

New directions in the measurement of social progress

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The assessment of the measure of social progress (development, well-being) and its changes has been on the agenda of science (and politics) for many decades. Despite numerous initiatives, proposals and tentatives, the concepts themselves have not been clarified yet. At the same time, the demand to measure progress is stronger than ever before.

In the past decades GDP and its value measured at purchasing power parity have played the role of the principal indicator of development. Today, as a consequence of the growing importance of environmental considerations and the sharpening of social inequalities, it has become clear for science and politics that the multidimensional notion of social progress must be examined and managed in a complex way, and its measurement requires also new initiatives.

The current initiatives aimed to measure social progress develop in four directions:

- *The „correction” of GDP calculations with environmental aspects*
- *Establishment of indicator sets*
- *Development of composite indicators*
- *Measurement of well-being (happiness) with subjective indicators*

In 2007, the OECD launched an international project to measure the progress of societies. The Hungarian Central Statistical Office has also joined the project. In September of this year, the European Commission issued a Communication on the tasks of measuring social progress. A Commission comprising prominent Nobel Prize laureates and renowned experts was set up to clarify the notion of progress and elaborate proposals for its measurement. In October, a world conference will deal with the subject.

The lecture gives an overview of the initiatives aimed at measuring social progress. It presents statistical methodological issues, dilemmas and expected tasks related to the creation and development of the measurement.

Social progress- is a concept that in the different periods and different nations covers changing content. The several experts, explaining this subject do not reach a consensus concerning the notion of social progress. Most of them are agreed that social progress does not refer only to material well-being. The general opinion is that it would be good to have an exact picture on the degree of development of our country compared to other countries, and on the progress reached in the past period. Today, statistics are not able to give a totally adequate answer to these questions of common interest.

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In autumn of this year, a new, promising chapter was opened in the history of the measurement of social progress. Last September, it was in the ceremonial hall of the Sorbonne that the president of the French Republic presented in the presence of five hundred prominent guests the report of the Commission chaired by the Nobel Prize economist Joseph Stiglitz (Stiglitz 2009) on the measurement of economic performance and social progress.

The European Commission signaled also its clear commitment to measure social progress and issued a Communication on the subject (Commission of the European Communities 2009). The paper sets: The aim is to provide indicators that do what people really want them to do, namely measure progress in delivering social, economic and environmental goals in a sustainable manner.

The newest initiatives aimed at measuring social progress are led since 2007 by the OECD. The Global Project (Measuring the Progress of the Society) established by the OECD gives a framework to international initiatives; it advocates the necessity of new ways to measure social progress and organizes the works aimed at methodological development. The OECD has already organized three world forums dealing with the measurement of the progress of societies.

In the following part of my lecture, I would like to present the background of these initiatives.

For more than a half century, the most widely accepted measure of a country's progress has been the GDP. The system of national accounts, the creation of the GDP are linked to the name of Simon Kuznetz, American Nobel Prize winning economist. The use of GDP globally as a measure of economic progress began after the Second World War. In that time the growth of the economy was seen as the improvement of economic well-being. The system of national accounts and its headline indicator, the GDP fit perfectly into this concept.

Later, the indicator taking into account the purchasing power parity of GDP was also created for the sake of international comparison. The indicators which adjust the GDP for the relations with the rest of the world, the gross national income and gross disposable income became also widespread.

Since the introduction of the GDP, many economists have warned: that the GDP was a specialized tool. Gross domestic product is, by definition an aggregate measure of production. The notion of economic well being is a broader concept.

The most widespread criticism (Constanza 2009) against GDP is for example that the reconstruction after a natural catastrophe induces the increase of production and consequently of the GDP. Another popular example is that traffic jams may increase GDP as a result of the increased use of gasoline, but increase also air pollution and deteriorate our quality of life.

The GDP mainly measures market production, though it has often been treated as if it was a measure of economic well-being.

