



**HAL**  
open science

## The use of GDP, against sustainable development

Natacha Bourova, Jacques Fontanel

► **To cite this version:**

Natacha Bourova, Jacques Fontanel. The use of GDP, against sustainable development. Economic statistics and sustainable development, St. Petersburg State University of Economics (UNECON), Dec 2021, Saint-Petersbourg, Russia. hal-03501925

**HAL Id: hal-03501925**

<https://hal.univ-grenoble-alpes.fr/hal-03501925v1>

Submitted on 23 Dec 2021

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## The use of GDP, against sustainable development

Natacha Bourova, Jacques Fontanel

Communication UNECON  
State University of Economics and Finance  
Saint-Petersbourg, 15 December, 2021

Summary. GDP is the most widely used economic aggregate to compare, over time and space, the development of the national economy. International experts usually refer to this indicator to comment on the national economy. Its weight is important in determining the classification of countries according to their degree of development among developed countries. However, the limitations of GDP are both technical and conceptual. Real GDP (removing the effects of inflation) per capita does not refer to the productive and redistributive inequalities of economic actors. It does not include bad goods, pollution and it does not account for many free activities. The unique or dominant reference to GDP is dangerous. Economic actors should no longer be encouraged to go in the direction of an unsustainable form of growth. It is necessary to have indicators on democratic freedoms, citizen solidarity, cultural influence, the rise of the digital economy and artificial intelligence. It is also essential to count the negative effects of growth and their discounted costs, such as the definitive disappearance of certain raw materials, the influence of pollution on the people concerned and, in international relations, its effects on neighboring countries.

Le PIB est l'agrégat économique le plus largement utilisé pour comparer, dans le temps et dans l'espace, le développement de l'économie nationale. Les experts internationaux se réfèrent généralement à cet indicateur pour commenter l'économie nationale. Son poids est important pour déterminer la classification des pays en fonction de leur degré de développement entre pays développés. Cependant, les limites du PIB sont à la fois techniques et conceptuelles. Le PIB réel (en éliminant les effets de l'inflation) par habitant ne fait pas référence aux inégalités productives et redistributives des acteurs économiques. Il n'inclut pas les mauvais biens, la pollution et il ne comptabilise pas beaucoup d'activités gratuites. La référence unique ou dominante au PIB est dangereuse. Les acteurs économiques ne doivent plus être encouragés à aller dans le sens d'une forme de croissance non durable. Il est nécessaire d'avoir des indicateurs sur les libertés démocratiques, la solidarité citoyenne, le rayonnement culturel, l'essor de l'économie numérique et de l'intelligence artificielle. Il est également primordial de compter les effets négatifs de la croissance et leurs coûts actualisés, comme la disparition définitive de certaines matières premières, l'influence des pollutions sur les personnes concernées et, dans les relations internationales, leurs effets sur les pays voisins.

GDP, Sustainable development, public goods.

PIB, Développement durables, biens publics

GDP and per capita GDP do not always provide the signals needed to prevent major economic, social and political crises in time. They should not be used as unique, versatile, indiscriminate "markers" in comparisons of current or potential economic and political power of a country relative to that of other states. The question asked is not a simple matter of experts; it goes well beyond. Other indicators should provide additional information, so as to improve the analysis of the concrete economic and human situation and improve decisions on the basis of shared information and democratically defined common objectives.

GDP is the most widely used economic aggregate for comparing, in time and space, the national economy development. International experts generally are referring this indicator, to comment the national economic health. Moreover, national added value influence international politics and national public actions. For instance, inside the UN, its weight is important to determine the classification of countries according to their degree of development between developed countries, BRICS, emerging countries or developing countries). However, the signification of GDP has extended well beyond his field of origin. If its definition is well regulated, the habitual use of it leads the rulers to give it excessive importance in the preparation of their decisions. This indicator is a statistical construction that does not fail to question, given the weight given to the market economy and the omission of elements as important as pollution, climate or volunteer and nonmarket works. The definition of the main soviet indicator was clearly different, mainly on the unproductive services, but it did not include the negative effects of the production, pollution, growing scarcity of natural resources or the cost of pollution on the citizens' health.

The economic aggregate itself does not lack conceptual simplifications, but above all it forgets the negative aspects of this national production on the natural and human heritages. The neglect of ecological and environmental issues is worrying, particularly with regard to the depletion of soils and subsoil, the scarcity of clean air, the various needs of civilizations and he human conditions of its realization. In fact, a country with a high level of GDP may also experience a weakening of its power, soft power and potential for development in the years to come, with

the growing scarcity of its natural resources, new health human problems related to air pollution or the conflicting distribution and redistribution of income. The power and well-being of a country are relative concepts, the measures of which are the subject of many hypotheses<sup>1</sup>. How to analyze the interest of GDP when, within a country, social, economic, regional or gender inequalities are strongly dissonant?

