BY THE NUMBERS compiled by Carlotta Magnanini

GOLDEN SLIPPERS Soccer is anything but child's play. The value of the world's top club teams confirms it. The 2009 net worth rankings in dollars and euro:
first **Manchester United $ 1,870 (€ 1,409)** billion
2: Real Madrid $ 1.353 (€ 1.019 billion)
3: Arsenal $ 1,200 (€ 904 million)
4: Bayern Munich $ 1,110 (€ 836 million)
5: Liverpool $ 1,010 (€ 760 million)
6: AC Milan $ 990 (€ 746 million)
7: Barcelona $ 960 (€ 723 million)
8: Chelsea $ 800 (€ 602 million)
9: Juventus $ 600 (€ 452 million)
10: Schalke 04 $ 510 (€ 384 million)

Source Forbes

HALLOWEEN BUST
Halloween night was a spending letdown in the U.S., with families tightening purse strings. **An average family spent $ 56.31**, down 18% from 2008 ($ 66.54).Total spending was $ 4.8 billion compared to $ 5.8 last year.

Source National Retail Federation

BERNIE BY-THE-NUMBERS 11: Crimes committed by Madoff. 150: Madoff's prison term in years. 71: Madoff's age. $ 64.8 billion: Total sum invested by fraud victims. 35: The number of labor union pension plans Madoff siphoned from (worth about $ 10 million). 13: Years investigators believed Madoff didn't operate, instead collecting money and "producing returns" with new clients' money. 4.800: number of victims of Madoff's Ponzi scheme. 4: Number of benches in Central Park named after Madoff or his relatives.

Source New York Times

VIVE L'ITALIE! 30% Increase in the amount of Italian sparkling wine exported to United States at the expense of French champagne. The U.S. took 11.5 million Italian bottles to 8.9 million French. Blame the crisis or praise Italian bubbles? Your choice.

Source Coldiretti

THE RIGHT SNACK 144 Price in Sterling of most expensive pancakes in the world, served at a Manchester, England restaurant. 98: Price in euro of a truffle sandwich by French chef Michel Rostang. 781: Price in dollars for one pack of one-ounce Almas Caviar at London's House of Caviar. 370: Price in dollars for a liter of Kona nigari, water from deep beneath Hawaii. 577: Price in dollars per ounce of chocolate truffles made by Chocopologie.

Source New York Daily News

SLOW-NET Compared to other European countries, Italy lags behind in high-speed Internet access. Here are the latest European figures on high-speed connections available to the population. **United Kingdom 28,4%** / France 27,7% / **Germany 27,5%** / Spain 20,2% **Italy 20%** European average 27 22,9%.

Source AgCom 2009

SUPER MEATBALLS
101: Weight in kilos of the largest meatball in history, made at Nonni's Italian Eatery in Concord, New Hampshire and entered into Guinness Book of World Records.

Source Bbc

TEXT AT YOUR OWN RISK 21: Prison term in months for 22-year-old Oxford resident Phillipa Curtis following her conviction for running down and killing Victoria McBryde, 24. At the time of the accident, investigators said Curtis was writing 20 text messages to five friends. Curtis got off lightly. The typical sentence for vehicular manslaughter is four-to-six years.

Source Daily Mail

AIDS 2010 16.000: Number infected daily by HIV globally. Some 50% of the 38.6 million HIV-positive adults are women, while 3.2 million are children under age 15. More than two-thirds of cases are in Africa.

Source Joint United Nations Programme on Hiv/Aids

BRAINS A human's intelligence quotient (**IQ**) based on French psychologist Alfred Binet's 1905 test tops out at around 100 points. Selected readings: **3,5%** of the global population has an **IQ of below 70.** 21.5% runs between 70 and 90 points. 50.0% between 90 and 110. 21.5% between 110 and 130.

Source New Scientist

WORLDBOOK Facebook divides one part of the United States and Europe from the rest of the world. **In North America, 39%** of the population has joined Facebook. **In Europe,** the figure is **33%**. Elsewhere it changes, radically. There's only 9% use in South America, 8% in the Middle East and North Africa, 6% in Asia, 3% in Oceania and 1% in Africa. Though Facebook has seen explosive European growth, it hasn't been uniform. The biggest recent leaps: Czech Republic (+144%), Slovakia (+137%), **Italy (+71%)**, Spain and (+66%) and Germany (+48%).

Source O'Reilly Radar

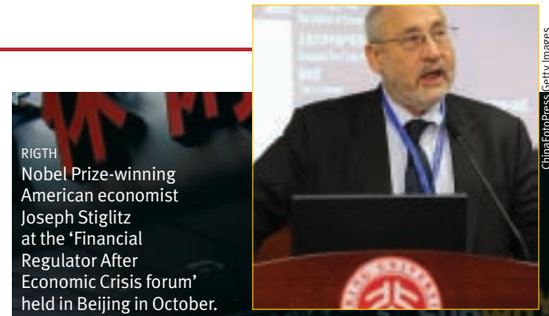
Finding happiness outside GDP

Corbis / B. Krist

Nobel Prize-winner Joseph Stiglitz believes that economists might have foreseen the real estate bubble crash had they looked past GDP growth to the distribution of income among the American middle class. • But looking at median markers and well-being isn't part of the current national statistical puzzle. • Yet a number of nations and institutions are beginning to acknowledge they can't predict the future on GDP alone. • They need to know how people are feeling, and what they want. •

When Quality Matters More than GDP

by **Donato Speroni**



RIGTH
Nobel Prize-winning American economist Joseph Stiglitz at the 'Financial Regulator After Economic Crisis forum' held in Beijing in October.

ChinaFotoPress/Getty Images

Studio Ghirotti/Gobesso / P. Ghirotti

From "the hungry society" to "the angry society." Koreans use this terminology to describe the evolution of their country over the past three decades. We're not talking about North Koreans, still oppressed by a blindly tyrannical regime, but South Koreans. Seoul's GDP has increased sevenfold in real terms, but so have signs of social distress: the birth rate is the lowest in the world and the suicide rate the highest. To track the mood of the country, the South Korean government has introduced a set of "national happiness" indices in an effort to quantify and explain this wave of unhappiness.

South Korea isn't alone in trying to find new means to quantify the national mood. Economic woes and environmental problems have accentuated the need for solutions. According to Nobel laureate Joseph Stiglitz, one of the causes of the recent economic crisis grew from a tendency among economists to overstate the importance of U.S. GDP, which grew from 2004 to 2007. They failed to calculate that only a select few felt the wealth produced by this boom.

Economists tend to swear by average figures, in this case per capita GPD. But had they chosen instead to probe the median, in essence the extent to which income was actually benefiting middle class Americans, they might have gotten an early picture of the deep weakening that was a precursor to the collapse of the real estate bubble. But median GDP isn't among the battery of indicators routinely taken into account when it comes to formulating the comprehensive package of statistical data intended to help frame the economic health of nation.

French president Nicholas Sarkozy was among the first national leaders to take note of this grey zone, noting an increasing contradiction between citizen desire to maintain their levels of material wealth while at the same time worrying about the environmental harm caused by the production of the wealth itself. In early 2008, Sarkozy created an expert commission led by Stiglitz, along with fellow economists Jean-Paul Fitoussi and Amartya Sen, to help draft new proposals. The committee presented its findings last September (see the Executive Report on the following pages). The same month also saw the publication of a European Commission paper titled "GDP and Beyond" and the final recommendations of the G20 summit in Pittsburgh, all of which recommended the development of new indicators to comprehensively measure economic progress.