Material living standards are more closely associated with measures of real income and consumption. Production can expand while income decreases or vice versa. Because –for example- of income flows into and out of a country.

In the next part I will give a quick overview of the main tools that have been proposed to better measure socio-economic well-being.

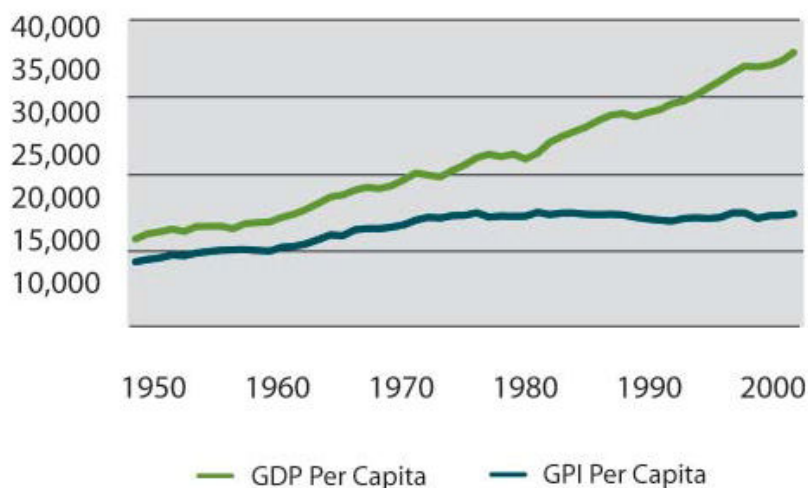
The first group of indicators corrects the existing GDP.

In the nineties there have been several attempts to develop alternative national income accountings to eliminate the deficiencies of the GDP accounting. The major objectives of these so-called „green GDP-s” are to provide a more accurate measure of welfare and to assess whether the development of an economy is sustainable or not.

The computation of these indices begins with the estimation of consumption expenditures, weighted by inequality in the distribution of income. Accounts for the non market benefits are added (socially productive time). Deductions are made to account the defensive expenditures (pollution) and costs associated with the use of natural capital.

These indices imply a decreasing proportion of economic benefits registered by the growth of the GDP, because such benefits are increasingly offset by the costs associated with growing inequality and deteriorating social and environmental condition.

Table 1. Real GDP and GPI Per Capita 1950-2004 in \$ 2000



Source: Talberth, J. et al.(2007)

The most well-known among these indices is the Genuine Progress Indicator. On the figure, the clearer green line is the GDP, and the darker shows the values of GPI concerning the United States. It shows the significant differences of the two indices. The trend found in many of the GPI calculations completed over the past years has put forward the evidence of a „threshold effect”.

For every society there seems to be a period in which economic growth brings about an improvement in the quality of life, but only up to a point. This point is the threshold point. Beyond this point, if there is more economic growth, quality of life remains unchanging, or may begin to deteriorate.

The most important critic to these alternative indices is that they are arbitrary in the choice of the variables. Many methodological questions are open: the valuation of non renewable resources, the cost of environmental damages.

The other approach to measure social progress is to build a composite index. Composite indices can be integrated measure of complex issues, they are easy to interpret, but they can be misinterpreted, because of arbitrary weighting of their components

The Human Development Index, published by UNDP is the archetype of such composite indicator. The human development index is a summary composite index that measures a country's average achievements in three basic aspects of human development: health, knowledge, and standard of living

The Human Development Index combines indicators of life expectancy, educational attainment and income. The HDI sets a minimum and a maximum for each dimension, called goalposts, and then shows where each country stands in relation to these goalposts, expressed as a value between 0 and 1.

The next figures are examples to compare GDP and HDI value per capita.

