

An Index for Measuring Wellbeing: GDP and Beyond

E.M. Landowski

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Introduction: Measurement in GDP

Gross domestic product (GDP) is the most widely used measure of economic activity. Although GDP mainly measures market production, it has often been treated as if it were a measure of economic wellbeing. Conflating the two can lead to misleading indications about how well-off people are and entail the wrong policy decisions. GDP captures all final goods in the economy and does not show whether they are consumed by households, firms or the government. One reason why money measures of economic performance and living standards have come to play such an important role in our societies is that the monetary valuation of goods and services makes it easy to add up quantities of a very different nature (Stiglitz, Sen & Fitoussi: 2009).

In reality, however, things are more complicated. First, prices may not exist for some goods and services. This raises the question of how these services should be valued. Second, even where there are market prices, they may deviate from society's underlying valuation. In particular, when the consumption or production of particular products affects society as a whole, the price that individuals pay for those products will differ from their value to society at large (Stiglitz, Sen & Fitoussi: 2009). Emphasizing the required shift from measuring economic production to measuring people's wellbeing, a renewed framework for measuring a country's performance is needed. This paper proposes an alternative framework for measurement.

GDP and Beyond: Adjusted GDP

At the beginning of 2008, the Commission on the Measurement of Economic Performance and Social Progress has been created on the French government's initiative. Reflecting the issues related to the current measures of economic performance, President Sarkozy has decided to create this Commission to look at the entire range of alternative possibilities. Its aim was to identify the limits of GDP as an indicator of economic performance and social progress, to consider additional information required for the production of a more relevant picture, to discuss how to present this information in the most appropriate way, and to check the feasibility of measurement tools proposed by the Commission (Stiglitz, Sen & Fitoussi: 2009).

This report suggests five ways of dealing with some of the deficiencies of GDP as an indicator. A first step is to emphasize well-established indicators other than GDP in the national accounts. Second, to improve the empirical measurement of key production activities, in particular the provision of health and education services. Third, to bring out the household perspective, which is most pertinent for considerations of living standards. Fourth, to add information about the distribution of income, consumption and wealth to data on the average evolution of these elements. Finally, to widen the scope of what is being measured. In particular, a significant part of economic activity takes place outside markets and is often not reflected in established national accounts. However, when there are no markets, there are no market prices, and valuing such activities requires estimates or imputations (Stiglitz, Sen & Fitoussi: 2009).

In addition, the report presents an extensive list of recommendations. In sum, it is recognized that wellbeing is a highly complex multidimensional concept and that both objective and subjective indicators within various quality of life domains for each person provide important information about people's wellbeing (Stiglitz, Sen & Fitoussi: 2009). This information should be used when designing sustainable policies in various fields.

Existing Wellbeing Indexes

A number of alternative measures for assessing wellbeing beyond GDP exist in the form of composite indexes. The three major indexes are briefly discussed below. Outlines of these indexes can be found in Appendix A, B and C.

1. The OECD Your Better Life Index

As a part of the larger Better Life Initiative that aims to measure wellbeing and progress, the OECD launched a new interactive measurement tool in May 2011. This Your Better Life Index (BLI) is a first attempt to bring together internationally comparable measures of wellbeing in line with the recommendations of Stiglitz-Sen-Fitoussi Commission. The main goal is to address concerns that standard macroeconomic statistics like GDP failed to give a true account of people's current and future wellbeing.

The OECD does not decide what makes for better life itself. The BLI is an interactive tool that allows people to compare countries' performances according to what the citizens themselves believe what makes a better life.

The BLI is based on 11 topics reflecting what the OECD has identified as essential to wellbeing: housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety and work-life balance. Each of these topics is currently based on one to five indicators which are averaged with equal weights. The BLI currently profiles the 34 OECD member states plus the OECD's key partners Brazil and Russia. In the nearby future, the BLI will expand to include the OECD's four other key partner countries China, India, Indonesia and South Africa (OECD, 2011).

Although the BLI is highly informative as part of the OECD's ongoing effort to devise new measures for assessing wellbeing that go beyond GDP, some limitations can be identified. Foremost, its results are not fully internationally comparable across countries as solely OECD countries are included. In addition, as is impossible to collect all the relevant information on the basis of available official data, the BLI makes use of data from non-official sources such as the Gallup World Poll (Bjornskov: 2010). Moreover, the BLI does not show inequalities in a society. Future editions can add new indicators and dimensions to take inequalities into account by focusing on wellbeing achievements of specific groups of the population.

2. The Legatum Institute Prosperity Index

The Prosperity Index (PI) is the signature annual publication of the Legatum Institute. The Legatum Institute is a privately funded independent non-partisan public policy organization whose research, publications, and programs advance ideas and policies in support of free and prosperous societies around the world. The PI provides the world's only global assessment of prosperity based on both income and wellbeing. Its purpose is to promote a holistic understanding of national prosperity by providing a framework for its measurement.

PI aims to answer two fundamental questions: what is prosperity and how is it achieved? According to the PI, prosperity is not only about a nation's income but recognizes the importance of the quality of life as well. The PI shows that most prosperous nations worldwide are not necessarily those that have a high GDP. In fact, the most successful nations are those that also have happy, healthy, satisfied and free citizens. In fact, these countries are characterized by a variety of fundamental and mutually reinforcing elements related to personal wellbeing, happiness, social mobility

and other indicators to the exclusion of wealth. Therefore, prosperity is defined as the complex blend between both wealth and wellbeing.

The PI is based on 89 different variables of which each has a demonstrated effect on economic growth or personal wellbeing. These variables are grouped into eight sub-indexes representing eight fundamental aspects of prosperity: economy, entrepreneurship and opportunity, governance, education, health, security and safety, personal freedom and social capital. The sub-indexes are averaged using equal weights. The Index analyses 110 nations covering more than 90% of the world's population (Legatum Institute, 2011).

3. The Bhutan Gross National Happiness Index

While the perception of happiness and wellbeing as the fundamental purpose of development has always been the guiding philosophy of Bhutan's development process, the term Gross National Happiness (GNH) was first introduced by Majesty the Fourth King of Bhutan, Jigme Singye Wangchuck, in the early 1970s. The concept implies that sustainable development should take a holistic approach towards notions of progress and give equal importance to non-economic aspects of wellbeing.

The GNH Index is based on the belief that happiness is the ultimate desire of every individual. More specifically, the state is directly responsible for creating collective happiness. This goal can be reached through public policies in which happiness becomes the central focus. To this end, the state must provide the necessary conditions that enable citizens to lead the good life. This perspective is based on the notion that happiness pursued and realized within the context of the greater good of society offers the best possibility for sustained happiness of the individual and the collective.

The GNH Index is a single number index developed from 33 indicators. The objective indicators are given higher weights while the subjective and self-reported indicators are assigned lower weights. The concept of GNH is based on its four pillars: good governance, sustainable socio-economic development, cultural preservation, and environmental conservation. More recently, these pillars have been further classified into nine domains: psychological wellbeing, health, education, time use, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and living standards. The domains are equally weighted. The GNH Index is constructed based upon a robust multidimensional methodology known as the Alkire-Foster method. The term 'wellbeing' here refers to fulfilling conditions of a 'good life' (Centre for Bhutan Studies, 2011).

Critics fear that governments misuse the index by defining it in a way that suits their interests since the GND depends on a series of subjective judgments about wellbeing. Also, international comparison of wellbeing will be problematic, since there is not and is not likely ever to be a common scale as absolute and calculable as GDP.

Other

Other highly useful and relevant indexes include Oxfam's Human Kind Index, Social Watch's Basic Capabilities Index, World Bank Development Indicators, United Nations Social Indicators, etc.

The Proposal: An Index for Measuring Wellbeing

This paper presents a proposal for a new comprehensive composite index for measuring a country's development in terms of wellbeing. This index is composed of the following ten dimensions: material living conditions; physical health; education and skills; time use; environmental quality, good governance and political voice; community vitality and social connections; psychological health and life satisfaction; cultural diversity and safety and security. For each dimension, its relevance for wellbeing as well as a set of alternative indicators is briefly discussed. Unfortunately, due to the limited size of this paper, it is impossible to provide a fully exhaustive description of all possible indicators. Therefore, at the end of each section, if a set of additional indicators is listed for further research.

Dimension 1. Material Living Conditions

The first dimension focuses on people's material living conditions. As this is a highly comprehensive concept, this dimension is divided in three sub-indexes: income and wealth; jobs and earnings; and housing conditions. This section discusses each sub-dimension separately.

Sub-dimension 1. Income and Wealth

Wellbeing and income and health

Income and wealth are essential components of individual wellbeing. Income allows people to satisfy their needs and pursue many other goals that they deem important to their lives, while preserved wealth makes it possible to sustain these choices over time. Both income and wealth enhance individuals' freedom to choose the lives that they want to live, though there are some aspects of their lives that cannot be bought by money.

Household wealth, derived from the accumulation of personal savings as well as from transfers between generations, also contributes in an important way to individual wellbeing. Economic resources protect individuals against economic and personal risks and unexpected shocks. Moreover, it allows them to smooth consumption over time. At the society-wide level, economic resources allow countries to invest in education, health, security and other important policy areas. Indeed, even if income alone is insufficient to adequately assess a country's welfare, it is often a necessary condition for the country's overall development (OECD, 2011).

It is not enough to look simply at average levels of both household income and wealth. It is also critical to assess how economic resources are shared across individuals and population groups. While income and wealth have been substantially enhanced during the last fifteen years, income inequality and an unequal distribution of wealth has been rising in many countries as well. Information on the distribution of household income and wealth, and how these are correlated, is therefore central for designing policies to improve people's material wellbeing. In addition, policies have to take into consideration distributional impacts to assess a possible trade-off between equity and efficiency and to consider whether some groups of the population will be left behind, with the potential drag on future growth that this implies. The GINI Index is a very useful and informative measure on these economic inequalities (GINI Index, 2011).

Indicators

Household net adjusted disposable income

The BLI uses the household net adjusted disposable income indicator to capture the future consumption possibilities. This indicator combines information on a large number of market and non-market resources and is calculated as an aggregate number expressed in purchasing power parities for private consumption per household per year. Household net adjusted disposable income is obtained by adding to the flows that make up people's gross income (earnings, self-employment and capital income, as well as current monetary transfers received from other sectors) the social transfers in-kind that households receive from governments (such as education and health care services), and then subtracting the taxes on income and wealth, the social security contributions paid by households as well as the depreciation of capital goods consumed by households. This number can be viewed as the maximum amount that a household can afford to consume without having to reduce its assets or to increase its liabilities.