But how to accomplish these goals? The first major global discussion of GDP measurements and its shortcomings was held in Busan, South Korea from October 27 through 30 as part of the World Forum on Statistics, Knowledge and Policy. In all, 1,700 officials from 130 Countries attended the conference, including economists, statisticians, political leaders, and a large contingent of NGO officials. It was the largest event ever sponsored by the Paris-based Organization for Economic Cooperation and Development (OECD), which is charged with analyzing the 30 most industrialized countries. But the success of the meeting (this is its third edition, the first held in Palermo in 2004, the second in Istanbul in 2007; see East No. 16) also meant highlighting the problems at hand, because the objective of "measuring progress" not just GDP terms, creates immense technical, political and even philosophical dilemmas, as Ruth Veenhoven notes in a separate article published in this issue.

Economists, statisticians, psychologists and sociologists have been openly discussing the issue for some three decades, since American academic Richard A. Easterlin showed in 1974 that once a persona's primary needs are met, happiness doesn't grow in tandem with income. So what then determines individual contentment? The question prompted the development of "the economics of happiness," a field that has been consistently enriched by new and interesting contributions. Many Easterlin followers argue, for example, that happiness is mainly contingent on the improvement of personal status within a community (the "keeping up with the Joneses" factor) and supported by other factors mostly related to health and social life social. Others dispute this claim, but the debate on so-called "Easterlin paradox" continues stimulating the search for a bindingly reliable measurement.

Even without getting into considerable substance the issue, the act of directly measuring "happiness" or "wellness," both on substantiating individual happiness, requires measuring "well-being." There are two schools of thought, the "North European school," which focuses on objective indicators, and the more subjective "American School," which tends to measure self-perception, usually on a scale of one to 10. Both models have serious defects.

Not all so-called objective indicators chronicle progress. On the contrary. But while suicide rate is certainly a clear indicator of social discomfort, what for example should be the optimum divorce rate in any given society? Kenneth Prewitt, the founding president of the State of the U.S. foundation, a giant clearing house on data about American society, asked himself the question. "It's not zero, which would suggest a situation in which lots of people are condemned to bad marriages, but it's not 100 percent, either. So what is it?" The difficulty of finding comparables is compounded by the fact that in many situations the statistics are inadequate. For example, it should be obvious that the true indicator personal welfare can't simply be measured in terms of "life expectancy," or the number of years someone has before his or her deaths, but "life expectancy in good health." Yet very few countries possess such information, which is naturally more arduous to collect and to process.

On the other hand, even subjective indicators face their own dilemmas, not the least of which is how individuals respond to the question "How happy do you feel?" The answer could be influenced by passing concerns (the weather, even), by how inspiring they find the person asking the question, but above all by considerations. People in different countries don't give the same answers to the same questions.

As Australian Robert Cummins, president of International Society for Quality of Life Studies said in Busan, "an American or an Australian has no qualms about giving life a 10 if he's really happy, while an Asian is unlikely to ever grade life higher than an eight." Overall, though, Cummins defends the importance of attempting to assess so-called "subjective well-being," which has been a staple in Australia data-gathering for years. The results have shown a surprising stability in the average data (less than a three percent variance over in 10 years). This has made it easier to measure the causes of discomfort (for example, fear of increased immigrants, excessive urban density) through the examination of data that deviates from the mean.

Another problem that lacks a simple answer whether to examine a large number of indices at once or create

Every kind of interpersonal interaction is considered a key part of promoting social and personal well-being.

Studio Ghirotti/Gobesso / P. Ghirotti

one broader global index that incorporates a variety of measurements. The best known of the broader indices is the Human Development Index (HDI) developed by UNDP, the United Nations Development Program. HDI factors in GDP, life expectancy and cultural level of each nation. It has been criticized for failing to adequately assess environmental factors and will be reconfigured at the end of 2010. There are similar efforts, including the independent Happy Planet Index, but many technicians shun them fearing that the more they try to account for, the less their significance can be properly assessed. "What can we do with a car dashboard dial that dishes out ratio of speed to gas left?" Stiglitz says ironically.

But others such as Sir Richard Layard, who heads up London School of Economics' studies on happiness, argues that in the absence of an overall personal welfare index there's no way of getting around the dominance of GDP in evaluating national performance and as a result dictating policy choices. Layard's views have the support of a number of NGOs and "no global" advocates who question the very concept of growth as an indicator for progress. Some nations, including Bhutan, which has a Gross National Happiness Index, now South Korea, with its new plan based on 10 quality of life areas, already decided to redefine what goes into defining progress.

At this point, the matter turns political. In the past, efforts to take the economic debate "beyond GDP" has been viewed with suspicion, particularly among consumer product lobbies. Stiglitz, remarking on his time as president of the U.S. Council of Economic Advisors, said in Busan that when he began preparing proposals for then-President Bill Clinton similar to those that emerged this year in his work for Sarkozy, his efforts were swiftly buried by the energy lobbies, particularly the members of the coal industry, which feared the introduction taxes on CO2 emissions. Undeniably, it's an extremely delicate matter: if the production of wealth were calculated in terms of the net damage caused to the environment, industrial policies would require fundamental revision.

The new indicators also create some serious concerns for the leadership of developing countries, both because of their potential to attention to environmental damage related to growth and the way they might make domestic social divisions more internationally evident. "We don't want these new indices to make life more difficult," said Lahlimi Ahmed Alami, high commissioner for planning in Morocco. Even major Asian states have raised their own set of concerns, beginning with China. Officially, the Beijing government is still committed to the path that would lead to a "Xiaokang Society," one where every citizen is "moderately prosperous." The plan was launched by Premier Deng Xiaoping in 1979, and is based on 23 national indicators. But the push to "measure progress" as requested by OECD, also means increasing measurements so that they extend into local communities, which in turn could provoke the kind self-critical analysis that risks undermine the China's fragile social stability.

There is also matter of smoothing out the relationship between the technical and political sides. Pronab Sen, India's National Chief Statistician, told a Busan audience that the success of any index depends entirely on the will of rulers and heads of national programming to implement it in future policy choices. India will host the fourth forum in 2010-2011 and Sen's concerns will certainly weigh on the development of a future agenda.

There's also some resistance from the UN bureaucracy, which is busy preparing new Millennium Development Goals (MDGs) expected to be announced well before the 2015 expiry date of the current ones. "Someone told me that I was headed into enemy territory by going to Busan," joked Paul Cheung, the Head of the Statistical Office of the United Nations. He wasn't really kidding. "There's no doubt that we have to cooperate in the process, but let's take things one step at a time," he said. "The MDGs are a shared vision of the world and we can't just create a parallel universe."

Arctic-Images / Corbis

The origin of this resistance also includes the position of the OECD, which under the guidance of the Chief Statistician Enrico Giovannini promoted these forums. Now that Giovannini has returned to Italy following his eight-year OECD stint (see interview), there are those who want to take a step backward, in part because the OECD's own future is uncertain. While the OECD's Paris headquarters was once the undisputed venue for discussion among industrialized countries, key nations (China and India, Brazil and Russia, South Africa and Indonesia) are now tending to lay back, watching from the outside, considering the upper echelons of the organization too Eurocentric ("too many Europeans," said one diplomat).