Table 2. Human Development Reports- United Nations Development Programme

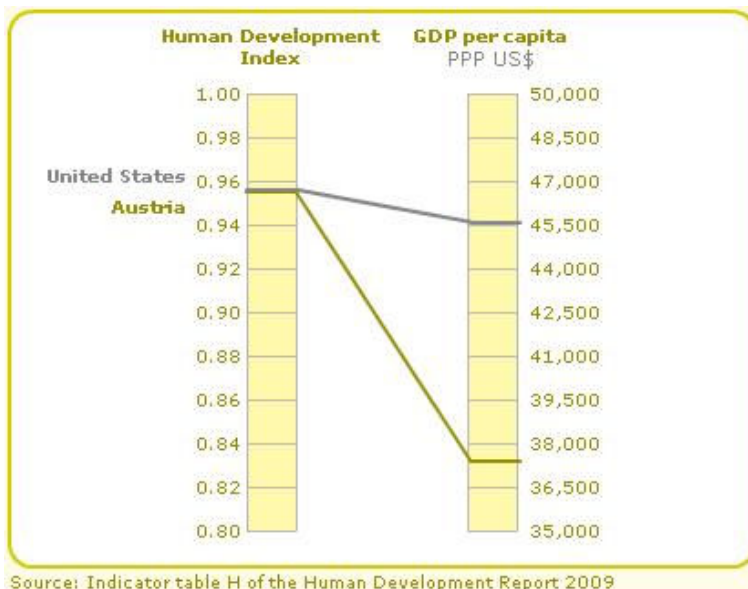
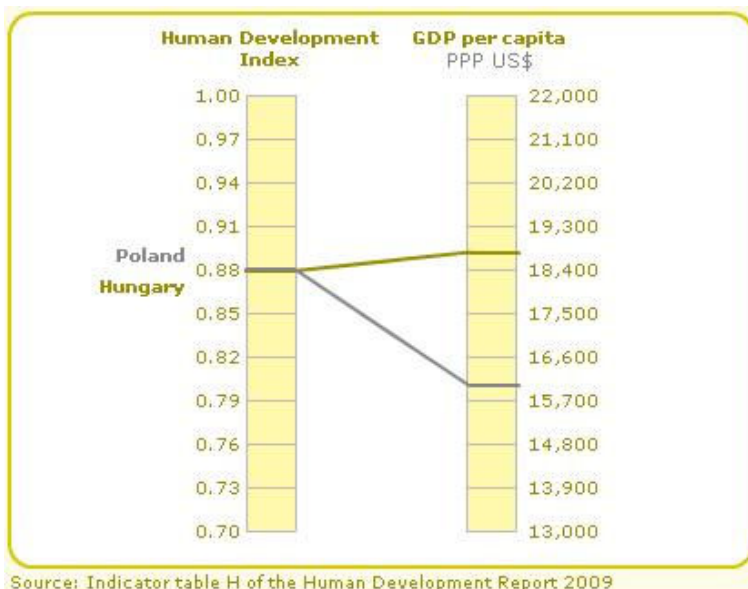


Table 3. Human Development Reports- United Nations Development Programme



We can see that in the case of the United States the value of the two indices of development is at the same level, while in the case of Japan, the value of the HDI is considerably higher than the level of development measured by the GDP.

In the case of Hungary, the level of development measured on the basis of the GDP is slightly higher than the value of the HDI.

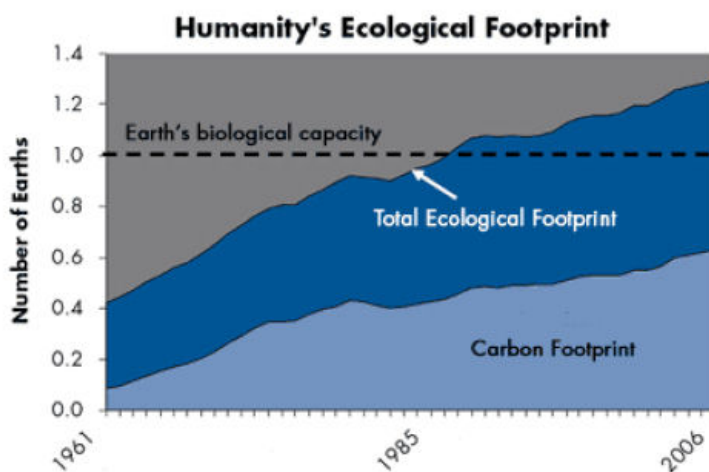
The danger of the climate change has highlighted the environmental aspects of development. The approach analyzing the sustainability of development only from the point of view of environmental sustainability has become popular. The ecological footprint index reflects this approach.

