unsustainable; economies cannot overcome environmental limitations.

The *Ecological Footprint* measures how much land and water area a human population requires to produce the resources it consumes and to absorb its wastes under prevailing technology.

The *Happy Planet Index* (HPI) launched in 2006 by the new economics foundation is an original measure that calculates for the ecological efficiency with which countries deliver happiness and long lives (well-being) for their people. It is calculated by

multiplying indices of life satisfaction (estimated by compiling responses to international surveys, with range 0-10) and life expectancy, and dividing that result by ecological footprint (expressed in global hectares per person), as Equation 1 and Equation 2 show.

$$\left[ HPI = \frac{\text{Life Satisfaction} \times \text{Life Expectancy}}{\text{Ecological Footprint}} \right] \quad (1)$$

Life satisfaction and life expectancy are combined to calculate happy life years:

$$\text{Life Satisfaction} \times \text{Life Expectation} = \text{Happy Life Years} \quad (2)$$

HPI 2.0 has been calculated with data sets for 143 countries, covering 99% of the world's population (*Abdallah et al.*, 2009). For the HPI, countries are scoring well when they achieve high levels of satisfaction and health while impacting environmental resources lightly.

## CROSS-COUNTRY EMPIRICAL EVIDENCE RESULTS AND DISCUSSION

The concern of this section is with the association of selected pairs of welfare and well-being indicators in the group of the European countries.

We try answering the question: Has economic growth improved quality of life or well-being in countries that have been already rich (developed) or more precisely is GDP per capita correlated with other indicators? International comparisons indicate a close correlation between per capita (GDP) income and many indicators of quality of life, but the relationship is often non-linear: increasing income confers large benefits at low income levels, but little if any benefit at high income levels. Moreover, the causal relationship between wealth and quality of life is often surprisingly unclear.

### **Does greater Human Development Index goes with higher GDP per capita?**

The Gross Domestic Product and the UN's Human Development Index are the most widely used metrics of international development. We can expect strong relationship between those measures as the HDI considers GDP.

As shown in *Table 2*, the European countries with the highest scores on the HDI in 2009 were Norway, Ireland and the Netherlands, while the highest per capita GDP (adjusted for Purchasing Power Parity - PPP) was again in Norway but followed by Luxembourg and Switzerland. In the sub-group of less affluent countries (Ukraine, Bulgaria, Romania, Latvia and Lithuania), the places occupied by them in the rank order were the same for the two indicators. Finland and France had very similar levels of GDP per capita and had the same score on the HDI.

As *Figure 1* demonstrates, comparisons of per capita GDP and HDI have shown that beyond a certain GDP level, the HDI does not increase significantly with additional income (see Luxembourg), however for a set of 30 countries, strong positive Pearson correlation between those measures ( $r=0.74$ ) was obtained

### **Does greater overall well-being go with higher GDP per capita and higher HDI?**

*Figure 2* shows association between the overall (personal and social) well-being scores and GDP per capita for the group of 22 European countries in 2007.

Table 2

HDI and GDP scores and rank for selected European countries in 2009

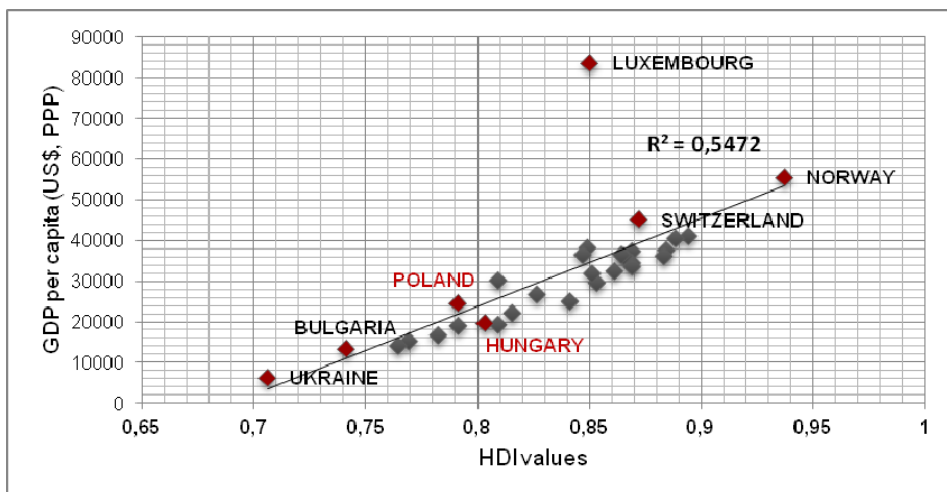
Countries	HDI		GDP per capita		Countries	HDI		GDP per capita	
	value	rank	US\$ PPP	rank		value	rank	US\$ PPP	rank
Norway	0.937	1	55672	2	Austria	0.849	16	38363	6
Ireland	0.894	2	41278	4	United Kingdom	0.847	17	36496	10
Netherlands	0.888	3	40715	5	Czech	0.841	18	25232	20
Sweden	0.884	4	37905	7	Slovenia	0.826	19	27004	19
Germany	0.883	5	36267	11	Slovakia	0.815	20	22356	22
Switzerland	0.872	6	45117	3	Cyprus	0.809	21	30223	17
Iceland	0.869	9	37595	8	Estonia	0.809	22	19451	24
Finland	0.869	7	34720	13	Hungary	0.803	23	19764	23
France	0.869	8	33655	14	Portugal	0.791	25	24569	21
Belgium	0.865	10	36249	12	Poland	0.791	24	19059	25
Denmark	0.864	11	36762	9	Lithuania	0.782	26	16747	26
Spain	0.861	12	32545	15	Latvia	0.769	27	15413	27
Greece	0.853	13	29663	18	Romania	0.764	28	14199	28
Italy	0.851	14	31909	16	Bulgaria	0.741	29	13333	29
Luxembourg	0.85	15	83759	1	Ukraine	0.706	30	6318	30