But the OECD Secretary General Angel Gurría, a Mexican, and his deputy, Italian Pier Carlo Padoan, are determined to dispel such doubts. The general strategy announced with the introduction of the Busan Roadmap consists in making the organization a centerpiece for the creation of a so-called "progressive framework," in much the same way as the G20 recognized the need for a new "legal framework" to regulate economic and financial globalization. Now, says the OECD, the time has come to institute standards that cover social progress, which it says it can and should be responsible for doing. The idea appears to have a large consensus. In Busan, Padoan and Giovannini launched wikiprogress, an information highway tool intended to enhance interactivity and encourage participation from to bottom up among all organizations interested in getting involved in the debate on progress.

In any event, the idea of "getting beyond GDP" is out of the bag. Statisticians are beginning to work on three requirements outlined in the Stiglitz report, an enterprise that has been backed by all experts.

1.GDP as a measure of national production should not be abandoned. At the same time, it's important to systematically supplement GDP with other statistical values. In addition to the "gross per capita product," it's essential to measure the share of income actually available to families, as well as to take into account social distribution and the net wealth transferred to the state. On the other hand, the output of public services must be more meticulously measured. At the moment, it's weighed down by calculating public expenditure without regard to actual productivity, which is far too limiting.

2.While GDP measures production, wellness is a multidimensional matter, depending centrally on social status, security, health, education, and the relationship between citizens and their institutions. Improving the gathering of such information, both subjective and objective, is vital, while leaving the door open to the question of whether the accumulated data should be placed into aggregate indices or considered separately. Two different roles are becoming evident. While national statistical offices should improve social data, international organizations and individuals must combine them in compatible, comparable indices.

3.The GDP is called "gross" because, unlike in corporate accounting, it makes no accounting for depreciation. But it's also essential to measure the its "sustainability," which means weighing changes in capital to determine whether the production of wealth today is being obtained at the expense of future potential of the community (primarily in environmental terms, but also in human ones, based for example on a country's educational legacy).

In this context, the Stiglitz commission very clearly refers to the need for indicators on the concentration of carbon dioxide in the atmosphere and its effects on global warming. The message is clear: It's not viable to continue measuring current output and the wealth it generates independent of effect it might have on the future. So it is that the debate over the "measuring of progress" now moves from Busan to Copenhagen, where the UN Climate Summit, which will debate what to do after the Kyoto Treaty expires in 2012, will define the December agenda. ●

Giovannini: Italy's ISTAT Steps up the Pace

Italian economist Enrico Giovannini was Chief Statistician of the Paris-based Organization for Economic Co-operation and Development (OECD) for eight years, orchestrating global efforts to statistically quantify and explain national progress. He introduced the so-called "Statistics of the 21st century" and with Joseph Stiglitz participated in an advisory panel to French President Nicholas Sarkozy to measure "economic performance and social progress" and seek alternatives to GDP as the sole indicator for national quality-of-life and wellness. Now president of ISTAT, Italy's statistical bureau, Giovannini hopes to bring his OECD experience to bear.

The OECD Measuring Progress plan was a major success, culminating in the Busan meetings. But how do you move from statement of principle statistical implementation.

The implementation phase starts at the national level, through round tables that identify the fundamental dimensions of progress that need to be considered on a country-by-country basis. Each nation needs to discover its most suitable indicators. To do this it must involve different parts of society and attract attention from politicians.

Let's focus for a moment on the international side Will the OECD to maintain its leadership in the project, despite the fact that many major countries don't belong to the organization?

The OECD has already set out the broad directions of future commitment through the road map it presented in Busan. The G20 has entrusted some key mandates to the OECD, recognizing its importance, in much the same way as the G8 did.

So future progress will depend primarily on impetus from the G20?

Yes, and we'll also have to see how developing and emerging respond to Sarkozy's efforts regarding social progress indicators. The next two G20 meetings will be held in Canada and South Korea, two countries committed to new-look measures. Canada has its Index of Well-being and South Korea is undertaking its quality of life surveys. Under the aegis of the G20, this could lead to the development of a project, a "progress framework," to help assess national progress. It would be similar to the "legal framework" that the G20 already asked the OECD to develop to help measure economic activity.

What about the UN's Millennium Development Goals (MDGs), which are scheduled to expire in 2015, to be replaced by new indicators? How can they work in harmony the OECD "progress framework"?

The UN General Assembly will take up the future of the MDGs in September 2010. There are two schools of thought on the matter. The first says that the MDGs never really had a conceptual framework, but were instead a summing up of particulars noted at various conferences (on gender issues, education, hunger, and so on), and that the existing eight goals fail to factor in some critical domestic issues, including governance and political participation, which also need to be taken into account.

No doubt some nations would see a widening in scope of the MDGs as a threat, fearing they might stimulate ideas that are dangerous at a domestic level.

This is among the arguments of the second school, which would prefer to avoid major changes to the indicators, which were designed primarily to measure the progress in developing countries and not so much emerging or developing ones. But nothing impedes harmonizing the MDGs with the well-being indicators that the OECD is working on.

In terms of Italian national efforts what do you foresee in?

Antonio Marzano, the president of National Economic and Labor Council (Consiglio Nazionale dell'Economia e del Lavoro) says his organization is ready to host a roundtable on progress in Italy. In technical terms, ISTAT has already started considering what steps to take, even just in terms of better spreading data that we already have in hand.

It's important to bear in mind that state statisticians already measure a multiplicity of factors, including many of the subjective ones proposed by the Stiglitz Commission. For example, the multipurpose annual survey we produce provides an overview of the country's overall social situation. Among the questions we'll be adding will be ones concerning the subjective perception of life's satisfactions, which seems to be the one that's gaining in importance in other nations.

In national accounting terms, what exactly does it mean to go "beyond GDP"?

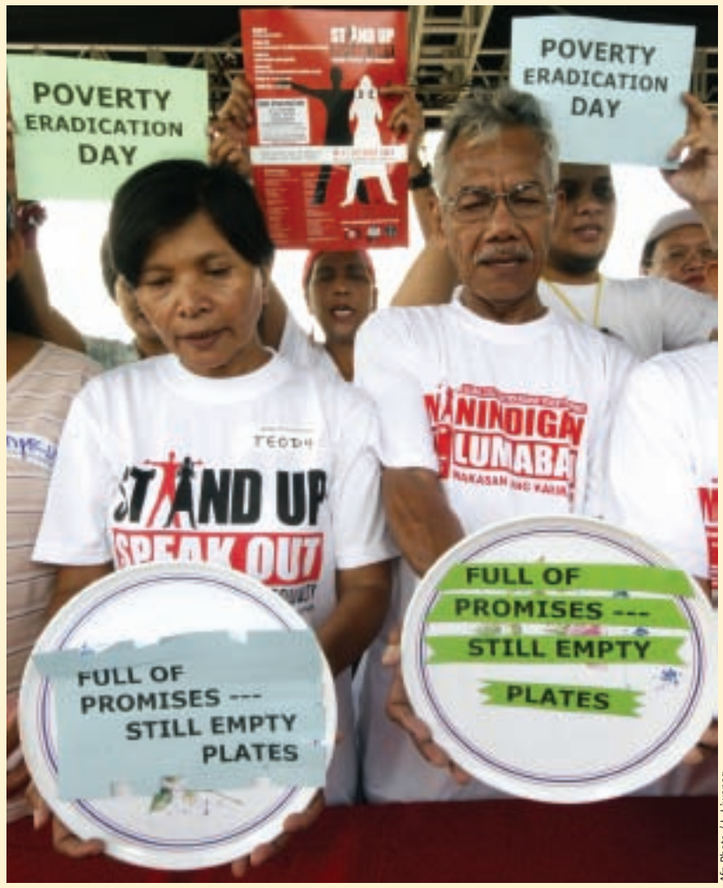
Like other national institutions, ISTAT is involved in revising national accounting based on the demands of European harmonization. In this context we must add data on poverty and on income distribution. It needs to be delivered in a more timely fashion so we can better "photograph" families and arrive at a Social Accounting Matrix (SAM). But it's obvious that doing this also poses a problem of resources.