The ecological footprint is a measure of human demand on the Earth's ecosystem. While the term ecological footprint is widely used, methods of measurement differ. For 2005, humanity's total ecological footprint was estimated at 1.3 planet Earths – in other words, humanity uses ecological services 1.3 times as fast as Earth can renew them.

Another calculation: the total world Ecological Footprint is 2.7 hectare per person, while the world average biocapacity is 2.1 per person. This leads to an ecological deficit of 0,6 hectares per person. The countries which don't have an ecological deficit are called ecological creditor countries. They are first of all the underdeveloped countries: Congo, Gabon, and Mongolia. The countries with the greatest deficit, the ecological debtor countries are: Japan, Kuwait, United Arab Emirates, the USA. The data for Hungary is about the world average.

For practical reason, it is easier to measure the carbon footprint. Carbon dioxide emission is well measurable.

Table 4. Ecological Footprint, carbon component and earth's biocapacity



Source: Constanza et al. (2009)

The figure shows that environmental pressure deriving from economic growth exceeded already at the end of the past century the capacity of the environment. The biosphere does not have sufficient capacity to supply the needs of economic growth.

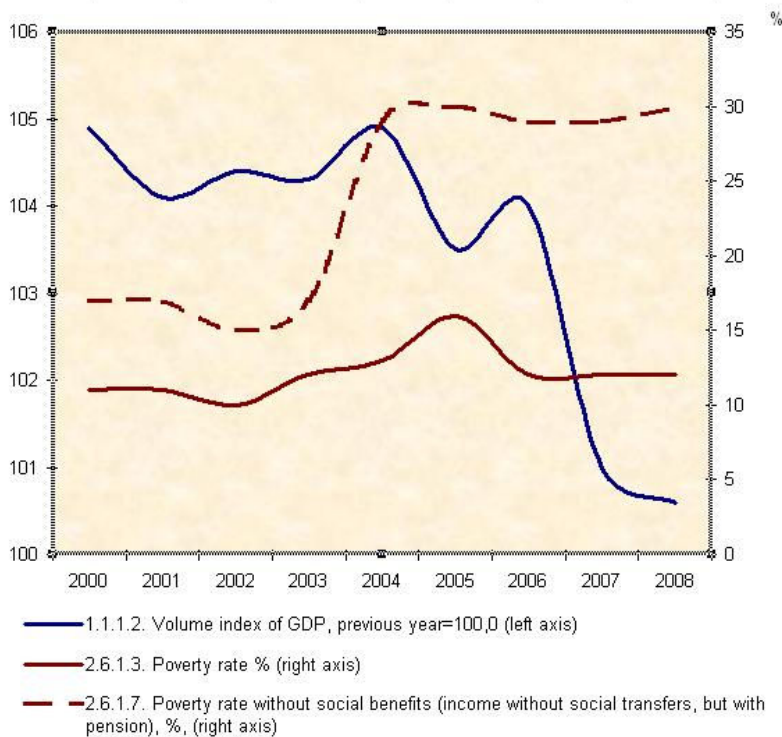
The use of indicators sets is a very widespread way of measuring progress. The indicator set collects the indicators characterizing the key aspects of progress. The users can evaluate and choose themselves the indicators they consider relevant. A lot of very good usable indicator sets are available. For international comparison, the most popular is the sustainable development indicator set of the European Union. As part of the OECD Global project, several indicator sets are available, which have been established in several countries to measure the progress of society. The Australian and Irish Statistical Offices have been publishing for several years their indicator sets, that politics consider also as a reliable assessment of the situation of the country.