Household net financial wealth

Net financial wealth is important to protect households from economic hardship and vulnerability. The BLI uses the household net financial wealth indicator. Based on national accounts definitions, and net of their financial liabilities this aggregate includes a number of assets such as gold, currency and deposits, shares, securities other than shares, loans, insurance technical reserves and other accounts receivable or payable owned by households.

Household final consumption

Material wellbeing can also be evaluated by looking at household consumption expenditures. The BLI uses the household final consumption indicator. While adjusted net disposable income describes the consumption and saving *possibilities* available to households, it is ultimately consumption that informs about their 'achieved' or 'realized' material conditions. Household final consumption covers all purchases made by resident households to meet their everyday needs. However, this indicator not necessarily reflects life-long wellbeing possibilities. In addition, the BLI uses the household *total* consumption indicator.

Assets

People's assets and resources are an important element of their overall wealth as well. The GNH Index measures the following set of assets a person can own: mobile phone, fixed line phone, personal computer, refrigerator, color television, washing machine, land and livestock. This indicator is based on the following survey questions: 'Do you own a mobile phone? A fixed line phone? A personal computer? A refrigerator? A color television? A washing machine?' and 'How many acres of land does your household own? And how many livestock?'. The PI uses the mobile phones indicator as well.

Additional indicators

Besides the traditional macroeconomic measures, other relevant indicators may be ICT and high-tech exports; FDI size and volatility, non-performing loans, and the suitability of the environment for entrepreneurs in relation to the business start-up costs.

Sub-dimension 2. Jobs and Earnings

Wellbeing and jobs and earnings

Having a job that matches one's aspirations and competencies and that pays adequate earnings is a universal aspiration of people around the globe. The availability of jobs and the earnings they pay are essential to individual wellbeing. Good jobs increase people's command over resources, provide people with a chance to fulfill their own ambitions, to develop skills and abilities, to feel useful in society and to build self-esteem. Jobs shape personal identity and create opportunities for social relationships.

Research has also shown that being unemployed has a large negative effect on physical and mental health (Wilson and Walker, 1993) and on subjective wellbeing (Clark and Oswald, 1994). There is also evidence that this impact is persistent over time and that psychological resilience to unemployment is low (Dolan et al., 2008). Working conditions can be as important as job availability in terms of their consequences on people's lives, as people spend a considerable amount of time at work. Work represents many people's main recognized contribution to the community where they live, and it is a source of pride and dignity. Therefore, the quality of their jobs is fundamental for them. Recent initiatives by the Economic and Social Council, the International Labour Organization, the UNECE and Eurostat highlight that job quality depends on certain critical factors such as job safety and the ethics in the work-place, the income and benefits from employment, job security and social protection, social dialogue, workplace relationships and job motivation (OECD, 2011).

Indicators

Employment rate

Employment rate is one of the traditional indicators to measure people's health status. This indicator is used by the BLI to capture the quantity of jobs. It refers to the share of the working-age population that declare having worked in gainful employment for at least one hour in the previous week. The PI uses the employment status indicator to determine the percentage of the population, which is currently employed. This indicator is based on the survey question: 'Do you currently have a paid or unpaid job or work?'. However, the employment rate is affected by the structure of the population, as a higher share of the school-age population will lower the employment rate. Therefore, a lower employment rate does not necessarily imply lower wellbeing. Although some people may be out of paid work by choice, other people may be employed but working less than they would actually wish. Part-time workers may be disadvantaged as compared to full-time workers in terms of pay, job security, training, promotion, risk of poverty and access to unemployment benefits or re-employment assistance when becoming unemployed. Therefore, in addition, the BLI uses the involuntary part-time employment indicator. The indicator shows the prevalence of involuntary part-time workers on total employment.

Long-term unemployment rate

Long-term unemployment places people at risk of social exclusion, poverty and deprivation. The PI uses the unemployment indicator to measure the percentage of labor force not employed. In addition, the BLI uses the long-term unemployment rate.

This indicator refers to the number of persons who have been unemployed for one year or more as a percentage of the active labor force; the sum of employed and unemployed persons. The unemployed comprise all persons of working age who, during the reference period of the survey, were: without work, available for work and actively seeking work. However, this indicator excludes people who wish to work but feel discouraged about actively seeking a job, because they deem their probability of finding one to be very low.

Average gross annual earnings of full-time employee

An important aspect of job quality is the wage and other monetary benefits that originate from employment as earnings usually represent the main source of most households' income. In addition, an indicator on earnings may also inform on the extent to which work is remunerated fairly and is treated with respect and dignity. The BLI uses the average gross annual earnings of full-time employee indicator to capture the quality of jobs. This indicator used here shows the average annual earnings per full-time employee, covering all sectors of the economy and all types of dependent employment.

Job availability

The PI uses the perceived job availability indicator to measure the percentage of the people who said it was a good time to find a job. This indicator is based on the following survey question: 'Thinking about the job situation in the city or area where you live today, would you say that it is now a good time or a bad time to find a job?'

Job security

Another essential factor in the quality of employment is job security. The BLI captures this phenomenon in its employees working on temporary contracts indicator, such as fixed-term contracts, temporary employment agencies and seasonal workers. Especially in countries with smaller social safety nets, employees working on temporary contracts are more vulnerable than workers with an open-ended contract as they often face a higher risk of job losses than permanent workers. This indicator refers to temporary workers as a share of total employees. However, this indicator does not provide information on individuals' reasons for choosing or accepting this type of work arrangement.

Work accidents

The BLI uses the work accidents indicator as a standard measure of safety at work. This indicator shows the frequency of fatal and non-fatal injuries expressed as the number of work accidents during 12 consecutive months per 100.000 workers. However, employers may underreport work accidents, especially in countries where the social security contributions that they pay depend on the frequency of accidents. Moreover, comparability is generally higher in the case of fatal injuries and countries may exclude accidents affecting the self-employed or those working in small firms.

Additional indicators

Other relevant indicators may be the percentage of economically active children, percentage of children depending on social security payments and employee absenteeism/retention/turnover rates (CBS, 2012).

Sub-dimension 3. Housing Conditions

Wellbeing and housing conditions

Housing is a major element of people's material living standards. Everyone has the right to adequate housing, which means more than just four walls and a roof over one's head. It is essential to meet basic needs, such as for shelter from weather conditions, and to offer a sense of personal security, privacy and personal space. In addition, housing should offer people a suitable place to sleep and rest and to have a family, where they are free of risks and hazards. Good housing conditions are also essential for people's health and affect childhood development. All these elements are intrinsically valuable to people as they make a 'house' a 'home'.

Further, housing conditions may affect a wide range of other outcomes. As housing costs make up a large share of the household budget and constitute the main component of household wealth, they are a major concern for households' finances. Especially people on low incomes are often constrained by the level of resources left for other essential expenditures, such as food, healthcare and education. Hence, high housing costs can thus threaten households' material wellbeing and economic security. Moreover, they can cause housing stress that may seriously hamper relations between households' members and impair the development of children.

Poor housing quality is also a major driver of health status, with effects on both physical and mental health. It can lead to domestic violence and to children's low school performance. The capacity to engage in basic social activities, such as inviting people at home, may also be threatened by poor housing conditions. Research has shown that poor housing quality is associated with lower levels of democratic participation and, more generally, with lower levels of social capital (Glaeser and Sacerdote, 2000).

Housing is also the largest component of households' net worth. Changes in housing markets in terms of the conditions and availability of credit or changes in housing prices may have a disproportionate effect on households' material wellbeing. Besides the economic rationale for investing in housing, home ownership offers a sense of control and security that tenants do not have, and it allows households to decide about the appearance of their home (Foley, 1980).

Indicators

Number of rooms per person

Housing overcrowding has long been identified as a major housing problem (Myers et al., 1996). Having sufficient space is essential to meet people's basic need for privacy and for making home a pleasant place to be. Too many tenants in a dwelling may also have a negative impact on children's health or school performance. The BLI uses the number of rooms per person indicator. This indicator refers to the number of rooms (kitchen and bathrooms excluded) in a dwelling divided by the number of persons living in the same dwelling. The GNH Index uses the exact same indicator. However, this indicator does not take into account the possible trade-off between the size of the dwelling and its location, the accommodation environment, the size of the rooms in square meters, and the household composition in terms of age and gender. For example, some households choose to live in smaller houses or apartments located in better-serviced areas, rather than in larger homes located in poorer neighborhoods.

To overcome this limitation, Eurostat developed the overcrowding dwelling rate indicator of housing overcrowding. This indicator considers a person as living in an overcrowded dwelling if the number of rooms available is less than: one room for the household; one room per couple in the household; one room for each single person aged 18 or more; one room per pair of single people of the same gender between 12 and 17 years of age; one room for each single person between 12 and 17 years of age and not included in the previous category; one room per pair of children under 12 years of age. The overcrowding rate is defined as the percentage of the population living in an 'overcrowded dwelling'.

Housing costs

Generally, a high percentage of the household income is spent on housing costs. The BLI uses the housing cost overburden rate. This indicator refers to housing affordability as the percentage of the population living in households where the total net housing costs represents 40% or more of their equalized disposable income. Housing costs encompass monthly costs including actual rents paid, housing taxes, mortgages interest, maintenance and repairs and the costs of utilities such as water, gas, electricity and heating. However, some middle- and high-income households can decide to spend a large amount (40% or more) of their disposable equalized income for housing, without incurring any form of material deprivation.

Access to sanitary facilities

The lack of facilities for personal hygiene is clearly harmful to individuals' health and dignity. The BLI uses the lack of access to basic sanitary facilities indicator. Two basic facilities are taken into account. First, indoor flushing toilets are measured as the percentage of people not having an indoor flushing toilet for the sole use of the household. Second, bathrooms are measured as the percentage of people having neither a bath nor a shower. The GNH uses the quality of the room indicator as well bases on the question: 'What type of roof material is mainly used for your dwelling?'. The PI uses a similar indicator to measure the percentage of the population with access to private or shared waste disposal facilities that can effectively prevent human, animal and insect contact with excreta. However, the PI uses this indicator within its health dimension. Indeed, this indicator is suitable for measuring both housing conditions and health. The GNH uses a similar indicator to measure the type of toilet used by a household bases on the question: 'What kind of toilet facility does your household use?'.
Additional indicators

Additional indicators

The access to sanitary facilities is a part of the overarching 'decent housing' indicator which also includes other basic aspects of housing conditions which may also have negative effects on people's health conditions and comfort such as the quality of the roofs, floors, doors, foundation and window frames.

