

THE ROLE OF SUBJECTIVE WELL-BEING IN MEASURING THE PROGRESS OF NATIONS AND GUIDING PUBLIC POLICY

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Los países miden su progreso basándose fundamentalmente en indicadores económicos y materiales objetivos (Producto Interno Bruto, Consumo, etc.). Sin embargo, estas medidas presentan importantes limitaciones. Adicionalmente, el excesivo foco en aspectos materiales está llevando al mundo a crisis económicas, sociales y medioambientales que están poniendo en riesgo el futuro de la humanidad. Basados en diversos trabajos previos, este artículo tiene tres objetivos. Primero, mostrar cómo las medidas subjetivas (psicológicas) de bienestar pueden complementar medidas tradicionales de progreso económico. Segundo, discutir evidencia reciente que muestra que el bienestar subjetivo puede ayudar a construir un mundo mejor. Tercero, dar a conocer ejemplos concretos de cómo el bienestar subjetivo puede ayudar la toma de decisiones en la asignación de recursos escasos, complementando las metodologías económicas tradicionales.

Palabras clave: Bienestar, Progreso económico, Recursos.

Nations assess human progress mainly through objective economic indicators of material progress (e.g., gross domestic product, consumption, etc.). However, these measures have important limitations. Moreover, the excessive focus on material aspects is leading the world to ecological, social and economic crises that are putting the future of humankind at risk. Building on previous work, this paper has three goals. First, to show how subjective measures of (psychological) well-being can complement the standard economic indicators of material progress. Second, to discuss the recent evidence which states that subjective well-being can help to build a better world. Third, to show policy examples concerning how subjective measures can help in allocating scarce resources, complementing the traditional economic methodologies.

Key words: Well-being, Material progress, Resources.

One of the main objectives of governments is to measure the well-being of their people (OECD, 2011^a, Weimann, Knabe, & Schöb, 2015). However, the first challenge is to define this construct. Economic science suggests that gross domestic product (GDP) and income is a suitable proxy, given the link that exists between income, consumption and utility (Abel & Bernanke, 1995; Weimann et al, 2015). Despite these arguments, this link has recently been questioned because assimilating well-being with income is wrong (Easterlin et al., 2010; Sachs, 2012; Stiglitz, Sen, & Fitoussi, 2010). Moreover, the excessive focus on GDP and material aspects as key determinants of progress is leading humanity to an economic, social and environmental crisis, which is putting the future of the planet at risk (SDNP, 2013). Therefore, today there is growing agreement on the urgent need for new indicators that go beyond the material. In this regard, various international organizations have proposed using (psychological) indicators of subjective well-being to complement the traditional metrics, seeking to deliver a more complete figure of developing nations (Diener, Lucas, Schimmack, & Helliwell, 2009; Helliwell, Layard,

& Sachs, 2012; Layard, 2011; OECD 2011a; Stiglitz et al., 2010; UN 2011a, 2011b).

A second major objective of the states is to improve the quality of life of their inhabitants through the provision of public goods (Kaul, Conceicao, Le Goulven, & Mendoza, 2003). However, resources are limited and must be allocated efficiently. In order to do so, standard methodologies for cost-benefit analysis and cost-effectiveness are used (Cullis, Jones, & Jones, 2009). Unfortunately, these methods are not without serious limitations. For example, they are useful only when the costs and benefits can be clearly estimated in monetary terms, which is not always possible. Such is the case of health and environment sectors. Therefore, new methods of allocating resources need to be developed to guide public policies (Helliwell et al., 2012). This is why it has recently been proposed to use subjective well-being indicators to supplement the traditional methods of cost-benefit analysis (Diener et al, 2009; OECD, 2011a; Stiglitz et al, 2010; UN, 2011a). Based on several previous studies (Adler & Seligman, 2016; Diener et al, 2009; Dolan, 2008; etc.), this article has three main objectives. The aim is, first, to show how subjective (psychological) measures of well-being can complement traditional measures of progress. Second, the aim is to discuss how subjective well-being can help solve some of the problems facing humanity, contributing to building a better

Received: 15 February 2016 - Accepted: 6 May 2016

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world. And the third and final aim, is to share examples of public policies that use subjective well-being to help with decision-making in the allocation of scarce resources.