HDI – scores from 0 to 1.

Source: Based on World Development Indicators (World Bank) and the International Human Development Indicators (United Nations Development Programme).

Figure 1

Scatter plot of GDP per capita vs. HDI by country, 2009

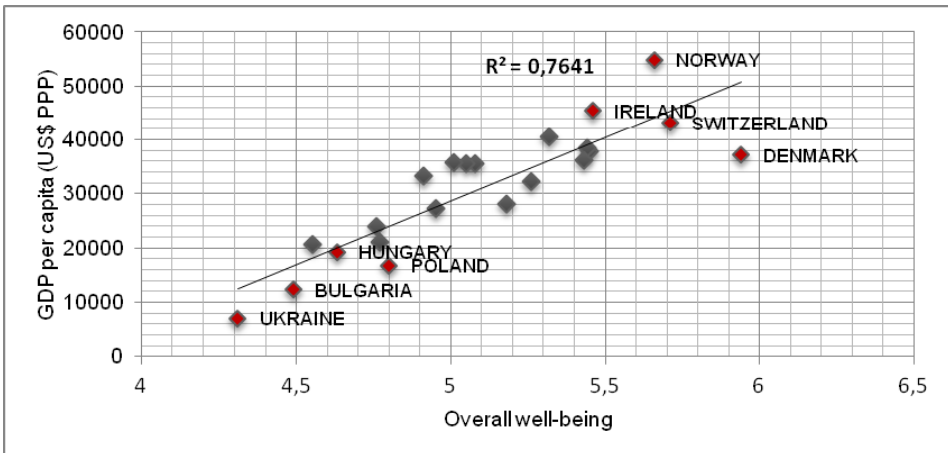


Source: As in Table 2.



Figure 2

Scatter plot of GDP per capita vs. overall well-being by country, 2007

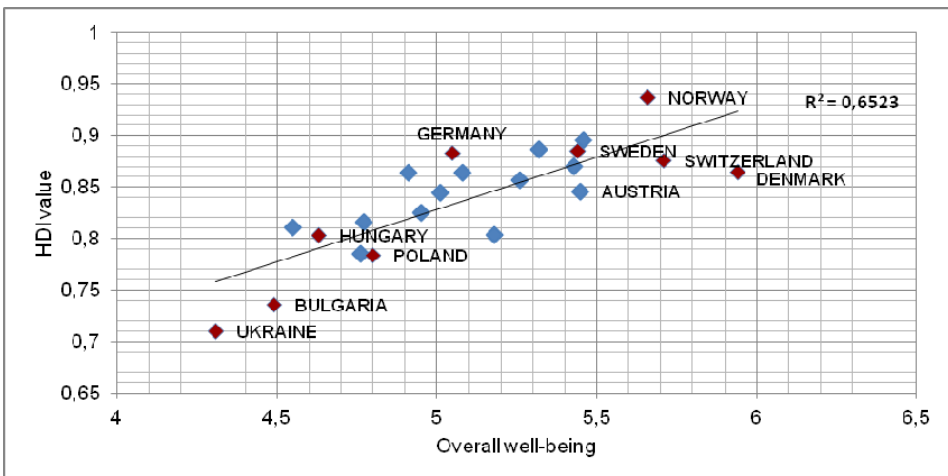


Well-being scale from 0 to 10 with a score of 5 always representing the average score across the 22 European countries included.