Dimension 2. Physical Health

Wellbeing and physical health

Being healthy is one of the most valued aspects of people's lives, and one that affects the probability of having a job, earning an adequate income, and actively participating in a range of valued social activities. The length of life and whether it is lived free of illness and disability both have intrinsic value for people. However, people's health status is difficult to measure, as it encompasses a variety of dimensions.

Individual characteristics such as genetic makeup, whether we drink alcohol or smoke, are overweight, or have high cholesterol, are important. So are the conditions in which we live and work, our income and the amount of money that is spent on health-care and prevention. Health status depends on the interaction of these societal, environmental, socioeconomic, biological and lifestyle factors, most of which can be modified by health-care and other policies.

At the societal level, countries with better overall health outcomes also display higher average income and wealth, higher employment rates, higher rates of participation in political activities, higher social network support and higher overall life satisfaction (OECD, 2011).

Indicators

Life expectancy

Life expectancy is one of the traditional indicators to measure people's health status. Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. Life expectancy can be measured at birth and at various ages. Life expectancy at birth is used as an indicator for health by the BLI and the PI. However, this indicator is only an estimate of the expected life span of a given cohort, as the actual age-specific death rates of any particular birth cohort cannot be known in advance. In addition, the PI measures life expectancy adjusted by health status by using the health-adjusted life expectancy indicator (HALE). As opposed to life expectancy, which assigns the same weight to all years of life, this indicator weights sick years less than healthy years.

Mortality rates

Although life expectancy at birth is an effective summary measure of mortality, it is also important to know whether death occurs at early or later ages. The infant mortality indicator is used by the BLI and the PI. Infant mortality is presented in the number of infants dying before the age of one per 1.000 live births in a given year. However, since these refer to a very narrow age group, they cannot be considered as a measure expressing the health status of the population as a whole. Nonetheless, they provide additional evidence on mortality and health status. More specifically classified, the PI uses the death from reparatory diseases indicator to measure the mortality rate from respiratory diseases and infections. According to the World Bank development indicators and UN Social Indicators, material mortality rates are vital as well in terms of measuring health. Social Watch's Basic Capabilities Index also uses under-5 mortality rate to define the probability of a child born in a specific year or period to die before reaching the age of five.

Health status

Indicators of self-perceived general health status have the advantage of summarizing in a single measure a broad range of dimensions of health since they refer to the overall health status of the respondent. The BLI uses the self-reported health status indicator. This indicator is based on survey questions such as: 'How is your health in general?'

Since self-reported health status relies on the subjective views of the respondents, it may reflect cultural biases or other contextual factors. Moreover, since the elderly generally report poorer health, countries with a larger proportion of aged persons will also have a lower proportion reporting good or very good health, unless the data are age-standardized. However, there is evidence that these indicators are a relatively good predictor of future health care use and mortality (Miilunpalo et al., 1997). The GNH Index measures self-reported health status as well. This indicator is based on the survey question: 'In general, would you say your health is... (very poor to excellent)'. In addition, the GNH Index uses the number of healthy days indicator to measure a person's number of healthy days in the past 30 days.

Long-term chronic diseases

The BLI uses the self-reported longstanding illness indicator to measure health. This indicator first refers to the prevalence of chronic illnesses. It is phrased in more objective terms than for self-rated health, with questions such as: 'Do you have any long-standing illness or health problem which has lasted, or is expected to last for six months or more?'. However, the measure is dependent on whether people are diagnosed and can report their diagnosis, and it says little about the severity of the condition and its impact upon people's functioning.

Limitations in daily activities

BLI uses the self-reported limitations in daily activities indicator to measure health. This indicator refers to the experience of disabilities resulting from a severe health problem. The indicator is based on the following survey question: 'For at least the past six months, have you been hampered because of a health problem in activities people usually do?'. The PI uses a similar indicator based on the question: 'Do you have any health problems that prevent you from doing any of the things people your age normally can do?'. The GNH index specifically measures long-term disabilities that restrict daily activities. This twofold indicator is based on the two survey questions: 'Do you have any long term disabilities, health/mental problems?' and 'Does the long-term disability restrict your activities?'

Overweight and obesity

In addition to general measures of health status, anthropometric measures also provide information on people's health status. One such measure relates to people's weight and height to derive an indicator of overweight and obesity, as used by the BLI. Both conditions matter for current health status. But more importantly, they matter as predictors of medical conditions in the future such as high cholesterol, diabetes, cardiovascular diseases and many others. However, the associations between these indicators, the percentages of body fat and health risks may differ for some ethnic groups and populations. Overweight and obesity are expressed in the Body Mass Index.

Health expenditure

The PI uses the health expenditure per person indicator as the health expenditure per capita with external aid in international PPP International Dollars.

Family planning

A variety of indicators provided by the World Bank development indicators are related to family planning. Family planning is a wide concept. It includes the planning of when to have children and how many and the use of birth control. However, it also encompasses other techniques such as sexuality education and the prevention and management of sexually transmitted infections such as HIV/AIDS. Indicators relevant in this field include adolescent fertility rate, percentage of pregnant women receiving prenatal care, teenage mothers, prevalence of HIV/AIDS, contraceptive prevalence and unmet needs for contraception, birth rates and births attended by skilled health staff.

Hospital beds

The PI uses the hospital beds indicator to measure number of hospital beds per 1.000 capita. This includes public, private, generalized and specialized hospitals.

Tuberculosis

The PI uses the incidence of tuberculosis indicator to measure the estimated number of new pulmonary, smear positive, and extra-pulmonary tuberculosis cases.

Undernourishment

The PI uses the undernourishment indicator to measure the percentage of the population whose daily calorie intake is predicted to be consistently less than the daily minimum standards. The World Bank uses this indicator as the malnutrition prevalence.

Immunization rate

The PI uses the rate of immunization against infectious diseases indicator to measure the percentage of children age 12-23 months who received vaccinations before 12 months or at any time before the survey. A child is considered adequately immunized against diphtheria, pertussis (or whooping cough), and tetanus (DPT) after receiving three doses of vaccine. In addition, the PI uses the rate of immunization against measles indicator to measure the percentage of children ages 12-23 months who received vaccinations before 12 months or at any time before the survey. A child is considered adequately immunized against measles after receiving one dose of vaccine.

Water quality

The PI uses the water quality indicator to measure the percentage of people who are satisfied with the quality of the available water. This indicator is based on the following survey question: 'In the city or area where you live, are you satisfied with the quality of water?'. This indicator is strongly related to the environmental quality dimension.

Additional indicators

Other relevant indicators may include notified cases of malaria, population growth, levels of food security and private out-of-the-pocket health expenditures (RIVM, 2012).

Dimension 3. Education and Skills

Wellbeing and education and skills

Education and skills have a strong influence on people's wellbeing. Education and skills are vital to the prosperity of nations and to better lives for people. Developing skills is intrinsically valuable for humans as it responds to one of their most important aspirations: the basic need to learn.

There are many types of skills, all of which matter for living a good life. In general, education and skills open up considerable opportunities for people and enhances their control over their lives. In addition, education makes possible activities that bring intrinsic pleasure to individuals, such as reading a book, enjoying an art exhibition, etc. Therefore, by investing in education, families and governments can reach many economic and social goals at the same time.

Education not only has an intrinsic value but also influences wellbeing indirectly. Individuals benefit from education in a variety of ways. First, education has a strong positive impact on the material living conditions of people, as higher education leads to higher earnings and greater employability (Boarini and Strauss, 2010; Sianesi and Van Reenen, 2003). Also, more educated people generally have better health status, as they have a healthier life-style and an increased chance of doing a job in a working environment with fewer hazards (Miyamoto and Chevalier, 2010; La Fortune and Looper, 2009). Moreover, education also raises civic awareness and fosters political participation (Borgonovi and Miyamoto, 2010). Finally, education provides individuals with the skills necessary to integrate more fully into their societies.

Education matters not only for those acquiring it but also at the wider, societal level. Education and skills bring important economic returns in the form of higher productivity and economic growth (Hanushek and Woessmann, 2010; Sianesi and Van Reenen, 2003), higher macro-economic and political stability, lower criminality and stronger social cohesion. Furthermore, education has a major role to play in coping with the profound structural changes that modern society is undergoing. Skills provide a powerful gateway to the future by empowering people and societies with great innovation potential. Finally, improving the skills of those at the bottom of the income ladder plays a key role in countering the long-term trend of growing earnings and income inequality.

Research also shows that educational advantages tend to cumulate over time, starting from the first years of life. Moreover, skills are not acquired solely through formal education. Students' educational outcomes are largely affected by their family background and in particular by their parents' education. This means that some children are already advantaged over others when they begin formal schooling, while in turn school results exert a strong influence on their university outcomes (Boarini et al., 2008). Education is perhaps the dimension most valued by parents for improving their children's future life chances (OECD, 2011).

Indicators

Net Primary Enrolment

Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural

science, social science, art, and music. The PI measures the net primary enrolment as the percentage of students enrolled in primary schools as a percentage of official school age population. The GNH Index uses the single formal education level indicator. This indicator is based on the survey question: 'What is your highest level of education?'

Gross Secondary Enrolment

Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers. The PI measures the gross secondary enrolment in the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of secondary education. In addition, the PI uses the secondary education per worker indicator. This indicator refers to the average years of secondary education completed amongst the labour force.

From a slightly different point of view, the BLI provides a basic indication of the level of formal education attained by people in a given country by using the educational attainment indicator. Many developed or developing economies increasingly needs high-skilled workers. This requires university training for which an upper-secondary education is a necessary requisite. It refers to the percentage of the population aged 25-64 who completed at least an upper-secondary degree. However, this indicator does not take into account people who have not completed a degree but might have learned useful skills outside school settings. In addition the indicator does not reflect the quality of education received, which may vary both across and within countries.

Gross Tertiary Enrolment

The PI measures the gross tertiary enrolment in the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of tertiary education. In addition, the PI uses the secondary education per worker indicator. This indicator refers to the average years of secondary education completed amongst the labour force. In addition, the PI uses the tertiary education per worker indicator. This indicator refers to the average years of tertiary education completed amongst the labour force.

Literacy

The GNH uses the literacy indicator to measure the literacy level. This indicator is based on the following survey question: 'Can you read and write in any of the languages?'