What about environmental data? The Stiglitz Commission mentioned the need to link possible environmental damage to the production of wealth.

We have some data on this, regarding emissions, for example. But its introduction must be made timelier. Environmental data must also be made consistent with economic and social data. We need to reach an integrated economic, social and environmental accounting system.

To define the sustainability of development isn't also necessary to examine "stock," capital that's consumed at the cost of destroying forests and wildlife?

Precisely. The field has seen significant inroads in natural capital and human capital, the latter depending on variation in levels of education. The UN, OECD and Eurostat are all working on developing social capital, which is to say the relationship set (interpersonal relations, institutional trust, participation in the community) that is an essential component of the wealth of a country. ●



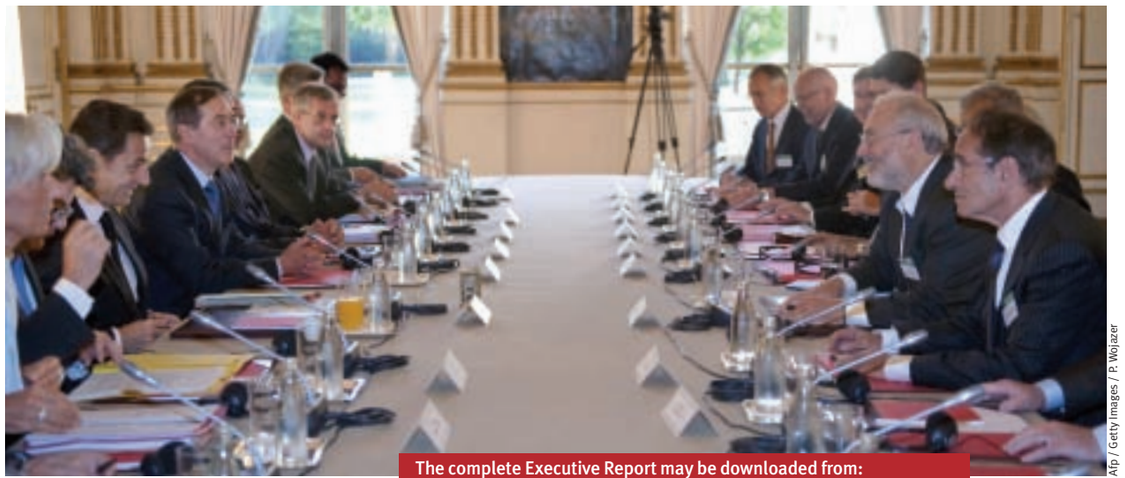
Afp Photo / L. Liwanag

Anti-poverty activists in Manila, the Philippines showed off empty plates as part of a 2007 protest against government failure to eradicate poverty. Resentment against the growth of poverty, hunger, disease, and environmental degradation can damage a nation's well-being index.

Sarkozy: a Little Help from Stiglitz, Sen and Fitoussi

by **Joseph E. Stiglitz**

In February 2008, the President of the French Republic, Nicholas Sarkozy, unsatisfied with the present state of statistical information about the economy and the society, asked Joseph Stiglitz (President of the Commission), Amartya Sen (Advisor) and Jean Paul Fitoussi (Coordinator) to create a Commission, subsequently called "The Commission on the Measurement of Economic Performance and Social Progress" (CMEPSP). The Commission's aim has been to identify the limits of GDP as an indicator of economic performance and social progress, including the problems with its measurement; to consider what additional information might be required for the production of more relevant indicators of social progress; to assess the feasibility of alternative measurement tools, and to discuss how to present the statistical information in an appropriate way.



AFp / Getty Images / P. Wojazer

The complete Executive Report may be downloaded from:
http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf
ehttp://www.stiglitz-sen-fitoussi.fr/documents/rapport_francais.pdf

In effect, statistical indicators are important for designing and assessing policies aiming at advancing the progress of society, as well as for assessing and influencing the functioning of economic markets. Their role has increased significantly over the last two decades. This reflects improvements in the level of education in the population, increases in the complexity of modern economies and the widespread use of information technology. In the "information society", access to data, including statistical data, is much easier.

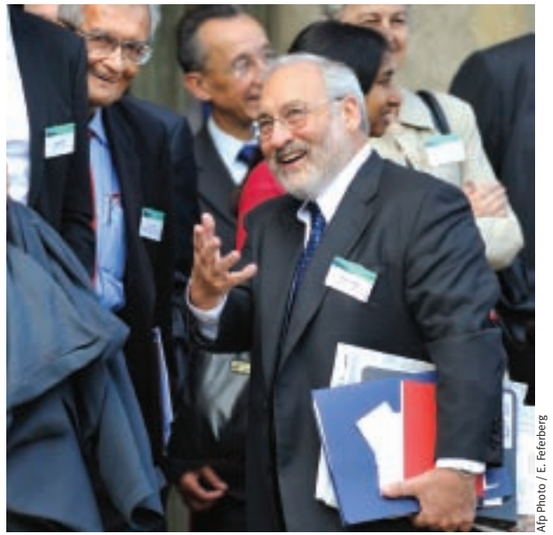
More and more people look at statistics to be better informed or to make decisions. To respond to the growing demand for information, the supply of statistics has also increased considerably, covering new domains and phenomena. What we measure affects what we do; and if our measurements are flawed, decisions may be distorted. Choices between promoting GDP and protecting the environment may be false choices, once environmental degradation is appropriately included in our measurement of economic performance. So too, we often draw inferences about what are good policies by looking at what policies have promoted economic growth; but if our metrics of performance are flawed, so too may be the inferences that we draw.

However, there often seems to be a marked distance between standard measures of important socio economic variables like economic growth, inflation, unemployment, etc. and widespread perceptions.

The standard measures may suggest, for instance that there is less inflation or more growth than individuals perceive to be the case, and the gap is so large and so universal that it cannot be explained by reference to money illusion or to human psychology. In some countries, this gap has undermined confidence in official statistics (for example, in France and in the United Kingdom. only one third of citizens trust official figures, and these countries are not exceptions), with a clear impact on the way in which public discourse about the conditions of the economy and necessary policies takes place.