Source: Based on National Accounts of Well-being (NEF) and World Development Indicators (World Bank)

Figure 3

Scatter plot of HDI values vs. overall well-being by country, 2007



See Figure 2.

Source: Based on National Accounts of Well-being (NEF) and the International Human Development Indicators (United Nations Development Programme).

Denmark, Switzerland and Norway made up the states with the highest overall well-being scores, while Ukraine, Bulgaria and Slovakia scored lowest. Poland and Hungary ranked 16<sup>th</sup> and 19<sup>th</sup> place respectively with scores below an average for 22 countries. Within countries there is a noticeable positive correlation ( $r=0.87$ ) between per capita GDP and overall well-being scores. Similarly, higher well-being was accompanied by greater HDI values with Pearson correlation  $r = 0.81$  (Figure 3).

### Does greater Happy Planet Index go with higher GDP per capita and higher HDI?

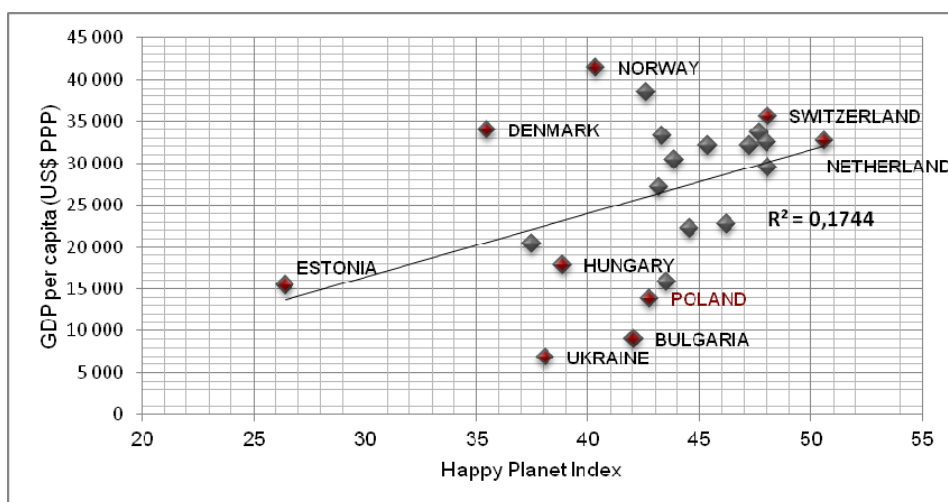
Several European countries that are meant to represent successful development (for example Denmark and Norway) are some of the worst-performing in terms of sustainable well-being as measured by the HPI (mainly due to high ecological footprint). The Netherlands, Germany and Switzerland appeared in the top three of the HPI table for the group of 22 countries. The bottom three 2007 HPI scores were suffered by Estonia, Denmark (due to high ecological footprint) and Portugal (relatively low scores for life satisfaction). Poland was ranked at 14<sup>th</sup> place and Hungary at 18<sup>th</sup> place.

Western European countries, except for Portugal, were the top of the life satisfaction ratings with Ireland, Norway and Denmark having received the highest scores. The lowest levels of life satisfaction were recorded in Ukraine, Bulgaria and Estonia.

Figure 4 that portrays the levels of per capita GDP and Happy Planet Index values for 2007 communicates the poor correlation ( $r=0.42$ ) between those measures.

Figure 4

#### Scatter plot of GDP per capita vs. Happy Planet Index by country, 2007



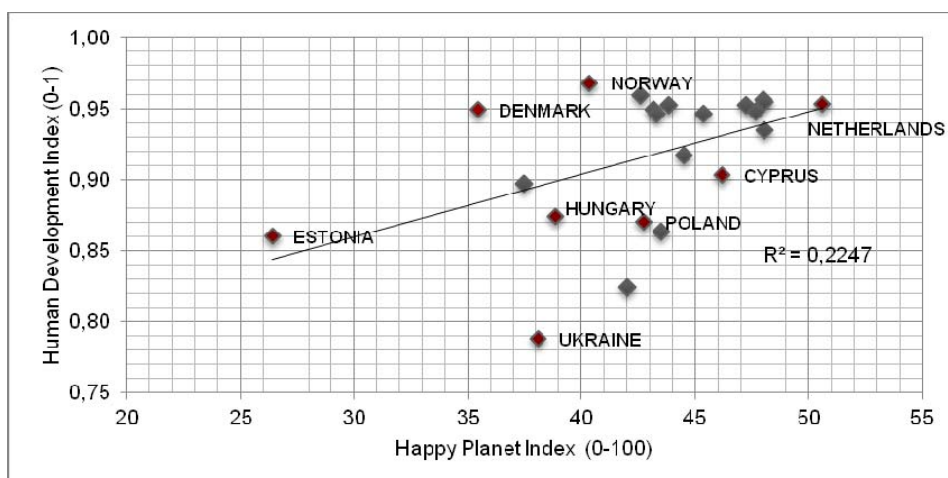
HPI – scores range from 0 to 100 with high scores only achievable by meeting all three targets (high life expectancy, high life satisfaction, and a low ecological footprint).