The Hungarian Central Statistical Office published on its website at the beginning of 2009 its own developed indicator system. The selection of the indicators had been preceded by broad scientific consultation.

The indicator system has a hierarchical structure. The factors of social progress are split into three modules: indicators describing changes in the economy, society and the state of the environment. Within the three modules, we determined the most important factors of development to which we have assigned headline indicators.

Altogether 23 headline indicators were established. Headline indicators rely on secondary indicators, which explain and describe the developments of headline indicators. Detailed meta-descriptions have been enclosed to each indicator, describing the exact definition and sources of the data.

Table 5. Indicators to measure progress in Hungary



Source: www.ksh.hu

Note: The figure shows an example of the Hungarian indicator system. The blue line presents the evolution of the GDP, the red line shows the poverty rate. We can see that the evolution of the poverty rate does not move together with the GDP. The dotted line shows also that without taking into account social benefits, poverty rate follows the decrease of the GDP.

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An important advantage of indicator sets is that they highlight the complexity of developments and the opposite moving of the different processes. The limits of the dashboard of indicators is that there is no consensus about what are the main elements of good life, the selection of the indicators included in the set is ad hoc. There is no method to weight the different indicators, or the method is subjective, depends on individual value judgment.

Which are the factors that after the decades of several attempts have speeded up today the need of measuring social progress?

First of all there is the well-known fact that the increase of production results in the un-sustainable increase of environmental pressure. It is necessary to measure the use of non renewable natural resources. The decrease of environmental pressure can be considered as a key question from the point of view of sustainable development.

The other current factor is the recognition, that the rapid growth of developed economies of the second half of the past century seems to come to an end. In the past years, the quickest growth was characteristic of a group of less developing countries, let's think about China. Politicians in the developed countries obviously ask themselves the question: Is the speeding up of economic growth *the* only way to increase the well-being of society?

Moreover, several researches have shown that in the developed countries, well-being perceived by the population does not increase parallel with economic growth. According to calculations done with long time series, there is a turning point in the change of social well-being: Above a certain level of satisfaction of the needs, it becomes difficult to further increase the perception of well-being. Social well-being cannot any more increase in the same rhythm as measurable economic growth. In some cases, the relationship is opposite: rapid economic growth lowers community cohesion and the sense of setting goals. Growing income goes together with rising rates of alcoholism, depression, divorce, etc. The attempts to measure happiness show clearly that the feeling of happiness of people changes very slowly even in the conditions of rapid economic growth. This finding is named the Easterlin paradox (Easterlin 1974).

Easterlin pointed out that in spite of a 30 % increase of the GDP per head in the United States, the share of individuals who declare to be very happy did not increase in the eighties.

Last, but not least, there is a factor that is in close connection with statistics. It can be observed that while assessing their situation people tend to neglect statistical indices, and neglect those phenomena which are measured by statistics.

I would also like to use the example frequently cited by Enrico Giovannini, head of the OECD Global Project: When we think about the future of our children, we hope that they will be healthy and will have a happy, peaceful, secure existence and family life. This is not the increase of the GDP that we wish, when we think about the future.

People don't know what to do with the great aggregates of macrostatistical indices. For individuals, there is no link between macro-aggregates and micro perception. Politics cannot successfully refer to the data provided by statistics. In many developed countries there is mistrust in official statistics.

The Stiglitz Commission mentioned in the introduction of my lecture has issued 12 recommendations concerning the development of the measurement of

social progress. In the following part of my lecture I would like to summarize briefly these proposals.

The first task is to overcome the shortcomings in the method of GDP calculations. In the evaluation of material well-being, income and consumption are more important than production. The available national accounts data show that in a number of OECD countries real household income has grown quite differently from the real GDP per capita, and typically at a lower rate. Measures of wealth are also central to measuring sustainability. A household that spends its wealth on consumption goods increases its current well-being but at the expense of its future well-being.