Education expectancy

Although the educational attainment of the adult population provides information on the stock of human capital accumulated in a country, it does not about the current educational opportunities available to the youth. The BLI uses the education expectancy indicator complementary to the educational attainment indicator. Education expectancy refers to the number of years of schooling that youth aged 15 today may expect to undertake while aged 15 to 29. This number is based on the current enrolment of people in this age group. It is thus a good proxy of the numbers of years that an individual is likely to spend in education in this age period. However, this indicator excludes dropout rates, temporary interruptions of study and the study durations.

Lifelong learning

Although formal learning is the main pillar of the educational system, people often improve their competencies and acquire new skills outside school and universities, notably in the labor market. This non-formal adult education and training increases people's productivity and earnings possibilities and it captured by the BLI by the lifelong learning indicator. Existing indicators of participation in formal and non-formal education provide information on workers' learning opportunities. These may cover educational programs to impart adult literacy, basic education for out-of school children, life skills, work skills and general culture. The PI uses a similar indicator, which is more specifically focused on children. The PI measures the percentage of people who say that children have the opportunity to learn in society. The indicator is based on the following survey question: 'Do most children in your country have the opportunity to learn and grow every day, or not?'

Student skills

Measuring student's *cognitive* skills is informative about the actual quality of the competences gained by people and therefore about how the qualifications earned contribute to individual wellbeing, instead of the educational potential. The BLI uses the student cognitive skills indicator to capture this. This indicator refers to the reading literacy skills of 15-year-old students, as cognitive skills at age 15 are strongly correlated with later educational outcomes and labor market performance (Juhn et al., 1993). Despite the fact that reading literacy measures a relatively narrow set of competencies, there is strong evidence that reading literacy is strongly correlated with other cognitive and non-cognitive measures.

On the other hand, student's *civic* skills matter as well. Civic skills cover knowledge and understanding of civics and citizenship. Civic education focuses on people's knowledge and understanding of formal institutions and the processes of civic life such as voting in elections. Citizenship education focuses on knowledge and understanding of opportunities for participation and engagement in both civics and civil society such as ethical consumption. Both types are vital for democracies. The BLI's student civic refers to both types of students aged around 14-15.

Classroom ratios

In order to capture the prevalence of gender inequality within a country's educational system, the PI uses the girls to boys enrolment ratio. This indicator is defined as the ratio of the gross enrolment rate of girls to boys in primary and secondary education levels in both public and private schools. In addition, the PI uses the pupil to teacher ratio. This indicator refers to the number of primary school students per teacher.

Additional indicators

Other relevant indicators may be ratios of children out of school, trained teachers, repeaters and the public education expenditures per student. In addition, the number of former premature dropouts who successfully return and pursue their education provides important information on wellbeing. Moreover, the percentage of school age children enrolled in special education is vital as well (CBS, 2012).

Dimension 4. Time Use

Wellbeing and time use

The one thing that every person has in common is the number of hours they have in a day. The way those 24 hours are divided between different activities is a key determinant of wellbeing. A work-life balance refers to a state of equilibrium between an individual's work and personal life. Obtaining such a balance is central to people's wellbeing. Too little work can prevent people from earning enough income to attain desired standards of living and may reduce their sense of purpose in life. Too much work can also have a negative impact on people's wellbeing if their health or personal lives suffer as a consequence.

The ability to combine work, family commitments and personal life is important for the wellbeing of all household members. In particular, the wellbeing of children is strongly affected by the capacity of parents to both work and spend an adequate amount of time with them. Parental nurturing is crucial for child development, especially in the early years and prime age adults also play a critical and increasingly important role for the care of their elderly parents. A balanced allocation of time between work and personal life is also important at a society-wide level, as it ensures that people have sufficient time to socialize and participate in the life of the community.

The distribution of tasks within the family is still influenced by gender roles. Men are more likely to work longer hours of paid work, while women spend longer hours in unpaid domestic work. While gender imbalances are shaped by culture, developing better measures of work-life balance is important from a policy perspective. Supportive and flexible working practices, the provision of childcare facilities and various other family policies can make it easier for parents to strike a better balance between work and home life (OECD, 2011).

Indicators

Working hours

Paid work is an essential part of life for many people. Although long working hours do not necessarily negatively impact wellbeing (for example, if the worker gains a high degree of job satisfaction from the time spent at work), very long working hours can impair personal health, jeopardize safety and increase stress. The BLI uses the long working hours indicator to determine the proportion of employees that usually work long hours on their main job. In this number, the self-employed are excluded, as many of them are likely to regularly work much longer hours than other workers out of a deliberate choice. Employees usually working more than 50 hours per week are likely to be left with only very few hours for other activities. The, to some extent arbitrary, threshold has been set at 50 hours usually worked per week as countries' regulations on maximum working time are generally limited to 48 hours per week. The GNH uses a similar working hours indicator.

Time for leisure and personal care

Leisure and personal care are both essential for the physical and mental wellbeing of individuals. Leisure activities such as socializing and watching TV, as well as personal care activities such as eating and sleeping, tend to bring more intrinsic enjoyment than

activities related to paid and unpaid work (Krueger et al., 2009). Furthermore, having time to rest and recuperate away from work is important for health, productivity and stress reduction. The boundary between leisure and personal care is not always well defined as many personal care activities can also be undertaken for pleasure rather than as a necessity. The BLI uses the time for leisure and personal care indicator. This indicator refers to the amount of time that full-time workers devote to the sum of these two activities. The indicator used by the GNH Index solely measures the amount of sleeping hours compared to the amount of working hours.

Commuting time

For people with jobs outside of the home, travel to and from the workplace can significantly extend the working day and eat into leisure and family time. Furthermore, commuting does not just take up time; it can also be stressful, tiring and expensive. Indeed, it seems that commuting to work is the daily activity that gives the least amount of enjoyment, with commuting home from work only marginally more enjoyable (Krueger et al., 2009). Therefore, it is unsurprising that people with longer commuting times tend to report lower subjective wellbeing (Stutzer and Frey, 2008). The BLI uses the commuting time indicator to determine the number of minutes spent commuting on a typical day by all workers.

Employment rate of mothers with children of compulsory school age

Women are more likely than men to be prevented from entering the workforce because of family commitments, thereby negatively impacting their employment rates. The BLI measures the employment rate of mothers in the 25-54-age range with children of compulsory school age. This indicator is an indirect measure of the ability of mothers to combine paid work and family responsibilities. When children are very young, many mothers may prefer to be with them, as this is a critical period for child development. However, as children attain school age, many mothers may wish to enter or return the labor market but be hindered from doing so by many factors, such as inflexible school schedules that are not necessarily in tune with parents' work commitments. Comparing employment rates of mothers and rates of all women provides information on the extent of work-life imbalances.

Day reconstruction

The National Time Accounting approach, also known as the Day Reconstruction Method, is a set of methods for measuring, comparing and analyzing how people spend and experience their time; across countries, over historical time, or between groups of people within a country at a given time. The approach is based on evaluated time use, or the flow of emotional experience during daily activities. This method measures the following characteristics of people's daily activities: where, what, with who, why, how long and how they felt during the activity episode. The activities include commuting, working, shopping, preparing food, doing housework, taking care of your children, eating, pray/worship/meditate, socializing, watching TV, nap/resting, computer/internet/email, relaxing, on the phone, intimate relations, exercising or other. (Krueger et al, 2009).

Dimension 5. Environmental Quality

Wellbeing and environment, ecological diversity and resilience

Environmental quality is a vital for people's wellbeing as quality of life is strongly affected by a healthy physical environment (Khan, 2002; Holman & Coan, 2008). The impact of pollutants, hazardous substances and noise on people's health is sizeable. Environmental factors play a role in more than 80% of the major diseases. Worldwide, around one-fourth of diseases and overall deaths are due to poor environmental conditions (Prüss-Ustün and Corvalán, 2006).

Environmental factors of a more extreme nature, such as natural disasters may also cause deaths, injury and disease in significant proportions. In the long term, drastic changes in the environment may also impair human health through climate change, transformations in the carbon and water cycles and biodiversity loss.

Besides affecting people's health, environmental quality also matters intrinsically as most people value the beauty and healthiness of the place where they live and care about the degradation of the planet and the depletion of its natural resources (Balestra and Dottori, 2011). Preserving environmental and natural resources is also one of the most important challenges for ensuring the sustainability of wellbeing.

People also directly benefit from environmental assets and services such as water, sanitation services, clear air, lands, forests, and access to green spaces as they allow them to satisfy basic needs and to enjoy free time and the company of others. However, measuring environmental sustainability is difficult because the size of the impacts of current environmental trends on future wellbeing is uncertain (OECD, 2011).

Indicators

Air quality

The BLI uses the air quality indicator. Air quality is measured through population-weighted average annual concentrations of small and fine liquid and solid particles in the air measured in micro grams per cubic meter such as sulphate, nitrate and elemental carbon. Air quality is highly relevant to health as well. Of greatest concern to public health are the particles small enough to be inhaled into the deepest parts of the lung.

Environmental burden of disease

The environmental burden of disease quantifies the disease burden that could be avoided by modifying the environment as a whole. Health effects relate to pollution of air, water and soil, radiations, noise, occupational risks, land use patterns, agricultural methods and irrigation schemes, as well as man-made changes to the climate and ecosystems (Prüss-Ustün and Corvalán, 2006). The World Health Organization (WHO) makes measures of the environmental burden of disease at the country level. Exposure-response relationships for a given risk factor are obtained from epidemiological studies. Subsequently, the derived attributable fractions are then applied to disease burden and expressed in terms of either premature deaths or Disability-Adjusted Life Years; a measure that combines information on deaths and disabilities.

Access to green spaces

Access to green spaces is essential for quality of life and the improvement of wellbeing as an unspoiled environment is a source of satisfaction (Pretty et al., 2005, Brown and Grant, 2007), allows people to recover from the stress of everyday life (Mace et al., 1999) and to perform physical activity. Cross-sectional studies find that levels of physical activity are higher and obesity is lower in areas with higher levels of greenery (Ellaway et al., 2005). The BLI uses the access to green spaces indicator. This indicator refers to the share of people who have 'very many reasons' or 'many reasons' to complain about the lack of access to recreational or green zones, as measured on a four-item scale. Natural resources also play an important role in building social ties and reducing physical violence. Several studies show that green spaces in urban areas encourage social interaction, alleviate crime and aggression and generate a sense of place (Ward Thompson, 2002; Armstrong, 2000; Milligan et al., 2004).