There may be several explanations for the gap between the statistical measurement of socio-economic phenomena and citizen perception of the same phenomena:

- The statistical concepts may be correct, but the measurement process may be imperfect.
- In many cases, there are debates about what are the right concepts, and the appropriate use of different concepts.
- When there are large changes in inequality (more generally a change in income distribution) gross domestic product (GDP) or any other aggregate computed per capita may not provide an accurate assessment of the situation in which most people find themselves. If inequality increases enough relative to the increase in average per capital GDP, most people can be worse off even though average income is increasing.
- The commonly used statistics may not be capturing some phenomena, which have an increasing impact on the well-being of citizens. For example, traffic jams may increase GDP as a result of the increased use of gasoline, but obviously not the quality of life. Moreover, if citi-



Afp Photo / E. Feferberg

American Joseph Stiglitz was a driving force behind The Commission on the Measurement of Economic Performance and Social Progress (CMEPSP), which French President Nicolas Sarkozy created to help measure the more personal side of national and social well-being. The commission met in Paris and reported back to Sarkozy.

zens are concerned about the quality of air, and air pollution is increasing, then statistical measures which ignore air pollution will provide an inaccurate estimate of what is happening to citizens' well-being. Or a tendency to measure gradual change may be inadequate to capture risks of abrupt alterations in the environment such as climate change.

• The way in which statistical figures are reported or used may provide a distorted view of the trends of economic phenomena. For example, much emphasis is usually put on GDP although net national product (which takes into account the effect of depreciation), or real household income (which focuses on the real income of households within the economy) may be more relevant. These numbers may differ markedly. Then, GDP is not wrong as such, but wrongly used. What is needed is a better understanding of the appropriate use of each measure.

Indeed, for a long time there have been concerns about the adequacy of current measures of economic performance, in particular those solely based on GDP. Besides, there are even broader concerns about the relevance of these figures as measures of societal well-being. To focus specifically on the enhancement of inanimate objects of convenience (for example in the GNP or GDP which have been the focus of a myriad of economic studies of progress), could be ultimately justified – to the extent it could be – only through what these objects do to the human lives they can directly or indirectly influence.

Moreover, it has long been clear that GDP is an inadequate metric to gauge well-being over time particularly in its economic, environmental, and social dimensions, some aspects of which are often referred to as sustainability.

Why is this report important?

Between the time that the Commission began working on this report and the completion of this Report, the economic context has radically changed. We are now living one of the worst financial, economic and social crises in post-war history. The reforms in measurement recommended by the Commission would be highly desirable, even if we had not had the crisis. But some members of the Commission believe that the crisis provides heightened urgency to these reforms.

They believe that one of the reasons why the crisis took many by surprise is that our measurement system failed us and/or market participants and government officials were not focusing on the right set of statistical indicators.

In their view, neither the private nor the public accounting systems were able to deliver an early warning, and did not alert us that the seemingly bright growth performance of the world economy between 2004 and 2007 may have been achieved at the expense of future growth. It is also clear that some of the performance was a "mirage", profits that were based on prices that had been inflated by a bubble.

It is perhaps going too far to hope that had we had a better measurement system, one that would have signaled problems ahead, so governments might have taken early measures to avoid or at least to mitigate the present turmoil.

Corbis / A. Fox

But perhaps had there been more awareness of the limitations of standard metrics, like GDP, there would have been less euphoria over economic performance in the years prior to the crisis; metrics which incorporated assessments of sustainability (e.g. increasing indebtedness) would have provided a more cautious view of economic performance.

But many countries lack a timely and complete set of wealth accounts – the 'balance sheets' of the economy – that could give a comprehensive picture of assets, debts and liabilities of the main actors in the economy.

We are also facing a looming environmental crisis, especially associated with global warming. Market prices are distorted by the fact that there is no charge imposed on carbon emissions; and no account is made of the cost of these emissions in standard national income accounts. Clearly, measures of economic performance that reflected these environmental costs might look markedly different from standard measures.

If the view expressed in the preceding paragraphs is not necessarily shared by all members of the Commission, the whole Commission is convinced that the crisis is teaching us a very important lesson: those attempting to guide the economy and our societies are like pilots trying to steering a course without a reliable compass. The decisions they (and we as individual citizens) make depend on what we measure, how good our measurements are and how well our measures are understood. We are almost blind when the metrics on which action is based are ill-designed or when they are not well understood.

For many purposes, we need better metrics. Fortunately, research in recent years has enabled us to improve our metrics, and it is time to incorporate in our measurement systems some of these advances. There is also consensus among the Commission members that better measures may enable us to steer our economies better through and out of crises. Many of the indicators put forward by the report will lend themselves to this purpose.

The report is about measurement rather than policies, thus it does not discuss how best our societies could advance through collective actions in the pursuit of various goals. However, as what we measure shapes what we collectively strive to pursue — and what we pursue determines what we measure — the report and its implementation may have a significant impact on the way in which our societies looks at themselves and, therefore, on the way in which policies are designed, implemented and assessed.

The Commission notes the important progress in statistical measurement that has occurred in recent years, and urges continued efforts to improve our statistical data base and the indicators that are constructed from this data base. The report indicates avenues for more or different measurement efforts in various domains, and we

hope that it will influence future statistical policies in both developed and developing countries, as well as the work of international organizations that play a key role in the development of statistical standards worldwide.

To whom is the report addressed

The Commission hopes that the Report will find a receptive audience among four distinct groups, and it has been written with that in mind. The Report is addressed, first of all, to political leaders. In this time of crises, when new political narratives are necessary to identify where our societies should go, the report advocates a shift of emphasis from a "production-oriented" measurement system to one focused on the well-being of current and future generations, i.e. toward broader measures of social progress.

Second, the report is aimed at reaching policy-makers who wish to get a better sense of which indicators are available and useful to design, implement and assess policies aimed at improving well-being and foster social progress. Policy-makers are reminded both of the richness and of the shortcomings of existing data but also of the fact that reliable quantitative information 'does not grow on trees' and significant investments need to be made to develop statistics and indicators that provide policymakers with the information they need to make the decisions confronting them.

Third, the report has been written for the academic community, statisticians, and intensive users of statistics. They are reminded of how difficult it can be to produce reliable data and of the numerous assumptions that underlay all statistical series. Academics will, hopefully, become more cautious in the confidence they place in certain statistics. Those in national statistical offices will, hopefully find helpful suggestions about areas where further developments might be particularly valuable.