CONVENTIONAL INDICATORS OF PROGRESS

In order to monitor the well-being of nations, there are a number of physical indicators –considered to be *objective*– that address different aspects of the quality of life of a nation. In this section, we will review the most used social and economic indicators.

Social indicators

Indicators of literacy, work force participation, crime, violence and pollution (among others) are examples of social indicators that aim to assess the well-being of society. However, despite providing useful information, they have important limitations. Diener et al. (2009) mention the following. Firstly, the third-party participation in the well-being assessment criteria. For example, who decides which dimensions are to be monitored and which are the most important? Who is the person/institution best able to evaluate them by assigning them scores? How can one assign weights to each dimension?¹ Various methods have been proposed to solve these dilemmas, but definitive agreements have not been reached. So far, the decision continues to be taken by a third party who is not the direct subject of the evaluation². Secondly, having an objective list of indicators implies the assumption that there is a finite set of variables to include. However, one wonders what is this finite set? Who decides on it? How much information should be collected for each variable? These questions re-open the discussion about the subjectivity of the *objective* indicators. Thirdly, cultural and ideological problems lead to the conclusion that there are other substantial differences between people and between states. Thus, national accounts may be biased and may not properly reflect the well-being of the population as they are based on averages and they assume homogeneous cultural patterns. Fourth, there may be different measurement problems present. For example, although a number of variables may seem clear conceptually (corruption, illegal economy, etc.), when it comes to measuring them complexities appear.

Most of the above limitations are due to the fact that the supposed *objective* indicators represent the values and preferences of those involved in the measurement and decision process, and they are not objective at all. Thus, so far it has not been possible to arrive at the perfect set variables, raising the urgent need to complement these traditional indicators with a

different type of metric. In this regard, subjective well-being measures –which represent in greater depth how people evaluate their lives and the society in which they live– would be key. Such measures would deliver direct information from the perspective of the individual/subject of evaluation (and not the “third party”), avoiding biased outside opinions. Being able to use these indicators would enable an understanding of what people really value in life, and not what the “third party” thinks they should value. This issue is crucial for public policy (Diener et al, 2009; Helliwell et al, 2012).

Economic indicators

Countries monitor different economic variables (GDP, inflation, employment, poverty, etc.) to measure their well-being (Abel & Bernanke, 1995). Among them, GDP (Kuznets, 1934) has become the most widely used indicator. This is because economic science assumes there is a close link between income and well-being (Sachs, 2012). The central idea of this assumption lies on the assumption that individuals are rational and derive their utility from the consumption of goods and services. Therefore, to the extent that people have more economic resources (through higher GDP per capita), they will be able to allocate these to increase their consumption, which should enable them to register increases in their profit levels, and therefore their well-being (Abel & Bernanke, 1995; Sachs, 2012; Weimann et al, 2015). Recently, the income-well-being link has been strongly questioned (Easterlin, 2013; Easterlin et al, 2010; Helliwell et al, 2012; Stiglitz et al., 2010). Sachs (2012), for example, lists a number of limitations of GDP as a measure of well-being. First, human beings are not always rational. In us, there co-exist a complicated mix of emotions and rationality (Kahneman, Kahneman & Tversky, 2003). Second, higher incomes do not always lead to higher levels of well-being (Easterlin, 2013; Easterlin et al., 2010). For example, although the GDP per capita in the US is about three times higher than it was in the 1960s, the average satisfaction with life has remained almost constant over the last 50 years (Sachs, 2012). Third, the increased production has destroyed much of our natural environment, affecting our future sustainability (International Energy Agency, 2012). Fourth, placing the emphasis on the material aspects of development has brought serious consequences for humans. In fact, our high levels of materialism and consumption affect not only the mental and psychological health of the population, but they are also putting the future of the planet at risk (Dittmar, Bond, Kasser, & Hurst, 2014; Unanue, Vignoles, Dittmar, & Vansteenkiste, 2016).

¹ The Human Development Index (HDI) assigns 1/3 weighting to each of the three variables it measures (Anand, 1994). Why assign equal weights to income, education and health?

² A notable development is the model of the OECD (2011a), which aims to overcome this problem by giving freedom so that the measurement of 11 indicators reflects the individual preferences of the participants, uninfluenced by third parties.