The gross domestic product (GDP) is a useful indicator for expressing the potential importance of the economic activity of agents residing in the territorial framework of the States. However, it gives no indication on the quality of the well-being of its population, the ultimate efficiency of its production system or the collapse of the collective goods that constitute the air or the pure water, the natural resources or still the violence of the production system for the citizens. These "shortcomings to the reality of the production system" as well as the frequent use of GDP outside its normal scope of meaning, raise the question of whether it is possible and how to get out of the analytic and political hold this indicator.

## **I. The interest and the limits of GDP**

GDP is the aggregate of the goods and services producing activity of producing units residing in a country. It quantifies the total value of wealth production created by economic agents by adding up the annual added values of all resident economic actors in a country, based on information provided by companies and public administrations. Real GDP (eliminating the effects of inflation) per capita does not refer to the productive and redistributive inequalities of economic actors, but it gives a rough indication of the potential standard of living of each resident. However, GDP limits are both technical and conceptual. With globalization, the opportunities of international firms to inform on the real added value in a country is modified, but the national taxes references.

### **1. Technical limits.**

GDP mainly calculates legal merchant goods and services. Public non-market services provided by the State (public health, education, security or justice) are estimated on the basis of

---

<sup>1</sup> Aben, J., Fontanel, J. (2018), Military expenditure as a proxy for State's power, Defence and Peace Economics.

public expenditure allocated to their operation. In many countries, however, these services provided by the market are more expensive (including education and health). At the same level of activity and competence, the estimate of service output is higher if it is carried out in the private commercial sector. As the private health system is more expensive than the public service for a quality that can be considered equivalent, the level of privatization increases the GDP, without the services rendered being significantly different. In the same way, how to value the final expenditure of security, without which all the productions are threatened<sup>2</sup>.

The underground economy, especially "black" work, remunerated in "cash" or on a "barter" basis, is legal but not declared activities. Depending on the country, the share of the underground economy varies. It is very high in emerging and developing countries<sup>3</sup>. It should be possible to include it, as barter activities become a hypothesis of action that is developing in certain regions. Their estimation is problematic. On the other hand, should we include in the GDP an estimate of "illegal" activities, estimated by the States between 1 and 5% of GDP? Some states do this for drug trafficking, prostitution, counterfeiting or the resale of stolen vehicles; others do not do it.

GDP is not calculated by an external authority, independent and on a homogeneous, agreed basis. Estimates of GDP are often based on statistical conventions, based on statements made by economic agents, all of which can be falsified. The information provided must accurately reflect economic activity and question the level of manipulation of states to promote their economy. These two conditions are far from being met, especially for the GDP of China whose inflation of the figure reflects a political will power of the Empire.

Companies are also involved. They do not fail to use the interstices of globalization to provide the statistical information

---

<sup>2</sup> These expenses must be considered as a final product (that of peace and respect for collective rules) and not as intermediate consumption. See: Fontanel, J. (2016) La sécurité économique et sociétale : pour une conceptualisation humaniste multidimensionnelle, *PSEI*, Paix et Sécurité Européenne et Internationale, n° 3. <http://revel.unice.fr/psei/>. Fontanel, J. (2015), La base des données des dépenses militaires recueillie par l'Organisation des Nations Unies : origine et évolution. United Nations Standardized Instrument for Reporting Military Expenditure (2015) In *PSEI*, Paix et sécurité européenne et internationale, <http://revel.unice.fr/psei/>. Fontanel, J., Corvaisier-Drouart, B. (2014), For a General Concept of Economic and Human Security, in R. Bellais (Ed.), *The Evolving Boundaries of Defence : An Assessment of Recent Shifts in Defence Activities*, Emerald, Bingley. Fontanel, J. (2010), Concept élargi de la sécurité économique, in *Politique Economique de la Sécurité Internationale*, Ed. Jacques Fontanel, L'Harmattan,

<sup>3</sup> Bensahel L. & Fontanel J. (2006). *L'économie souterraine : l'exemple de la Russie*, L'Harmattan.

that suits them, including tax. The fragmentation of production has led to the growth of international networks of production and exchange that are transforming the realization of national comparative advantages. The globalization of production chains has disrupted international trade and distorts statistics on the added value actually produced in each country concerned. The published figures are often triturated according to the well-understood interests of the multinational company protected by the famous "business secret". Transparency is not a managerial quality in the face of tax or social charges. Companies optimize their tax and mandatory benefits by showing the maximum value added in the most attractive countries, the lowest tax, or the best in terms of aid and subsidies, as are still today Ireland, the Netherlands or Luxembourg in Europe. Tax evasion and optimization also leads to real changes in figures, in particular by the specific location of patent property rights<sup>4</sup>.