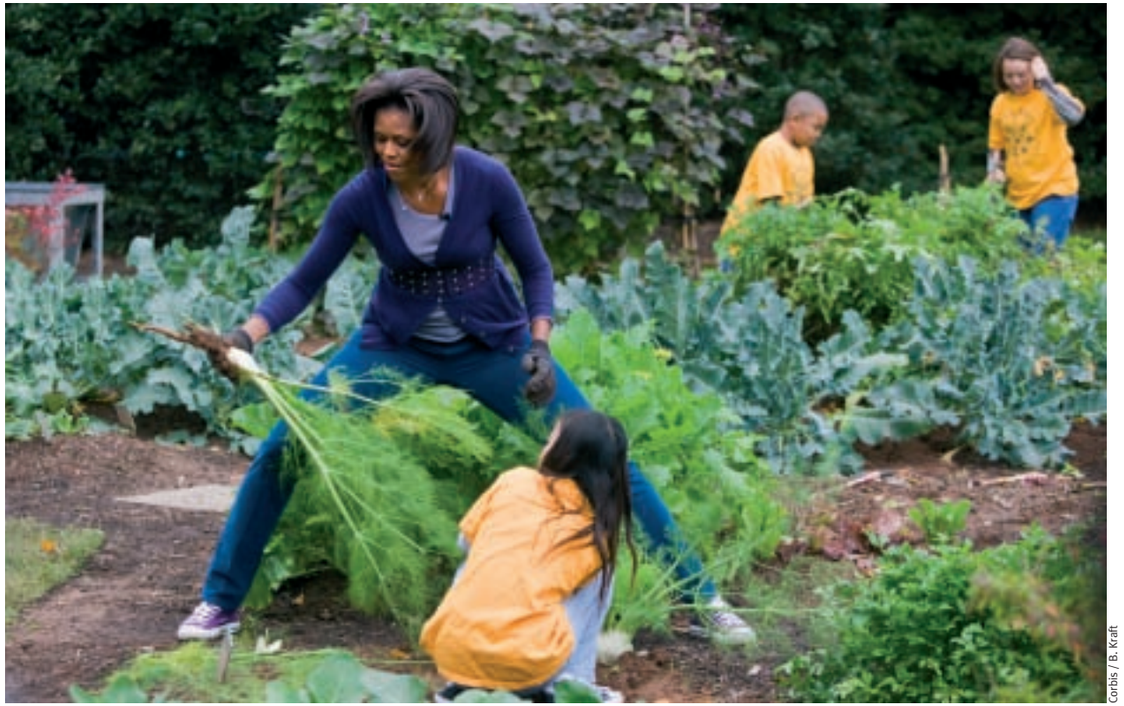
Lastly, the report has been written for civil society organizations that are both users and producers of statistics. More generally, it is addressed to the public at large, whether from richer or poorer countries and whether rich or poor within societies. We hope that through a better understanding of the statistical data and indicators that are available (their strengths and limits), they can make a better assessment of the problems facing their societies. We hope the report will also serve journalists and the media who have a responsibility in enabling citizens to get a sense of what is happening in the society in which they are living. Information is a public good; the more we are informed about what is happening in our society, the better will our democracies be able to function.

What are the main messages and recommendations?

The report distinguishes between an assessment of current well-being and an assessment of sustainability, whether this can last over time. Current well-being has to do with both economic resources, such as income, and with non-economic aspects of peoples' life (what they do and what they can do, how they feel, and the natural environment they live in). Whether these levels of well-being can be sustained over time depends on whether stocks of capital that matter for our lives (natural, physical, human, social) are passed on to future generations.

To organize its work, the Commission organized itself into three working groups, focusing respectively on: Classical GDP issues, Quality of life and Sustainability. The following main messages and recommendations arise from the report.

First Lady Michelle Obama in the White Houses biological garden, an effort to promote international agricultural sustainability.



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Towards better measures of economic performance in a complex economy

Before going beyond GDP and tackling the more difficult task of measuring well-being, it is worth asking where existing measures of economic performance need improving. Measuring production – a variable which among other things determines the level of employment – is essential for the monitoring of economic activity.

The first main message of our report is that time has come to adapt our system of measurement of economic activity to better reflect the structural changes which have characterized the evolution of modern economies. In effect, the growing share of services and the production of increasingly complex products make the measurement of output and economic performance more difficult than in the past. There are now many products whose quality is complex, multi-dimensional and subject to rapid change.

This is obvious for goods, like cars, computers, washing machines and the like, but is even truer for services, such as medical services, educational services, information and communication technologies, research activities and financial services. In some countries and some sectors, increasing "output" is more a matter of an increase in the quality of goods produced and consumed than in the quantity. Capturing quality change is a tremendous challenge, yet this is vital to measuring real income and real consumption, some of the key determinants of people's material well-being.

Under-estimating quality improvements is equivalent to over-estimating the rate of inflation, and therefore to under-estimating real income. The opposite is true when quality improvements are overstated.

Governments play an important part in today's economies. They provide services of a "collective" nature, such as security, and of a more "individual" nature, such as medical services and education. The mix between private and public provision of individual services varies significantly across countries and over time. Beyond the contribution of collective services to citizens' living standards, individual services, particularly education, medical services, public housing or public sports facilities, are almost certainly valued positively by citizens. These services tend to be large in scale, and have increased considerably since World War II, but, in many cases, they remain badly measured.

Traditionally, measures have been based on the inputs used to produce these services (such as the number of doctors) rather than on the actual outputs produced (such as the number of particular medical treatments). Making adjustments for quality changes is even more difficult. Because outputs are taken to move in tandem with inputs productivity change in the provision of these services is ignored.

It follows that if there is positive (negative) productivity change in the public sector, our measures under (over)estimate economic growth and real income. For a satisfactory measure of economic performance and living standards it is thus important to come to grips with measuring government output. (In our present, admittedly flawed, system of measurement based on expenditures, government output represents around 20 percent of GDP in many OECD countries and total government expenditure more than 40 percent for the OECD countries.)

While there are methodological disagreements about how to make the adjustments to quality or how to go about measuring government output, there is a broad consensus that adjustments should be made, and even about the principles which should guide such adjustments. The disagreements arise in the practical implementation of these principles. The Commission has addressed both the principles and the difficulties in implementations, in its Report.

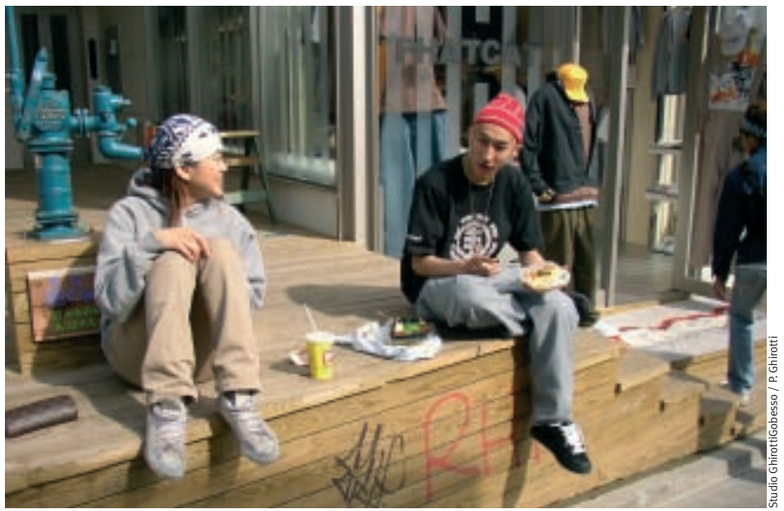
From production to well-being

Another key message, and unifying theme of the report, is that the time is ripe for our measurement system to shift emphasis from measuring economic production to measuring people's well-being. And measures of well-being should be put in a context of sustainability. Despite deficiencies in our measures of production, we know much more about them than about well-being. Changing emphasis does not mean dismissing GDP and production measures. They emerged from concerns about market production and employment; they continue to provide answers to many important questions such as monitoring economic activity.

But emphasizing well-being is important because there appears to be an increasing gap between the information contained in aggregate GDP data and what counts for common people's well-being. This means working towards the development of a statistical system that complements measures of market activity by measures centered on people's well-being and by measures that capture sustainability. Such a system must, of necessity, be plural – because no single measure can summarize some-

LEFT Maternity ward in Nazareth Hospital.
BELOW Youths on a Tokyo street. RIGHT A Chicago bar.

Godong / Corbis / P. Deliss



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thing as complex as the well-being of the members of society, our system of measurement must encompass a range of different measures.