Ecological footprint

The Happy Planet Index (HPI) is an index of human wellbeing and environmental impact that was introduced by the New Economics Foundation (NEF) in July 2006. The index is designed to challenge well-established indices of countries' development, such as the Human Development Index (HDI), which do not taking environmental sustainability into account. The HPI uses the ecological footprint as a measure of resource consumption. The ecological footprint is a measure of human demand on the Earth's ecosystems. It is a standardized measure of demand for natural capital that may be contrasted with the planet's ecological capacity to regenerate. It represents the amount of biologically productive land and sea area necessary to sustain a country's consumption patterns and to assimilate associated waste.

Environmental performance

The Environmental Performance Index (EPI) ranks countries on performance indicators tracked across policy categories that cover both environmental public health and ecosystem vitality. These indicators provide a gauge at the national government scale of how close countries are to established environmental policy goals. The European Green City Index is similar to the EPI but analyzes environmental performance at the city level. The following EPI indicators are especially relevant for wellbeing: the percentage of the total renewable electricity net generation; the fraction of fish stocks overexploiting or collapse; forest loss; critical habitat protection and agricultural subsidies. Moreover, the CO₂ emission per GDP is calculated as a GDP-adjusted 'green GDP'.

Green GDP

The Genuine Progress Indicator (GPI) is an alternative metric system which uses in green economics, sustainability and more inclusive types of economics commonly known as 'green' or 'true cost economics'. GPI is an attempt to measure whether a country's growth, increased production of goods, and expanding services have actually resulted in the improvement of the welfare of the people in the country. GPI advocates claim that it can more reliably measure economic progress, as it distinguishes between worthwhile growth and uneconomic growth. The GPI measures the gross profit minus the costs incurred: the net profit. Accordingly, the GPI will be zero if the financial costs of the following topics equal the financial gains in production of goods and services, all

other factors being constant: cost of resource depletion; crime, ozone depletion, family breakdown and air, water and noise pollution and the loss of farmland and wetlands.

Very similar to the GPI is the Index of Sustainable Economic Welfare (ISEW). The ISEW is an economic indicator balances consumer expenditure by such factors as income distribution and cost associated with pollution and other unsustainable costs. The Index of Sustainable Economic Welfare (ISEW) is roughly defined by the following formula: personal consumption + public non-defensive expenditures - private defensive expenditures + capital formation + services from domestic labour - costs of environmental degradation - depreciation of natural capital = ISEW.

Waste management

Vermont's Domains of Happiness uses the quality of the waste management system as an indicator. Waste management is the collection, transport, processing or disposal, managing and monitoring of waste materials. The term usually relates to materials produced by human activity, and the process is generally undertaken to reduce their effect on health, the environment or aesthetics. Therefore, it is relevant for people's wellbeing. Waste management practices can differ for developed and developing nations, for urban and rural areas and for residential and industrial producers.

Dimension 6. Good Governance and Political Voice

Wellbeing and good governance and political voice

Civic engagement, which refers to the various activities that people perform to express their political voice and contribute to the political functioning of society, is essential to individual wellbeing. Political voice is one of the basic freedoms and rights that are worthwhile to all humans and that people have reason to value (Sen, 1999).

People who are given the opportunity to participate in a decision are more likely to endorse the decision as they consider it fair (Frey and Stutzer, 2006). Furthermore, civic engagement may also increase people's sense of personal efficacy and control over their lives (Barber, 1984). Finally, civic engagement allows individuals to develop a sense of belonging to their community, trust in others and a feeling of social inclusion.

Beyond its intrinsic value, civic engagement also enhances the effectiveness of public policy (Knack, 2002). By engaging in political activities, people openly express their preferences and needs. This in turn can inform policy thereby influencing people's wellbeing. Political voice may also reduce the potential for conflicts and enhance the prospect of building consensus on key policies. Finally, political voice increases the accountability of policy-makers, leading to better governance and thus better policies and a strengthened relationship between citizens and government.

Governance relates to the institutions by which authority in a country is exercised. The quality of these institutions strongly conditions people's quality of life, by setting regulations, defining and implementing public policies and establishing the rule of law. Good and effective public governance also deepens confidence in government and public administration, and thus increases wellbeing. Therefore, good governance can be considered a mutually supportive relationship between governments, on one side, and citizens, on the other. Governments' legitimate authority stems from the consent of the governed and, through political and civic activities, citizens in turn shape the functioning of governments and public institutions.

Indicators

Government type

The PI uses the government type indicator to measure the extent to which a society is autocratic or democratic. This measure depends on the competitiveness of executive recruitment, constraints on chief executives, regulation of political participation, and competitiveness of political participation.

Government effectiveness

The PI uses the government effectiveness indicator to measure the efficiency and quality of bureaucracy, level of government stability and effectiveness with respect to the implementation of policies.

Government performance

The PI uses two indicators to measure the government's performance. The first indicator measures the percentage of the people who are satisfied with the government's efforts and performances in addressing poverty. This indicator is based on the survey question: 'In the country where you live, are you satisfied with the efforts to deal with the poor?'. The second indicator measures the percentage of the people who are satisfied with the government's efforts and performances in terms of environmental preservation. Indicator is based on the question: 'In the country where you live, are you satisfied or dissatisfied with efforts to preserve the environment?'. The GNH Index measures government performance in the following areas: creating jobs, reducing gap between rich and poor, fighting corruption, preserving culture and traditions, protecting environment, providing educational needs and improving health services. This indicator is based on the survey questions: 'Rate the performance of government in creating jobs? Reducing gap between rich and poor? Fighting corruption? Preserving culture and traditions? Protecting environment? Providing educational needs? Improving health services?'.

Corruption

The PI uses the business and government corruption indicator to measure the prevailing corruption levels in the country. This indicator is based on the following survey question: 'Is corruption widespread in businesses and throughout the government?'.

Rule of law

The PI uses the government effectiveness indicator to measure the extent to which individuals within a society respect property rights, the police and the judiciary system, as well the quality of police and legal safeguards.

Regime stability

The PI uses the regime stability indicator to measure the number of years since the most recent regime change.

Separation of powers

The PI uses separation of powers indicator. This indicator is a composite variable including five components that are highly correlated: competitiveness in the executive

branch, competitiveness in the legislative branch, judiciary independence, regulation of the executive election and political participation. In addition, the PI uses the political constraints indicator to further measure the existence of checks and balances in a political system. This indicator refers to the extent to which a change in the preference of a political actor may lead to policy change.

Fundamental rights

The PI uses the political rights indicator to measure the citizen's ability to participate in political processes such as voting in legitimate elections, joining parties, running for office, etc. This indicator captures elements relating to the electoral process, political pluralism and participation as well as the functionality of the government and additional discretionary political rights.

The GNH Index uses the fundamental rights indicators to measure the following freedoms and right: freedom of speech and opinion, the right to vote, the right to join the political party of your choice, the right to form *tshogpa*, the right to equal access and opportunity to join public service and freedom from discrimination. This indicator is based on the survey questions: 'Do you feel that you have right to the freedom of speech and opinion? The right to vote? The right to join the political party of your choice? The right to form *tshogpa*? The right to equal access and opportunity to join public service? The right to equal pay for work of equal value? The right too the freedom from discrimination?'. Data from Freedom House are very useful to support this indicator.

Voter turnout

Political participation is crucial for democratic institutions, because it ensures the accountability of governments and public institutions and increases the chance that the decisions taken by the political system reflect the will of a large number of individuals. Voter turnout is a highly suitable available indicator for measuring individual participation in an election and is used by the BLI. The GNH Index measures voter turnout based on the survey question: 'Will you vote in the next election?'. This indicator captures peoples' opportunities for expressing their voices, but it is also an outcome measure that looks at the final choices expressed by citizens. Voting can be seen as a resource that is transformed into wellbeing by citizens. They vote in order to affect the actions of government in ways that are meaningful to them.

Political participation

Besides voting, citizens can express their political voices in many other ways such as by signing a petition, joining a political organization or participating in a political rally or demonstration. These activities are important instrumentally, as they can provide a corrective to public policy by revealing people's needs (Stiglitz et al., 2009); maintain political vigilance among citizens (Benn, 1979); and improve the quality of a democracy (Almond and Verba, 1963; Paxton, 2002). These activities also intrinsically matter for people because they are a way of socializing with others, which is an essential determinant of individual wellbeing (Helliwell and Putnam, 2004; Owen et al., 2008). The BLI uses the participation in political activities indicator. This indicator is based on survey questions, including: 'During the last 12 months, have you done any of the following: contacted a politician, government or local government official, worked in a political party or action group, worked in another organization or association, worn or

displayed a campaign badge/sticker, signed a petition, taken part in a lawful public demonstration, boycotted certain products?'. The indicator refers to the number of people who responded 'yes' to at least one of the previous propositions. In addition, the PI uses a similar voiced concern indicator based on the question: 'Have you voiced concern to a public official in the past year?'. The GNH index measures political participation by measuring the *zomdue* participation. In Bhutan, *zomdue* are village gatherings where people meet to discuss issues of public interest, either formal or informal. This indicator measures the frequency of *zomdue* attendance in the past 12 months.

Consultation on rule making

Good governance is generally characterized by accessibility, accountability, predictability and transparency (Morita and Zaelke, 2005). Improving transparency in the access to regulations is thus a key element for fostering good governance. Further, promoting access to the consultation process is one way to improve confidence in the authorities, as people's confidence is influenced by the degree of contact with institutions (Hudson, 2006). The BLI uses the consultation on rule making indicator. This indicator relates to the efforts made by governments to engage citizens in social life and it captures the possibility given to individuals to have a say in the framing of new policies. The indicator measures the extent to which formal and open consultation processes are built in at key stages of the design of policy proposals, and the mechanisms that exist for the outcome of that consultation to influence the preparation of primary laws and subordinate regulations. However, the indicator does not inform about effective citizen participation in the consultation processes or about how this actually impacts the policies that are finally adopted. Moreover, some countries undertake extensive consultation of large social groups such as trade unions, employers associations, representatives of communities and consumer organizations. These countries may not necessarily score well on this index.

Confidence and trust in public institutions

Political efforts to achieve greater transparency of governance may be hampered by people's lack of confidence in various institutions such as the national government, the judicial system and courts, and the media of the country where they live. Confidence in these institutions is essential for social stability and the functioning of democracy (Morrone et al., 2009) and for economic growth (Knack and Keefer, 1997; Knack and Zak, 2001; Glaeser et al., 2004). High levels of perceived corruption in institutions may hamper trust. The BLI uses the trust in institutions indicator. The indicator relies on the survey question: 'Do you have confidence in the national government/the judicial system and courts/the media?'. The PI uses a set of more specified questions to measure trust in public institutions. The PI measures the trust in the government, the financial system, the judicial system, the military and the electoral system based on the following survey questions: 'In your country, do you have confidence in each of the following, or not? How about the national government? How about the financial institutions or banks? How about the judicial system? How about the military? How about the honesty of elections?'.