Source: Based on The Happy Planet Index 2.0 (NEF) and the World Development Indicators (World Bank)

Similarly, weak positive correlation ( $r=0.47$ ) was between HDI and HPI (Figure 5). Switzerland and Sweden had very similar levels of HPI and had the same score on the HDI. Analogous situation was for Austria and Finland.

Figure 5

Scatter plot of Human Development Index vs. Happy Planet Index by country, 2007



Source: Based on The Happy Planet Index 2.0 (NEF) and the International Human Development Indicators (United Nations Development Programme).

### Which countries enjoy more overall prosperity?

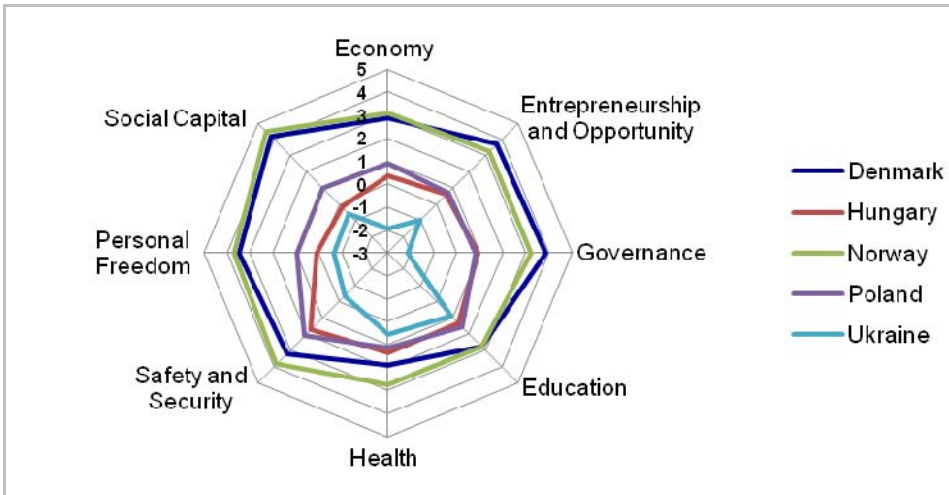
The results for 2010 Legatum Prosperity Index (*Legatum Institute*, 2010) suggest that most prosperous European countries (Norway, Denmark, Finland, Sweden, Switzerland) are very well-balanced countries since they were within World's top 10 countries by both well-being and income measures. By promoting economic prosperity, they promote well-being (life satisfaction, happiness) and vice versa. The best-performing countries also profit from democratic political systems, honest and efficient governance as well as enterprising citizens.

The four so-called PIGS (Portugal, Italy, Greece and Spain) scored lower in prosperity than the remaining Western European nations and some Eastern European nations (Slovenia was placed higher than all of the PIGS while the Czech Republic was ranked higher than Italy and Portugal). In general, however, Western Europe still performs better than Eastern Europe.

As Figure 6 shows, Eastern European countries (e.g. Hungary, Poland and Ukraine) had weaker governance and social capital but earned relatively good scores on health, education and safety, suggesting that these areas might represent their most important assets.

Figure 6

The Legatum Prosperity Sub-Indexes by country, 2010



Score = 0 indicates global average performance.

Source: Based on the Legatum Institute data.

### CONCLUSIONS

The paper questions the idea that economic growth and development as measured by GDP is always synonymous with improved well-being.

However, our results obtained for the European countries suggest that the richest nations are generally (with some exceptions) very well-balanced; their higher GDP per capita goes with higher well-being scores. Similarly, less prosperous states, like Ukraine and Bulgaria, earned the lowest scores of well-being but they perform relatively strongly with regard to ecological sustainability.

For the selected group of countries, the strongest positive Pearson correlation was found between GDP per capita and overall well-being index, while a weak association was between GDP per capita and Happy Planet Index values, the latter suggesting that countries' national incomes and years of happy life adjusted for ecological footprint are not linear.

Nations, therefore, should start measuring what they truly value (e.g. sustainability) as improving how we measure well-being is important for gauging economic performance, social progress and sustainability as well as for policy-making in those areas.

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