The issue of aggregation across dimensions (that is to say, how we add up, for example, a measure of health with a measure of consumption of conventional goods), while important, is subordinate to the establishment of a broad statistical system that captures as many of the relevant dimensions as possible. Such a system should not just measure average levels of well-being within a given community, and how they change over time, but also document the diversity of peoples' experiences and the linkages across various dimensions of people's life.

There are several dimensions to well-being but a good place to start is the measurement of material well-being or living standards.

Recommendation 1

When evaluating material well-being, look at income and consumption rather than production

GDP is the most widely-used measure of economic activity. There are international standards for its calculation, and much thought has gone into its statistical and conceptual bases. Earlier paragraphs have emphasized some of the important areas where more progress is needed in its computation. As statisticians and economists know very well, GDP mainly measures market production – expressed in money units – and as such it is Report by the Commission on the Measurement of Economic Performance and Social Progress useful. However, it has often been treated as if it were a measure of economic well-being.

Conflating the two can lead to misleading indications about how well-off people are and entail the wrong policy decisions. Material living standards are more closely associated with measures of net national income, real household income and consumption – production can expand while income decreases or vice versa when account is taken of depreciation, income flows into and out of a country, and differences between the prices of output and the prices of consumer products.

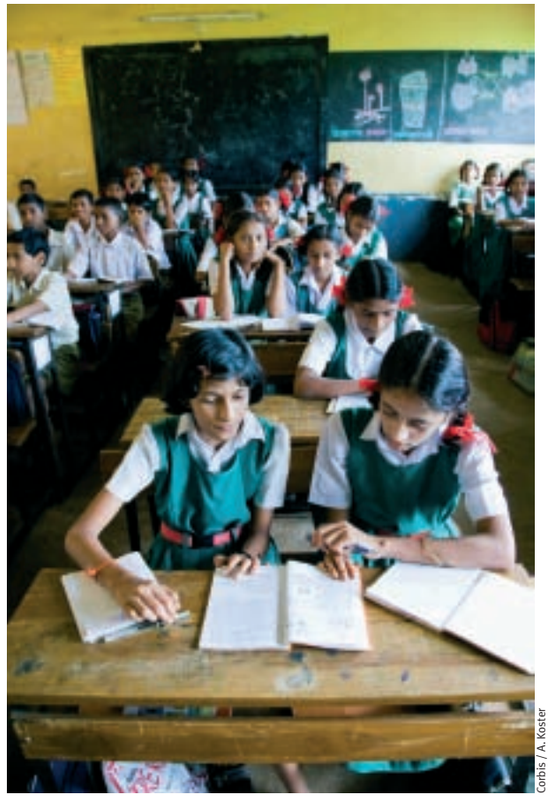
Recommendation 2

Emphasize the household perspective

While it is informative to track the performance of economies as a whole, trends in citizens' material living standards are better followed through measures of household income and consumption. Indeed, the available national accounts data shows that in a number of OECD countries real household income has grown quite differently from real GDP per capita, and typically at a lower rate.

The household perspective entails taking account of payments between sectors, such as taxes going to government, social benefits coming from government, and interest payments on household loans going to financial corporations. Properly defined, household income and consumption should also reflect in-kind services provided by government, such as subsidized health care and educational

services. A major effort of statistical reconciliation will also be required to understand why certain measures such as household income can move differently depending on the underlying statistical source.



Corbis / A. Koster

Students in an Indian village schoolroom.

Recommendation 3

Consider income and consumption jointly with wealth

Income and consumption are crucial for assessing living standards, but in the end they can only be gauged in conjunction with information on wealth. A household that spends its wealth on consumption goods increases its current well-being but at the expense of its future well-being.

The consequences of such behavior would be captured in a household's balance sheet, and the same holds for other sectors of the economy, and for the economy as a whole. To construct balance sheets, we need comprehensive accounts of assets and liabilities. Balance sheets for countries are not novel in concept, but their availability is still limited and their construction should be promoted.

Measures of wealth are central to measuring sustainability. What is carried over into the future necessarily has to be expressed as stocks – of physical, natural, human and social capital.

The right valuation of these stocks plays a crucial role, and is often problematic. There is also a need to "stress test" balance sheets with alternative valuations when market prices for assets are not available or are subject to bubbles and bursts. Some more direct non-monetary indicators may be preferable when the monetary valuation is very uncertain or difficult to derive.

Recommendation 4

Give more prominence to the distribution of income, consumption and wealth

Average income, consumption and wealth are meaningful statistics, but they do not tell the whole story about living standards. For example, a rise in average income could be unequally shared across groups, leaving some households relatively worse-off than others. Thus, average measures of income, consumption and wealth should be accompanied by indicators that reflect their distribution.

Median consumption (income, wealth) provides a better measure of what is happening to the "typical" individual or household than average consumption (income or wealth). But for many purposes, it is also important to know what is happening at the bottom of the income/wealth distribution (captured in poverty statistics), or at the top.

Ideally, such information should not come in isolation but be linked, i.e. one would like information about how well-off households are with regard to different dimensions of material living standards: income, consumption and wealth.

After all, a low-income household with above-average wealth is not necessarily worse-off than a medium-income household with no wealth. (The desirability of providing information on the "joint distribution" of the dimensions of people's well-being will be raised once again in the recommendations below on how to measure quality of life.)

Recommendation 5

Broaden income measures to non-market activities

There have been major changes in how households and society function. For example, many of the services people received from other family members in the past are now purchased on the market. This shift translates into a rise in income as measured in the national accounts and may give a false impression of a change in living standards, while it merely reflects a shift from non-market to market provision of services.

Many services that households produce for themselves are not recognized in official income and production measures, yet they constitute an important aspect of economic activity. While their exclusion from official measures reflects uncertainty about data more than conceptual difficulties, there has been progress in this arena; still, more and more systematic work in this area should be undertaken.

This should start with information on how people

spend their time that is comparable both over the years and across countries. Comprehensive and periodic accounts of household activity as satellites to the core national accounts should complement the picture.

In developing countries, the production of goods (for instance food or shelter) by households plays an important role. Tracking the production of such home-produced goods is important to assess consumption levels of households in these countries.

Once one starts focusing on non-market activities, the question of leisure arises. Consuming the same bundle of goods and services but working for 1,500 hours a year instead of 2,000 hours a year implies an increase in one's standard of living. Although valuation of leisure is fraught with difficulties, comparisons of living standards over time or across countries needs to take into account the amount of leisure that people enjoy.

Aurora Photos / Corbis / L. Mock-Bunting

Well-being is multi-dimensional

To define what well-being means a multidimensional definition has to be used. Based on academic research and a number of concrete initiatives developed around the world, the Commission has identified the following key dimension that should be taken into account. At least in principle, these dimensions should be considered simultaneously:

1. Material living standards (income, consumption and wealth);
2. Health;
3. Education;
4. Personal activities including work
5. Political voice and governance;
6. Social connections and relationships;
7. Environment (present and future conditions);
8. Insecurity, of an economic as well as a physical nature.

All these dimensions shape people's well-being, and yet many of them are missed by conventional income measures.

Objective and subjective dimensions of well-being are both important

Recommendation 6

Quality of life depends on people's objective conditions and capabilities. Steps should be taken to improve measures of people's health, education, personal activities and environmental conditions. In particular, substantial effort should be devoted to developing and implementing robust, reliable measures of social connections, political voice, and insecurity that can be shown to predict life satisfaction.