Dimension 7. Community Vitality and Social Connections

Humans are social creatures. The frequency of contact with others and the quality of personal relationships are crucial determinants of people's wellbeing.

People get pleasure from spending time with others and activities are typically more satisfying when shared with others (Kahneman and Krueger, 2006). Furthermore, social networks provide material and emotional support in times of need as well as access to jobs and other opportunities.

Beyond the intrinsic pleasure that people derive from spending time with others, social connections have positive spillover effects for individual and societal wellbeing. The way people interact with others also has implications beyond their immediate circles. Well-developed social connections can generate trust in other people, tolerance of diversity and norms of reciprocity as well as facilitating exchanges of information and collective action. Social networks, and the shared values and norms they generate, are foundational to social capital. Social capital is increasingly recognized as a driver of important wellbeing outcomes, including democratic participation, crime, health status and the strength of communities and economies. Moreover, people with extensive and supportive networks have better health, tend to live longer, and are more likely to be employed (Putnam, 2000; Halpern, 2005).

Indicators

Social network support

While close personal relationships bring intrinsic pleasure, they can also provide emotional and material support in times of need, and strengthen people's ability to deal with difficult times in their lives. Supportive relationships have been shown to protect against depression and to help in recovery after illness (Sherbourne et al., 1995; Seeman, 1996). Furthermore, they can also be instrumental in providing practical help, such as financial assistance. The BLI uses the social network support indicator. This indicator measures the proportion of people who respond positively to the question: 'If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?' While this question does not ask for more details on the types of support that might be expected, it provides a general measure of perceived social network support (Chan and Lee, 2006; Faber and Wasserman, 2002). The PI uses the similar perceptions of social support indicator to measure the percentage of the people who have someone to count on. This indicator is based on the question: 'Do you have relatives or friends whom you can count on to help you when you need them, or not?'

Family and relationships

The GNH Index extensively measures internal family relationships by the use of the following set of survey questions: 'Do the members of your family care about each other?'; 'Do you wish you were not part of your family?'; 'Do you feel like a stranger in your family?'; 'Do you get enough time to spend with your family?'; 'Is there a lot of understanding in your family?' and finally; 'Do you think family is a real source of comfort to you?'. This indicator can be altered and reused for friend relationships or even colleague relationships.

Sense of belonging

The GNH Index uses the sense of belonging indicator to measure a person's sense of belongingness in the community. This indicator is based on the survey question: 'How would you describe your sense of belonging to your local community?'

Frequency of social contact

The frequency of contact with others is an important determinant of people's wellbeing. Evidence shows that that socializing with friends is one of people's most enjoyable activities (Kahneman et al., 2004; Kahneman and Krueger, 2006). The BLI uses the frequency of social contact indicator. This indicator measures the proportion of people who report socializing face to face with friends and relatives living outside the household at least once a week.

Volunteering

People who volunteer tend to be happier and more satisfied with their lives than those who do not. This underscores the direct role that volunteering plays in contributing to people's overall wellbeing (Borgonovi, 2008). However, volunteering also delivers broader benefits to society, both in terms of the direct value of the volunteer's labor, and in terms of the contribution of volunteering to build a healthy civil society. The BLI uses the time spent volunteering indicator based on time use surveys that provide data on the amount of time that people actually spend in volunteering activities. The PI measures the percentage of volunteering people by using the formal volunteering indicator. This indicator is based on the survey question: 'Have you done any of the following in the past month? How about volunteered your time to an organization?'. The GNH Index measures donations in time in the number of days volunteered in a year with a threshold of 3 days per year. This indicator is based on the survey question: 'During the past 12 months, how many days did you volunteer?'

Charity donations

The PI uses the donation indicator to measure the percentage of people who donated money to charity. This indicator is based on the following survey question: 'Have you done any of the following in the past month? How about donated money to a charity?'. The GNH Index measures donations in money in the amount of donations made in a year with a threshold of 10% of the annual household income. This indicator is based on the survey question: 'In the past 12 months, did you donate money?'

Tolerance for others

The PI uses the tolerance for immigrants indicator. This indicator is based on the following survey question: 'Is the city or area where you live a good place or not a good place to live for immigrants?'. In the same way, The PI uses the tolerance for ethnic minorities indicator. This indicator is based on the following survey question: 'Is the city or area where you live a good place or not a good place to live for racial and ethnic minorities?'. In addition, the PI uses the tolerance for ethnic minorities indicator. This indicator is based on the following survey question: 'Is the city or area where you live a good place or not a good place to live for racial and ethnic minorities?'. This indicator can be altered and reused for other groups in society or minorities such as disabled people or gay people.

Helping strangers

The PI uses the helping strangers indicator. This indicator is based on the following survey question: 'Have you done any of the following in the past month? How about helped a stranger or someone you didn't know who needed help?'

Marriage

The PI uses the marriage indicator to measure the percentage of survey respondents who claim they are married. In some countries, cohabitations contracts can be measured as a complement to marriage certificates. In contrast to previously explicated indexes, the opposite of wellbeing and progress can be measured as well. In case of marriage and social connections, the percentage of people who are divorced also matters.

Trust in other people

Trust in others is also a key aspect of social connections and of social capital. Many of the benefits of social capital flow from the way in which high levels of trust in other people living in the same community facilitate exchanges and enterprise. Indeed, some authors even define social capital as the level of interpersonal trust that prevails within a group or society, rather than just one of components of social capital (Paldam and Svendsen, 2000). Other authors identify interpersonal trust as the best single proxy measure of social capital currently available (Halpern, 2005). The BLI uses the trust in others indicator. This indicator measures the proportion of people who agree with the, rather vague, statement 'most people can be trusted'. The PI uses the trust others indicator to define the percentage of survey respondents who claimed that others in their society could be trusted. The GNH Index specifically measures people's trust in neighbors.

Inter-gender relationships

The various aspects of gender equality is an important factor for individual wellbeing and provides information on the social relationships between men and women. For example, the prevalence of suppression of women and girls can show imbalances in terms of gender equality. Based on the World Bank development indicators, other relevant indicators include the labor participation rate, literacy rate, the proportion of seats held by women in national parliaments or the share of women employed in the nonagricultural sector.

Values

The World Values Survey is a global research project that explores people's values and beliefs, how they change over time and what social and political impact they have. The values prevailing within a society is very informative on the community vitality. However, these results are relevant for the cultural diversity as well. The WVS measures, monitors and analyzes a variety of factors such as support for democracy, the role of religion and changing levels of religiosity, the impact of globalization, attitudes toward the environment, work, family, politics, national identity, culture, diversity etc. The World Values Survey uses the sample survey as its mode of data collection.

Additional indicators

Based on Vermont's Domains of Happiness, other indicators may include discrimination due to religion or race and values education.

Dimension 8. Psychological Health and Life Satisfaction

Wellbeing and psychological health and life satisfaction

The academic literature on psychological wellbeing has progressed rapidly since the emergence of the field over five decades ago as psychologists and other social scientists have taken huge steps in their understanding of the factors influencing psychological and subjective wellbeing.

Psychological wellbeing refers to how people evaluate their lives. These evaluations may be in the form of cognitions or in the form of affect (Diener, 1997). The cognitive part is an information-based appraisal of one's life. That encompasses a person's given conscious evaluative judgments about one's satisfaction with life as a whole. The affective part is a hedonic evaluation guided by emotions and feelings such as frequency with which people experience pleasant or unpleasant moods in reaction to their lives. The assumption behind this is that most people have a level of subjective wellbeing even if they do not often consciously think about it. The psychological system offers virtually a constant evaluation of what is happening to the person.

In this dimension, psychological wellbeing is defined in terms of internal experience of the respondent and their own perception of their lives. The indicators focus both on momentary moods and long-term states of their mental wellbeing. The majority of existing social indicators capture aspects of quality of life that add to the description drawn by economic indicators. However, these social indicators fail to capture the subjective wellbeing of people because they do not reflect the actual experiences but are based on models of rational choice, whereby people follow a set of logical rules when making development plans. However, research has shown that people do not always make rational choices, and that these choices do not necessarily enhance psychological wellbeing (Kahneman, 1994).

The measurement of psychological wellbeing has advanced so much over the years that it is time to give an important place to people's wellbeing in policy debates. Media should provide attention to how a society is progressing in terms of psychological wellbeing as well and politicians should base their campaigns on their plans for reducing distress, increasing life satisfaction and happiness level.

Psychological wellbeing leads to desirable outcomes, even economic ones, and does not necessarily follow from them. Research has shown that people who score high in psychological wellbeing later earn high income and perform better at work than people who score low in wellbeing. Also, psychological wellbeing is related to physical health.

Indicators: psychological health

Prevalence of emotions

The GNH Index measures the prevalence of both positive and negative emotions. The following positive emotions are measured: calmness; empathy/encompassion; forgiveness, contentment and generosity. This indicator is based on the following survey questions: 'During the past few weeks, how often do you experience calmness? Empathy/encompassion? Forgiveness? Contentment? Generosity? The following negative emotions are measured: 'During the past few weeks, how often do you experience selfishness? Jealousy? Fear? Worry? Anger?'. The PI uses the level of

worrying indicator as well. Of course, this type of indicator can be complemented with any other positive or negative emotion of interest. The National Time accounting method relates the following feelings to a set of activities: impatient for it to end, happy, frustrated/annoyed, depressed/blue, competent/capable, hassled/pushed around, warm/friendly, angry/hostile, worried/anxious, enjoyed, criticized/put down or tired.

Well-rested

The PI uses the well-rested indicator to measure the percentage of the population who are well rested. This indicator is based on the survey question: 'Now please think about yesterday, from the morning until the end of the day. Think about where you were, what you were doing, who you were with, and how you felt. Did you feel well-rested yesterday?'

Spirituality

The GNH Index uses the spirituality indicator to measure people's spiritual level, consideration of Karma, prayer recitation and meditation. This indicator is based on the survey questions: 'How spiritual do you consider yourself?'; 'Do you consider Karma in the course of your daily life?'; 'How often do you recite prayers?' and 'How often do you meditate?'