Therefore, our current development model is not only synonymous with economic progress, but it also causes various afflictions of humanity (Sachs, 2012).

Other than the above questions, GDP has several methodological limitations as a measure of well-being (Stiglitz et al, 2010; Diener et al., 2009). First, for example, when societies have large inequalities of income, GDP does not necessarily give accurate info. For example, while GDP has increased, we can see a decrease in the well-being of the majority of citizens. Let us consider the following case: only some (the richest) improved their situation, the majority worsened, and on average we are better. This is known as the tyranny of averages. Second, the objective economic indicators cannot capture specific elements that affect the quality of life of real people. For example, accounting for mining or capturing water resources –which increase the GDP– ignores the negative externalities to the environment (pollution, loss of non-renewable natural resources, etc.). Third, GDP only counts the activities of the market. Unfortunately, it does not capture activities that can affect society positively (homemaking, hobbies, volunteer work, etc.) or negatively (the illegal economy and the black market). Therefore, the well-being of citizens can be over- or undervalued. Fourth, GDP quantifies only the activities that have market prices. However, there are subjective elements that positively affect the well-being of society but are not counted (love, social capital, connection, etc.) as they do not have a monetary value that can be assigned to them. Fifth, GDP records production increases in market activities, but it does not differentiate in terms of their causes or consequences. For example, crime could lead to an increase in GDP due to the rise in prisons. Does this mean that society is better? No. On the contrary, it reflects the increase in various social problems that can adversely affect our well-being. This is in line with what the creator of GDP declared decades ago: that GDP was not created to measure prosperity. Moreover, the wealth of a nation can scarcely be inferred from its income (Adler & Seligman, in press; Kuznets, 1934).

In order to improve on the limitations of GDP mentioned above, new and modern analysis tools have been developed. Examples include the method of *revealed preferences* or *willingness to pay* (Dolan, 2008). However, these approaches are based on the same erroneous assumptions as traditional economics (rationality, the utility-well-being-income link, etc.), so they have shown similar problems in implementation (Dolan, 2008; Dolan, Peasgood, & White, 2008). This has led to an urgent call for new development indicators to complement the information provided by traditional material indicators. In this regard, various international organizations (UN, 2011a, b; OECD, 2011a), along with prestigious academics (Diener et al, 2009; Stiglitz et al, 2010) have made a clear call for the use of indicators of subjective well-being to compensate for the

aforementioned gaps. It has been suggested that these subjective indicators could better guide public policy, helping to measure the true progress of nations (Diener et al, 2009; Layard, 2011; Layard et al, 2012). For example, in 2010, what was known as the Stiglitz Commission (Stiglitz et al., 2010) recommended that world statistical offices incorporate questions to capture aspects such as life satisfaction and the hedonic experiences of human beings. Following these recommendations, and the call of the Government of Bhutan, a resolution of the United Nations invited its member states to develop additional measures of progress that better capture the importance of the pursuit of happiness and well-being, with the aim of being able to guide public policy better (UN, 2011a).

SUBJECTIVE WELL-BEING: CONCEPT, DIMENSIONS AND ITS ROLE IN PUBLIC POLICY

The science of well-being and happiness has evolved considerably over the past 30 years. During this period, various conceptualizations (hedonic welfare, welfare eudaimonic, flourishing, etc.) have been proposed for this construct (Adler & Seligman, in press). In this article we focus on the concept of hedonic well-being, and particularly its most commonly used measure, subjective well-being.

Subjective well-being (Diener, 1984) is a psychological construct that reflects the extent to which individuals believe (cognitive element) and feel (affective element) that their lives are desirable, fulfilling and rewarding. It consists therefore of three core elements: life satisfaction, frequent experiences of positive emotions and frequent absence of negative emotions (Emmons & Diener, 1985). Therefore, subjective well-being is a self-report of one's own assessments of one's life, which is assessed positively when there is an overlap between one's ideals and the perceived quality of life (Diener et al., 1999).