There is a need to give more prominence to the distribution of income, consumption and wealth. A rise in average income could be unequally shared across groups, leaving some households relatively worse-off than others.

Median consumption provides a better measure of what is happening to the „typical” individual or household than average consumption (income or wealth).

There is a need to broaden the measures of non-market activities.

Focusing on non-market activities, the question of leisure arises. Consuming the same bundle of goods and services but working for 1500 hours a year instead of 2000 hours a year implies an increase in one’s standard of living.

Objective and subjective dimensions of well being are both important. Research has shown that it is possible to collect meaningful and reliable data on subjective as well as objective well-being. Despite the persistence of many unresolved issues, these subjective measures provide important information about quality of life. Those types of questions that have proved their value within small-scale and unofficial surveys should be included in larger-scale surveys undertaken by official statistical offices.

There is a need of a pragmatic approach towards measuring sustainability. An important notice of the Stiglitz Commission is that confusion may arise when one tries to combine current well-being and sustainability into a single indicator.

The environmental aspects of sustainability deserve a separate follow-up based on a well-chosen set of physical indicators. These separate sets of physical indicators will be needed to monitor the state of the environment.

It seems that the factors previously mentioned, urging the renewal of the measurement of social progress have led to a consensus between science and politics.

Are science and statistics prepared to find in a short time solutions to satisfy political needs? The answer cannot be a definite yes.

Critics of the new measures of social progress argue that data and methodological issues are barriers to the new solutions.

Having a long history, the SNA calculation developed an infrastructure and know-how which ensure a good quality of the GDP. The new indicator, if based on the GDP and SNA data, will lead to accurate measure. When the measure is based

on environmental or social data, the indicator may be less accurate. There will always be differences in data quality between indicators. That is, what made difficult to analyze the several aspects together.

But the main problem comes from the different scope and scale of the statistics characterizing social progress. Some data are collected at the level of individuals, others at the level of businesses, others at national level. It is also obvious that there is no solution to convert all the determinants of societal progress into one monetary equivalent.

Data availability varies in different statistical domains. The GDP figures are published quarterly. But, for example, the statistics about the income distribution are published worldwide with two years delay.

Last but not least the creation of new indicators must be preceded by the choice of the main values and goals of the society. The determination of the values and goals which the societies would like to pursue is not of the competence of statistics but is a political issue.

It seems that political determination has strengthened at international level. The recommendations of the Stiglitz Commission and the framework to measure the progress of societies worked out by the OECD this autumn could provide good starting point for the next phase of the work.

The creation of the new method of the measurement of social progress supported by international consensus can only begin. There have been a multitude of attempts in this respect. Today there are only some elements on which a new system can be built.

Obviously the GDP alone does not measure progress in relation to sustainability and well-being. Progress has to be measured in its complexity. But we must recognize that there are elements of subjectivity in evaluating progress. There is a need of a global dialogue for defining global goals and the unified approach is difficult to be found.

The chance of reaching international consensus is demonstrated by the process leading to the creation of the Millennium Development Goals by the United Nations.

It is quite clear that all indicators are proxies and limited in scope. It is sure that none can measure all significant aspects of progress. The several scopes and scales of determinants require the plurality of indicators. The indicator sets, like a dashboard, give information about the state of the important dimensions of society. So, the statistical offices should provide the information needed to measure all dimensions of progress, allowing the construction of different indexes and aggregates. We can also be sure that better indicators can be made and data quality can be improved.

We can read in the report of the Stiglitz Commission: „What we measure affects what we do, and if our measurements are flawed, decisions may be distorted”. I am sure that we are before a paradigm shift. The sole objective of economic growth will be replaced by the complex goal of social progress. Political

debates concerning the components of social progress will continue. But the demands towards statistics will not become simpler. We have to prepare for the measurement of social-economic processes with an even broader scope, in an even better quality and timeliness.

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