Mental health

The GNH Index uses 12-item general mental health questionnaire to measure a variety of feelings and abilities. The following topics are included: ability to concentrate, hours of lost sleep over worrying, feeling of playing a useful part in society, capability to make decisions, constantly under strain, difficulty to cope with difficulties, ability to enjoy life, ability to face problems, feelings of unhappiness and depression, losing of confidence and thoughts about oneself as a worthless person.

Suicide

The suicide rates, suicide attempts rates and the prevalence of self-harm is an important indicator of people's psychological health. Suicide represents an extreme and often acute manifestation of distress. Research has shown that more social capital and higher levels of trust are associated with lower national suicide rates and higher levels of subjective wellbeing and happiness. Furthermore, there is a strong negative correlation between national average suicide rates and measures of life satisfaction. Thus social capital does appear to improve wellbeing, whether measured by higher average values of life satisfaction or by lower average suicide rates (Helliwell, 2003).

Delinquents

The level of youth violence in society can be viewed as an indicator of youths' mental health, ability to control their behavior and the adequacy of socializing agents such as families, peers, schools, and religious institutions to supervise or channel youth behavior to acceptable norms. This subject include several interrelated indicators such as juvenile (violent crime) arrest rate, juvenile delinquents in secure institutions and average days of stay, number of child admission to adult jail facilities and rate of children in substitute care (Federal Interagency Forum on Child and Family Statistics, 2005).

Indicators: life satisfaction

The life satisfaction sub-dimension is a subjective indicator based on the survey question template: 'In the city or area where you live, are you satisfied or dissatisfied with...?'. Any topic can be added to this question. Three examples are presented below.

1. Satisfaction with housing

The BLI measures the percentage of people who are satisfied with their housing situation. Housing satisfaction may be defined as the gap between a person's perceived needs and aspirations for housing and the reality of the current housing situation. People often evaluate their satisfaction with housing relative to other persons, their own past experience and expectations for the future. This indicator relies on the following survey question: 'Are you satisfied or dissatisfied with your current housing, dwelling, or place you live?'. The answer is either 'satisfied' or 'unsatisfied'.

2. Subjective evaluation of material wellbeing

An increasing gap exists between the evolution of objective measures of people's economic situation and people's own appreciation of this. Therefore, self-perceived evaluations of material living conditions offer a useful complement to objective measures. The BLI uses the subjective evaluation of material wellbeing indicator. This indicator refers to the share of the population who declare that they are 'having great difficulty or difficulty to make their ends meet'.

3. Satisfaction with allocation of time

The BLI aims to measure the percentage of people who are satisfied with their allocation of time. As a proxy of the capacity to reconcile work and life, as perceived by individuals, this indicator relies on the survey question: 'Could you tell me if you think you spend too much, too little or just about the right amount of time' in four areas: my job/paid work; contact with family members living in this household or elsewhere; other social contact (not family) and own hobbies/interests.

However, these three examples only represent a very small of all the possibilities. For example, the PI measures people's satisfaction with their standard of living, educational quality, health and free choice. The BLI measures people's satisfaction with the quality of their living environment.

Additional indicators

Other mental health indicators currently in use include hospitalization rates (in-hospital stay or discharge data), utilization rates of health resources (number of psychiatrists or psychiatric beds per capita) and self-reported use of mental health services or disorders. Unfortunately, these mental health indicators do not capture the broad spectrum of severity that characterizes this field. For example, four potential indicators of both youth and adult depression and anxiety may be self-reported mental health symptoms, self-reported full diagnostic disorders, and physicians' billings for outpatient mental health visits and use of psychotropic medications (Tannenbaum et al, 2009).

Dimension 9. Cultural Diversity

Wellbeing and cultural diversity

The significance of cultural diversity for human wellbeing is now being increasingly recognized internationally. The UNESCO Universal Declaration on Cultural Diversity represents the first international instrument aimed at promoting cultural diversity. Developing cultural resilience is also given importance, which can be understood as the culture's capacity to maintain and develop cultural identity, knowledge and practices, and able to overcome challenges and difficulties from other norms and ideals.

According to GNH Index, the key importance of culture is to instill values for the full development of human being, to meet spiritual and emotional needs, to temper the pace of modernization and the negative impacts of globalization, to safeguard and strengthen the country's sovereignty and security, to develop resilience, and to promote diversity for meaningful contribution.

This dimensions attempts to assess the strength and relevance of various aspects of culture within a society through the perceptions of respondents towards basic cultural elements such as language; sense of identity; core values, change in values, beliefs, norms, and customs; and participation in various cultural activities, such as festivals, sports, and songs. Also, the indicators focus on analyzing whether a society's culture as a whole is capable of maintaining and developing itself in spite of challenges from other ideals and norms as a feature of cultural resilience (Centre for Bhutan Studies, 2011).

Indicators

Religious attendance

The PI uses the religious attendance indicator based on the following survey question: 'Have you attended a place of worship or religious service within the last seven days?'

Native language

The GNH Index uses the speak native language indicator to measure people's ability to speak their mother tongue. This indicator is based on the survey question: 'How well can you speak your mother tongue now?'

Cultural participation

The GNH Index uses the cultural participation indicator to measure the number of days people participated in socio-cultural activities. This indicator is based on the question: 'How many days do you spend in a year attending social and cultural activities?'

Code of etiquette and conduct

The GNH Index uses the code of etiquette and conduct indicator to measure people's attitudes and the change over time in terms of code of etiquette and conduct.

Artisan skills

The GNH Index uses the artisan skills indicator to measure people's artisan skills such as weaving, embroidery, painting, carpentry, carving etc. This indicator is based on the survey question: 'Do you have any artistic skills?'

Dimension 10. Safety and Security

Wellbeing and safety and security

Personal security is a key component of people's wellbeing. Physical security is a broad concept as the range of threats to people's lives includes wars, political and ethnic conflicts, terrorism, environmental and natural hazards, industrial accidents and occupational injuries (OECD, 2011).

Although many factors influence personal security, crime is one of the most common ones. Crime encompasses a large number of criminal offences such as murders, crimes against property, contact crimes and non-conventional crimes. While the media pay great attention to sensational crimes, less visible but far more widespread forms of violence permeate the lives of many people around the world. Crime has a strong impact on the victims' mental and physical health as it leads to the loss of life and property, physical pain, post-traumatic stress and anxiety, both in the short and in the long run (Michalos and Zumbo, 2000; Hanson *et al.*, 2010). Crime has also large indirect impacts on the wellbeing of non-victims, through the increase in worry and anxiety and the hampering of daily activities and functioning to which fear of crime may lead (Amerio and Roccato, 2007).

Living in safe communities is intrinsically important to people's wellbeing, but it is also and perhaps equally important that people perceive that they live in a safe place (Hanson *et al.*, 2010). More generally, freedom from crime is also instrumental to the achievement of wellbeing. Safer communities tend to foster closer inter-personal relationships in an area (Detotto and Otranto, 2010). Crime poses both direct and indirect costs on affected people. Direct costs include stolen and damaged property, personal spending on security measures, pain and suffering and lost lives. Policies need to evaluate the social costs, the indirect costs, of crime and the benefits of higher personal security. These costs appear in the form of public spending to prevent crime or to remedy its consequences. It is estimated that the total annual cost of criminal activity accounted for 12% of GDP in the United States (Anderson, 1999). These costs include medical care, mental health services, police interventions and judiciary investigations. However, these estimates do not include the costs incurred by people due to their fear of crime, and so understate the true cost of crime (Dolan and Peasgood, 2007).

Indicators

Homicide rate

Homicide is widely considered as the most important indicator of violent crime, as many other types of crimes with lesser impacts on victims (*e.g.* robbery) are associated with it. The BLI uses the homicide rate indicator. This indicator refers to victims of intentional homicide defined as an unlawful death deliberately inflicted on one person by another person. Homicide is one of the few crimes for which recorded crime figures provide a reasonably accurate measure of crime levels. Homicide does not suffer very much from under-reporting and under-recording as in all countries the police is required to intervene. However, it should be stressed that homicide is a very rare crime.

Crime rates

The PI uses the assault indicator to measure the percentage of people who have been assaulted or mugged. This indicator is based on the following survey question: 'Within the past 12 months: Have you been assaulted or mugged?'

The PI uses the property stolen indicator to measure the percentage of people from whom money or property has been stolen. This indicator is based on the following survey question: 'Survey: Within the past 12 months: Have you had money or property stolen from you or another household member?'

Both the Crime Severity Index and the Personal Safety Index uses similar indicators as presented in this section, but use a broader definition of safety and security. Therefore, these indexes also use indicators to measure health security and economic security such as financial vulnerability.

Victimization

The BLI uses the self-reported victimization indicator. This indicator represents the percentage of people aged 15 and over who declares having been the victim of assault or mugging in the preceding calendar year. It excludes crimes against property that do not involve physical contact between the victim and the offender. This indicator is based on the following question: 'Within the past 12 months, have you been assaulted or mugged?'. The GNH Index uses the victimization indicator as well. This indicator is based on the survey question: 'Have you been a victim of crime in the last 12 months?'

Violence against children

Children have a right to a childhood free of abuse, neglect and maltreatment. Violence against children has serious and long-lasting effects on child wellbeing. The BLI uses the violence against children indicator. The indicator measures the annual number of deaths of children under the age of 20 from acts of commission (assault and maltreatment) and acts of omission (neglect). Deaths can take place in the home or outside.

Group grievances

Group grievances can date back centuries as they are based on recent or past injustices. They can include public scapegoating or atrocities committed with impunity against communal groups and/or specific groups singled out by state authorities or other dominant groups. Groups can believe to have acquired wealth, status or power as evidenced in the emergence of 'hate' radio, pamphleteering and stereotypical or nationalistic political rhetoric. The PI uses the group grievances indicator to measure the prevalence of group grievances.

Demographic instability

A country's demographic composition can be a source of instability and insecurity. Demographic pressures can result from a high population density relative to food supply and other life-sustaining resources; from group settlement patterns that affect the freedom to participate in common forms of human and physical activity such as economic productivity, travel, social interaction, religious worship; from group settlement patterns and physical settings such as border disputes, ownership or occupancy of land, access to transportation outlets, control of religious or historical sites, and proximity to environmental hazards; from skewed population distributions or

from divergent rates of population growth among competing communal groups. The PI uses the demographic instability to capture these patterns. Based on the UN Social Indicators, other related indicators include population size and composition, age and sex ratios, population growth and distribution.

Political violence

The PI uses the state-sponsored political violence indicator to measure the state-sponsored political violence and repression within a country. This indicator rates countries reporting a higher level of disappearances, torture and political violence as more insecure. In addition, the PI uses the civil war indicator to measure the magnitude score of episode(s) of civil violence, ethnic warfare and ethnic violence involving that state in that year.