Investigating the subjective states of human well-being is of great relevance for public policy (Diener et al, 2009; Helliwell, 2008; Helliwell & Wang, 2012). The main advantage of studying human subjectivity is that it reflects the real perceptions and feelings of individuals with regard to the quality of life they are living, without being limited to the evaluation of third parties or what governments believe is desirable for a Good Life. It is, therefore, a direct and democratic way of evaluating individual judgments, which is not captured by traditional indicators of national accounts such as GDP or others. It does not need, therefore, criteria to be established in order for third parties to weigh up the different domains of life. Subjective indicators reflect an overall assessment of the life of every human being, and the qualification that one gives one's own life carries implicit within it the weights that each individual gives to the different aspects of his life that he values. Therefore, no external judgments are needed to obtain a common metric of comparison between the different domains or between different

people. This makes subjective well-being an extremely useful construct to supplement the information provided by traditional economic indicators. Using both types of indicators, objective and subjective indicators, gives us a more complete figure of the true progress of nations (Diener et al., 2009).

Fortunately, recent research has shown consistently that subjective well-being can be measured in a valid and reliable way (Diener, 2009). In addition, the construct correlates significantly and strongly with various desirable indicators of progress and social well-being. All this has led to its usefulness being insisted upon as a tool of public policy (Helliwell & Wang, 2012), as it provides unique and valuable information for monitoring the progress of nations (Diener et al, 2009; Dolan, 2008; Helliwell et al., 2012).

TOWARDS A NEW DEVELOPMENT MODEL BASED ON WELL-BEING: THE ROLE OF SUBJECTIVE WELL-BEING

Especially during the last decades, the world has made hitherto unimaginable progress with regards to quality of life (Sachs, 2012; SNDP, 2013). However, despite this prosperity, we are living in times of great contradictions and challenges. In this sense, our current model of development based primarily on GDP and material aspects, is largely responsible for the social, economic and environmental crisis we are experiencing (Sachs, 2012; SNDP, 2013). By way of example, currently we are facing four major challenges that are putting the future of humanity at risk (Unanue, 2014a, 2014b). First, the current number of people living in poverty –on less than US \$ 2 a day– has reached almost a third of the world population (World Bank, 2012). Second, inequality on the planet has reached unimaginable limits. Measured using the Gini coefficient –the indicator most used to measure inequality–, for the first time in history the richest 1% in the world possess more income than the poorest 50% of the entire world population (BBC, 2015). Unfortunately income inequality is associated with a number of social problems (homicides, trust, mental illness, child well-being, learning, etc.) with serious effects on the well-being of nations (Wilkinson & Pickett, 2011) and the traditional economy has not been able to see this. Third, economic progress has created its own set of afflictions, increasing the prevalence of mental illnesses such as depression and anxiety (OECD, 2011b; Sachs, 2012; Wickramaratne, Weissman, Leaf, & Holford, 1989). Fourth, climate change and global warming have become our greatest challenge of this current century (World Bank, 2013). Overconsumption and overproduction have played a key role in this process, causing massive environmental damage that has reduced the potential for well-being for future generations (Sachs, 2012; Unanue et al, 2016). These four dilemmas (among others) have meant urgent claims have been made not only for a new model of progress, but also new development indicators that measure the true well-being of

nations. Today we urgently need to move towards a model of sustainable development (Ki-moon, 2012; Sachs, 2012).

Recent research has shown that sustainable development is closely linked to subjective well-being (Layard, 2011; Layard, Clark & Senik, 2012; Sachs, 2012; UN, 2011a, 2011b). In fact, subjective well-being correlates significantly with various desirable indicators of individual, community, social well-being and country (Diener & Tay, 2012). For example, individuals with higher levels of subjective well-being tend to show better indicators of mental and physical health, to build more lasting and meaningful relationships, to be more cooperative, to be less prejudiced, to be more charitable and to show higher levels of prosocial-social behavior and concern for others (Adler & Seligman, in press; Diener & Tay, 2012). On the other hand, it has also been found that subjective well-being predicts environmental protection, which would help planetary sustainability (Brown & Kasser, 2005; Unanue et al, 2016).

Therefore, measuring and strengthening subjective well-being should be a central goal of public policy (UN, 2011a). On the one hand, public policies should monitor this variable constantly in order to capture information that does not collect traditional national accounts. In addition, since only “what is measured has an impact on what is done” (Stiglitz, Sen, & Fitousi, 2008, p. 4), the measurement of subjective well-being should be a crucial step in public policy. Only then can we get states decide to invest resources to improve this indicator, and thus the real quality of life of human beings. We say this, in the belief that higher levels of subjective well-being in society cannot only help combat the four major challenges that put the future of humanity at risk, but would also allow us to build a better world.