The information relevant to valuing quality of life goes beyond people's self-reports and perceptions to include measures of their "functionings" and freedoms. In effect, what really matters are the capabilities of people, that is, the extent of their opportunity set and of their freedom to choose among this set, the life they value. The choice of relevant functioning and capabilities for any quality of life measure is a value judgment, rather than a technical exercise.

But while the precise list of the features affecting quality of life inevitably rests on value judgments, there is a consensus that quality of life depends on people's health and education, their everyday activities (which include the right to a decent job and housing), their participation in the political process, the social and natural environment in which they live, and the factors shaping their personal and economic security.

Measuring all these features requires both objective and subjective data. The challenge in all these fields is to improve upon what has already been achieved, to identify gaps in available information, and to invest in statistical capacity in areas (such as time-use) where available indicators remain deficient.

Recommendation 7

Quality-of-life indicators in all the dimensions covered should assess inequalities in a comprehensive way

Inequalities in human conditions are integral to any assessment of quality of life across countries and the way that it is developing over time. Most dimensions of quality-of-life require appropriate separate measures of inequality, but, as noted before, taking into account linkages and correlations. Inequalities in quality of life should be assessed across people, socio-economic groups, gender and generations, with special attention to inequalities that have arisen more recently, such as those linked to immigration.

Recommendation 8

Surveys should be designed to assess the links between various quality- of-life domains for each person, and this information should be used when designing policies in various fields

It is critical to address questions about how developments in one domain of quality of life affect other domains, and how developments in all the various fields are related to income. This is important because the consequences for quality of life of having multiple disadvantages far exceed the sum of their individual effects.

Developing measures of these cumulative effects requires information on the "joint distribution" of the most salient features of quality of life across everyone in a country through dedicated surveys.

Steps in this direction could also be taken by including in all surveys some standard questions that allow classifying respondents based on a limited set of characteristics.

When designing policies in specific fields, impacts on indicators pertaining to different quality-of-life dimensions should be considered jointly, to address the interactions between dimensions and the needs of people who are disadvantaged in several domains.

Recommendation 9

Statistical offices should provide the information needed to aggregate across quality-of-life dimensions, allowing the construction of different indexes.

While assessing quality-of-life requires a plurality of indicators, there are strong demands to develop a single summary measure. Several summary measures of quality of life are possible, depending on the question addressed and the approach taken.

Some of these measures are already being used, such as average levels of life-satisfaction for a country as a whole, or composite indices that aggregate averages across objective domains, such as the Human Development Index. Others could be implemented if national statistical systems made the necessary investment to provide the data required for their computation. These include measures of the proportion of one's time in which the strongest reported feeling is a negative one, measures based on counting the occurrence and severity of various objective features of people's lives, and (equivalent-income) measures based on people's states and preferences.

The Commission believes that in addition to objective indicators of well-being, subjective measures of the quality-of-life should be considered.

Recommendation 10

Measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should incorporate questions to capture people's life evaluations, hedonic experiences and priorities in their own survey.

Research has shown that it is possible to collect meaningful and reliable data on subjective as well as objective well-being. Subjective well-being encompasses dif-

ferent aspects (cognitive evaluations of one's life, happiness, satisfaction, positive emotions such as joy and pride, and negative emotions such as pain and worry): each of them should be measured separately to derive a more comprehensive appreciation of people's lives.

Quantitative measures of these subjective aspects hold the promise of delivering not just a good measure of quality of life per se, but also a better understanding of its determinants, reaching beyond people's income and material conditions.

Despite the persistence of many unresolved issues, these subjective measures provide important information about quality of life. Because of this, the types of question that have proved their value within small-scale and unofficial surveys should be included in larger-scale surveys undertaken by official statistical offices.

Use a pragmatic approach towards measuring sustainability

Measuring and assessing sustainability has been a central concern of the Commission. Sustainability poses the challenge of determining if at least the current level of well-being can be maintained for future generations. By its very nature, sustainability involves the future and its assessment involves many assumptions and normative choices.

This is further complicated by the fact that at least some aspects of environmental sustainability (notably climate change) is affected by interactions between the socio-economic and environmental models followed by different countries. The issue is indeed complex, more complex than the already complicated issue of measuring current well-being or performance.

Recommendation 11

Sustainability assessment requires a well-identified dashboard of indicators. The distinctive feature of the components of this dashboard should be that they are interpretable as variations of some underlying "stocks". A monetary index of sustainability has its place in such a dashboard but, under the current state of the art, it should remain essentially focused on economic aspects of sustainability.

The assessment of sustainability is complementary to the question of current well-being or economic performance, and must be examined separately. This may sound trivial and yet it deserves emphasis, because some existing approaches fail to adopt this principle, leading to potentially confusing messages.

For instance, confusion may arise when one tries to combine current well-being and sustainability into a single indicator. To take an analogy, when driving a car, a meter that added up in one single number the current speed of the vehicle and the remaining level of gasoline would not be of any help to the driver. Both pieces of information are critical and need to be displayed in distinct, clearly visible areas of the dashboard.

At a minimum, in order to measure sustainability, what we need are indicators that inform us about the change in the quantities of the different factors that matter for future well-being. Put differently, sustainability requires the simultaneous preservation or increase in several "stocks": quantities and qualities of natural resources, and of human, social and physical capital.

There are two versions to the stock approach to sustainability. One version just looks at variations in each stock separately, assessing whether the stock is increase or decreasing, with a view particularly to doing whatever is necessary to keep each above some critical threshold.

The second version converts all these assets into a monetary equivalent, thereby implicitly assuming substitutability between different types of capital, so that a decrease in, say, natural capital might be offset by a sufficient increase in physical capital (appropriately weighted).

Corbis / A. Martaine

Tai Chi practitioners in a Beijing Park.

Such an approach has significant potential, but also several limitations, the most important being the absence of many markets on which valuation of assets could be based. Even when there are market values, there is no guarantee that they adequately reflect how the different assets matter for future well-being.

The monetary approach requires imputations and modeling which raise informational difficulties. All this suggests starting with a more modest approach, i.e. focusing the monetary aggregation on items for which reasonable valuation techniques exist, such as physical capital, human capital and certain natural resources. In so doing, it should be possible to assess the "economic" component of sustainability, that is, whether or not countries are over-consuming their economic wealth.

Physical indicators for environmental pressures

Recommendation 12

The environmental aspects of sustainability deserve a separate follow- up based on a well-chosen set of physical indicators. In particular there is a need for a clear indicator of our proximity to dangerous levels of environmental damage (such as associated with climate change or the depletion of fishing stocks.)

For the reasons mentioned above, placing a monetary value on the natural environment is often difficult and separate sets of physical indicators will be needed to monitor the state of the environment.

This is in particular the case when it comes to irreversible and/or discontinuous alterations to the environment. For that reason members of the Commission believe in particular that there is a need for a clear indicator of increases in atmospheric concentrations of greenhouse gases associated with proximity to dangerous levels of climate change (or levels of emissions that might reasonably be expected to lead to such concentrations in the future. Climate change (due to increases in atmospheric concentrations of greenhouse gases) is also special in that it constitutes a truly global issue that cannot be measured with regard to national boundaries. Physical indicators of this kind can only be identified with the help of the scientific community. Fortunately, a good deal of work has already been undertaken in this field.