Human flight

The PI uses the human flight indicator to measure the flight of professionals, intellectuals, and political dissidents; and voluntary emigration of the middle class to other nations.

Refugees and IDPs

The PI uses the refugees and IDPs indicator to measure forced uprooting of large communities as a result of random or targeted violence and/or repression, causing food shortages, disease, lack of clean water, land competition, and turmoil that can spiral into larger humanitarian and security problems, both within and between countries.

Feeling of security

Fear of crime is as important as crime itself due to the depth and breadth of its consequences on people's lives (Adams and Serpe, 2000). However, defining and measuring fear of crime is a complex task (Gabriel and Greve, 2003). Fear of crime includes many dimensions, ranging from fear of physical violence to fear of loss or damage to property (Amerio and Roccato, 2007) While, in some circumstances, fear may be a beneficial, even life-saving, emotion, in most cases fear due to perceived personal insecurity will constrain behaviour, restrict freedom and threaten the foundation of communities (Warr, 2000). The BLI uses the feeling of security indicator. This indicator shows the percentage of the population who declare that they feel safe walking alone at night in their neighborhood. The indicator is based on the following question: 'Do you feel safe walking alone at night in the city or area where you live?'. The PI uses the exact same indicator and survey question.

Fearless expression of political opinion

The PI uses the ability to express political opinion without fear indicator. This indicator is based on the following survey question: 'In your opinion, how many people in your country, if any, are afraid to openly express their political views?'

Additional indicators

Based on the Crime Severity Index and the Personal Security Index, other relevant indicators include safety at work, general migration numbers, safety on the road including traffic accidents and confidence in the social safety net.

Appendix A. The 2011 OECD Better Life Index: An Outline
(dimensions, target concepts and indicators)

Dimension 1. Income and wealth

Current and future consumption possibilities

- Household net adjusted disposable income
- Household net financial wealth

Realized material wellbeing

- Household final consumption
- Household total consumption

Satisfaction with material conditions

- Subjective evaluation of material wellbeing

Dimension 2. Jobs and earnings

Quantity of jobs

- Employment rate
- Long-term unemployment
- Involuntary part-time employment

Quality of jobs

- Average annual earnings per employee
- Employees working on temporary contracts
- Work accidents: fatal and nonfatal injuries

Dimension 3. Housing conditions

Quality of housing

- Number of rooms per person in a dwelling
- Lack of access to basic sanitary facilities: absence of indoor flushing toilet and/or a bathroom (bath or shower)

Housing affordability

- Housing costs overburden rate

Satisfaction with housing

- Satisfaction with housing

Dimension 4. Health status

Length of life

- Life expectancy at birth
- Infant mortality

Morbidity in its different dimensions

- Health status (self-reported)
- Longstanding illness (self-reported)
- Limitations in daily activities (self-reported)
- Overweight and obesity

Dimension 5. Work-life balance

Work-life time balance

- Employees working more than 50 hours per week
- Time in leisure and personal care
- Commuting time

Ability to reconcile family and work

- Employment rate of mothers with school-age children

Satisfaction with work-life balance

- Satisfaction with work-life time allocation

Dimension 6. Education and skills

Quantity of education

- Educational attainment
 - Education expectancy
 - Lifelong learning
- Quality of education
- Cognitive skills (of students)
 - Civic skills (of students)

Dimension 7. Social Connections

Personal relationships

- Social network support
- Community relationships
- Frequency of social contact
 - Time spent volunteering
- Norms and values
- Trust in others

Dimension 8. Civic Engagement and Governance

Civic engagement

- Voter turnout
 - Participation in political activities
- Quality of governance
- Consultation on rule-making
- Confidence in public institutions
- Confidence in national government, judicial system and media

Dimension 9. Environmental Quality

Quality of environment

- Air quality

Impact of environmental hazards on human health

- Environmental burden of disease

Subjective perceptions of environment

- Satisfaction with local environment
- Access to green spaces

Dimension 10. Personal Security

Opportunities to live in a safe environment

- Intentional homicides
 - Victimization (self-reported)
 - Domestic violence on children
- Fear of crime
- Feeling of security

Appendix B. The 2011 Legatum Institute Prosperity Index: An Outline

(sub-indexes, performance areas, indicators)

Sub-Index 1. Economy

Macroeconomic policies

- Gross domestic savings
- Unemployment rate
- Employment status
- Inflation
- 5-year rate of growth

Foundation for growth

- Capital per worker
- Market size
- High-tech exports
- FDI size and volatility

Economic satisfaction and expectations

- Satisfaction with standard of living
- Adequate food and shelter
- Perceived job availability
- Expectations of the economy

Financial sector efficiency

- Non-performing loans
- Confidence in financial institutions

Sub-index 2. Entrepreneurship and Opportunity

Entrepreneurial environment

- Business start-up costs
- Secure internet servers
- Internet bandwidth
- Mobile phones *and* mobile phones per household
- Good environment for entrepreneurs

Innovative activity

- R&D expenditure
- Reality receipts
- ICT exports

Access to opportunity

- Uneven economic development
- Perception that working hard gets you ahead

Sub-index 3. Governance

Effective and accountable government

- Government effectiveness
- Government stability
- Separations of powers
- Political constraints
- Government type
- Efforts to address poverty
- Business and government corruption
- Environmental preservation
- Separation of powers
- Confidence in government

Rule of law

- Rule of law
- Regulation
- Confidence in the judicial system
- Confidence in the military

Fair elections and political participation

- Political rights
- Voiced concern
- Confidence in the honesty of elections

Sub-index 4. Education

Access to education

- Gross secondary enrolment
- Net primary enrolment
- Girls to boys enrolment ratio
- Gross tertiary enrolment

Quality of education

- Pupil to teacher ratio
- Satisfaction with educational quality
- Perception that children are learning in society

Human capital

- Secondary education per worker
- Tertiary education per worker

Sub-index 5. Health

Basic health outcomes

- Infant mortality
- Life expectancy
- Health-adjusted life expectancy
- Undernourishment

Health infrastructure and preventive care

- Immunisation against infectious diseases
- Incidence of tuberculosis
- Immunisation against measles
- Health expenditure per person
- Hospital beds
- Water quality
- Sanitation
- Death from respiratory diseases

Physical and mental health satisfaction

- Satisfaction with health
- Level of worrying
- Satisfaction with environmental beauty
- Well-rested
- Health problems

Sub-index 6. Safety and security

National security

- Group grievances
- Refugees and IDP
- State-sponsored political violence
- Demographic instability

- Human flights
- Civil war
- Personal safety
 - Assault
 - Property stolen
 - Safe walking alone at night
 - Express political opinion without fear of assault

Sub-index 7. Personal freedom

Individual freedom

- Civil liberty and free choice
- Satisfaction with freedom of choice

Perceived social tolerance

- Tolerance for immigrants
- Tolerance for minorities

Sub-index 8. Social capital

Societal cohesion and engagement

- Formal volunteering
- Helping strangers
- Donations
- Trust in others

Community and family networks

- Perceptions of social support
- Marriage
- Religious attendance

Appendix C. The Bhutan Gross National Happiness Index: An Outline

(domains, sub-domains, indicators)

Domain 1. Psychological wellbeing

Life satisfaction

- Health
- Living Standard
- Occupation
- Relationships
- Work-life balance

Prevalence of positive emotions

- Calmness
- Empathy/encompassion
- Forgiveness
- Contentment
- Generosity

Prevalence of negative emotions

- Anger
- Fear
- Worry
- Selfishness
- Jealousy

Spirituality

- Spirituality level
- Prayer recitation
- Meditation
- Consideration of Karma

Domain 2. Living standards

Income

- Household income per capita

Housing

- Toilet
- Electricity
- Quality of roof
- Persons per room

Assets

- Mobile phones
- Fixed phone
- Personal computer
- Refrigerator
- Washing machine
- Television
- Livestock
- Land size (5 acres threshold)

Domain 3. Good governance

Political participation

- Voting
- Attending Zomdue at Chiwog, Gewog or Thromdue level

Government performance

- Creating jobs
- Reducing gap between rich and poor

- Providing education
 - Improving health services
 - Fighting corruption
 - Protecting environment
 - Preserving culture and traditions
- Services
- Walking time to nearest health care centre
 - Waste disposal
 - Source of water
 - Quality of drinking water
 - Access to electricity
- Fundamental rights
- Freedom of speech and opinion
 - Freedom to vote
 - Freedom to join political party
 - Freedom to join public service
 - Equal value of work
 - Freedom from discrimination
- Domain 4. Health
- Number of healthy days
- Health status (self-reported)
- Disability
- Long-term disability that restricts activities
- Mental health
- Ability to concentrate
 - Lost sleep over worrying
 - Playing useful part
 - Capable of making decisions
 - Constantly under strain
 - Difficulty to cope with difficulties
 - Able to enjoy
 - Able to face problems
 - Feeling unhappy and depressed
 - Losing confidence
 - Thinking of self as a worthless person
- Domain 5. Education
- Schooling
- Literacy
- Knowledge of...
- Local legends and folk stories
 - Local *tshachus* and festivals
 - Constitution
 - How HIV/AIDS is transmitted
- Values: little justification for...
- Killing
 - Stealing
 - Lying
 - Creating disharmony among people
 - Sexual misconduct

Domain 6. Community Vitality

Donations (time and money)

- Proportion of household income donated
- Days of volunteering

Safety

- Having been a recent victim of crime

Family

- Family care
- Wish you were not part of your family
- Argue too much
- Feel like a stranger in a family
- Family are understanding
- Family are a real source of comfort

Community Relationships

- Sense of belonging
- Trust in neighbours

Domain 7. Cultural diversity and resilience

Speak native language

Cultural participation

- Number of days spent in sociocultural event in a year

Code of etiquette and conduct

- Importance
- Change in practise

Artisan skills

- Weaving, embroidery, painting, carpentry, carving etc.

Domain 8. Time use

Work hours

Sleep hours

Domain 9. Ecological diversity and resilience

Responsibility towards environment

Ecological issues

- Pollution of rivers and streams
- Air pollution
- Absence of waste disposal sites
- Landslides
- Soil erosion
- Floods
- Noise pollution

Urbanization issues

- Traffic congestion
- Absence or inadequate green spaces
- Lack of pedestrian friendly streets
- Urban sprawl

Wildlife damage (rural)

- Wild animals are a constraint to crops
- Crops have been damaged by wild animals

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