NEW METRICS FOR EFFICIENT RESOURCE ALLOCATION: POLICY EXAMPLES

As mentioned above, an important objective of governments is to improve the quality of life of their inhabitants through the provision of public goods. In order to achieve this, generally, standard methodologies of economic cost-benefit analysis or cost-effectiveness are used, to allocate the resources efficiently (Kaul et al., 2003). However, these traditional methods have significant limitations. Below, we offer four concrete examples of how measures of subjective well-being can help supplement these traditional measures.

Moral debates

The simplest way to understand the usefulness of subjective well-being as a guide for policy is to think of moral debates. For example, how should a society decide about the legalization of drugs, prostitution or abortion? Decisions are usually made by small groups who hold power. Therefore, the values and preferences of these groups are always involved, which makes the appropriateness of the methodologies questionable. In these

cases, subjective well-being could be a recommended method to fill these gaps (Adler & Seligman, in press). For example, by asking people directly about how the different alternatives could affect their subjective well-being, no third party judgments would be needed. This would be a democratic and fair way to gain valuable, desirable and powerful information for governments (Diener et al., 2009).

Social capital and trust

Economic progress can bring great benefits to the people of a country (Helliwell et al., 2012). However, when GDP increases are not accompanied by the appropriate policies, the effects can be devastating to the nations. A society may be growing positively in economic terms, but losing –inadvertently– the foundations that support it, such as trust, social capital and the *bonds of society*.

One of the most important determinants of the well-being of individuals and nations is social capital, understood as the quantity and quality of social relations that exist in a community (Layard et al., 2012). Trust (among citizens, in workplaces, of institutions, etc.) significantly affects the building of social capital, and consequently well-being (Meier & Stutzer, 2008; Powdthavee, 2008). Trust, therefore, is key to understanding why life satisfaction (the cognitive element of subjective well-being) has declined in the US and the UK, while it has improved considerably in Denmark and Italy (Layard, 2011). While levels of trust have fallen dramatically in the former nations, they have gone up in the latter ones, with consequent effects on well-being (Layard, 2011; Layard et al, 2012.). Although traditional economic indicators cannot capture these elements, indicators of subjective well-being can. Therefore, well-being appears to be a great help in giving us a more complex picture of the situation of a country (Adler & Seligman, in press; Layard et al, 2012; Stiglitz et al., 2010). Thus governments can make better decisions to reconcile economic growth with social cohesion.

Health

Resources are limited and need to be rationed through different mechanisms (Kaul et al., 2003). The health sector is no stranger to this reality. A common strategy is to allocate resources based on cost-benefit economic analysis (*revealed preferences, willingness to pay*, etc.). However, these methods have a number of limitations that until now have not been resolved (Dolan, 2008). These limitations are usually related to two factors. The first factor relates to how to decide who would be the best subject for the evaluation (the general public, medical practitioners, the sick person, etc.). The second factor relates to the fact that the preferences of the subjects to be assessed are usually not a good guide to assess future experiences due to various prediction errors (Dolan, 2008; Dolan et al., 2008). Therefore, in order to solve the problems of

the traditional methods –methods known as hypothetical decisions– it has been suggested to use more direct measures of well-being such as subjective well-being (Dolan, 2008). A simple procedure recommends asking, for example, the sick person about the current state of their health, then estimating the effects that different diseases would have on their satisfaction with life –the cognitive component of subjective well-being. Once the estimate of the loss in life satisfaction due to the disease has been calculated, it should be possible to calculate how much monetary income would be necessary for them to return to the original levels of life satisfaction without the disease. As a recommendation, if the disease can be treated for less than the said estimated amount of money, the treatment would have a net benefit to the society and the treatment should be performed (Groot & van den Brink (2007). Along with this, methods that show the greatest increase in subjective well-being –maintaining the costs constant– should be preferred. Therefore, the use of subjective well-being measures to assess the relevance of different health treatments is emerging as a modern alternative for the efficient allocation of resources.

Externalities

The production and exchange of market goods can –positively or negatively– affect people who are not directly involved in the transactions. This effect is known as externalities (Ayres & Kneese, 1969). Economists have developed several methods for evaluating and correcting them, but none of them has been perfect (Hunt & d'Arge, 1973). Suppose, for example, that a government plans to build a new airport. How should they assess the effects of noise on the quality of life of those living in the vicinity in order to compensate for them? The traditional economic approach suggests comparing prices of homes in places with different noise levels, and assuming that the price differences reflect the differences in quality of life (well-being) due to the externality. However, these approaches based on market criteria have two major limitations. First, although the market prices of most of the goods are adjusted quickly, the price of housing sometimes adjusts very slowly. Factors such as market restrictions or price controls, among others, explain this. Second, buyers can underestimate the negative effect of noise (errors in expectations), so the price differentials may not reflect the amount of noise. Purchasing decisions are based on the perceived impact rather than objective standards, which often are not known (Diener et al., 2009). Fortunately, measures of subjective well-being can be used to overcome these limitations. Van Praag and Baarsma (2004) compared self-reported indicators of satisfaction with life of people living in places with different noise levels near airports. The authors demonstrated that it is possible to calculate the monetary value of noise using the differentials in life satisfaction of those involved. This method not only provides an accurate estimate of the effect of

damage based on the method of experienced utility (Kahneman, Kahneman & Tversky, 2003), but also delivers key information about alternatives to offset the cost of an externality. To determine the amount of money needed in order to compensate for the externality, it is recommended to use the known association between income and life satisfaction (Dolan, 2008). Following the same reasoning above, Helliwell and Huang (2011) developed the method known as *compensatory differentials*. These methods can also be used to evaluate various externalities associated with the provision of goods and public services (better roads, centers for the elderly, squares and public parks, etc.) where costs and benefits are not easily captured by traditional methods or market prices (Diener et al., 2009).

LIMITATIONS

Using measures of subjective well-being has important advantages in monitoring and promoting people's well-being. However, their use is not exempt from the following limitations. First, as with the traditional indicators, these measures are of little help alone (Dolan, 2008). That is, they only make sense to the extent that they complement traditional indicators (Helliwell & Wang, 2012) because, as recognized by the OCCE (2011a), both subjective and objective indicators are important in monitoring the progress of nations (Stiglitz et al., 2010). Second, since subjective well-being indicators reflect the values and ideals of individuals, an important limitation is the possibility that the preferences are manipulated (Diener et al., 2009). For example, if less-privileged people are not aware of the better conditions of life that exist in society –they have no preferences because they do not know about them–, they would not have ratings for those states of well-being. Thus, the more privileged groups would show the same levels of well-being as the less privileged. This could be a perverse incentive for governments to decide to try to manipulate access to the information of the poorest people, which is to be avoided. Third, it has been argued that people may tend to respond strategically to surveys –manipulating their own responses– in order to influence public policy in their favor and attract the attention of governments (Diener et al., 2009). However, this concern is not only valid for public policy, but it is also a concern of research in the behavioral sciences. Therefore, researchers must estimate/study a relevant sample of the population in order to decrease the likelihood that a small number of respondents may significantly affect the results (Diener et al., 2009). Fourth, and finally, it should be noted that in this article we have focused only on the hedonic aspects of well-being, and particularly on the construct called subjective well-being. However, well-being is a broader construct that also includes eudaimonic and human flourishing elements (Adler & Seligman, in press). Therefore, public policy should also consider the use of these indicators in

order to measure progress and to complement the traditional economic measures.

CONCLUSION

Countries measure economic progress based primarily on economic indicators and *objective* materials (GDP, consumption, etc.) while also using methodologies of allocating scarce resources based on cost-benefit criteria. However, this presents significant limitations in measuring and enhancing the progress of nations, which has been discussed in detail in this article. As explained above, indicators of subjective (psychological) well-being would complement traditional measures, providing a better representation of the true quality of life of individuals. These indicators would allow us to have a more complete figure of social well-being and the progress of nations, also helping the efficient allocation of resources and the building of a better world (Adler & Seligman, in press; Diener et al., 2009; Dolan, 2008).

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