Inter-temporal comparisons of GDP need to take into account inflation and price indices to obtain a more realistic estimate of a country's real growth rate. The choice and calculation of the appropriate price index is subject to assumptions about the products and services selected by the statisticians. The selected products and services are the subject of specific analyzes, but the selected sample may be subject to pressure from the public authorities to enhance their economic action. Trade unions sometimes questioned the relevance of this index. Taking into account the rules defined by international organizations may limit, in time and space, a form of tampering with figures for political purposes.

International comparisons raise the problem of a homogeneous definition of GDP and the application of exchange rates. When, following a speculative attack, the euro falls by 10% against the dollar, its statistical expression leads to a 10% reduction in the GDP of all countries of the euro zone compared to that of the United States. Shortly after, a new configuration of speculative tensions changes can reverse the process. In addition, many states, including China, are accused of committing to monetary exchange rate policies in order to reap the benefits of trade. Several statistical instruments have been put in place to limit this statistical hazard, with strong consequences for governors' assessments of the state of their

---

<sup>4</sup> Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris.

national economy. Exchange rates depend mainly on international commercial and financial transactions, while national currencies have their direct discharge power directly related to market transactions within the national soil or currency area. In this context, the exchange rate is the result of international trade, and initially only indirectly affects national markets.

The purchasing power parity system is often used to reduce the effects of monetary developments on international markets. It consists of defining a basket of significant products, valuing it in the currencies of each zone and thus determining the "true" value of the exchange rate, excluding the monetary and financial system. But this procedure is not without flaws. Which basket of products should be chosen, given that the purchases (and their structure) made in one country do not necessarily correspond to those of another country? If we retain a US "standard" basket, the dollar value in purchasing power parity will be undervalued relative to other currencies. It is not certain that the Big Mac, which can be chosen in the collective basket, is a satisfactory choice for Benin or countries rather open to vegetarianism<sup>5</sup>. In addition, the prices of products are subject to constant changes, linked to the diversity of brands or ingredients, but also to periods of inflationary tensions, very heterogeneous from country to country. Applying the purchasing power parity method often brings a new perception of the economy of a country, but differences with constant exchange rate methods question the use of statistics. However, the calculation of GDP in PPP highlights the gross value added produced by a country in its capacity to satisfy, in a global way, the well-being of a country, considering the importance of the cost of living. It reflects the quality of the potential life of a country, but it is not intended to highlight access to economic power. It does not provide reliable information on the functioning of an economic system that values precariousness, inequality and power relations between buyers and suppliers. Used inappropriately, its calculation makes it possible to value the reduction of costs (wages included, without social assistance), as a factor of increase of the PPPs.

---

<sup>5</sup> It has even been proposed to create a fictional exchange rate on the basis of the famous MacDo. The BMI (Big Mac Index) was, however, considered a good indicator of the level of the value of currencies relative to each other, local currencies having all been converted at the exchange rate of the day. BMI is used as a "shadow exchange rate" to check, on a daily basis, whether or not currencies are overvalued. Cf. Donsimoni, M., Fontanel, J. (2019), *Les ambiguïtés de la mesure de la puissance économique par les parités de pouvoir d'achat*, *Annuaire Français des Relations Internationales*, Paris.

## **2. Conceptual limits**

One must be aware of the implicit assumptions of GDP. In international and inter-temporal comparisons, the GDP applies the hypothetical rule "all things being equal". This means that all goods and services are also useful, be it bread or drugs, health care or the sale of rifles. There are no "negative services", those who squander the scarce resources or pollute the atmosphere. GDP measures mainly billed activities, whether positive or negative. Self-production and self-consumption (gardens, orchards, farms, DIY, repair of various materials), volunteering (association, sports club), altruistic activities of the solidarity economy (free software, donations and free book exchanges) are poorly or poorly taken into account. The exchange of a few hours of lessons against the repair of a bike, a "baby sitting" evening against a day of help to start a business, makes the purely monetary analysis less efficient, while improving the living conditions of people. Domestic work also escapes GDP<sup>6</sup>.

Can all financial speculation activities be really "productive"? In most cases, are they not transactions that change the distribution of income or wealth more than GDP? Are not advertising activities more intermediate consumption than real collective production? GDP ignores the quality of the activities it counts; it produces no indicator of "sustainability" to meet the endowments of future generations. It is indifferent to the social and human conditions of the mode of production, to the reduction of heritage over arable land, to the impoverishment of raw materials or energy resources of the subsoil, to the degradation or to the improvement of air quality or inequalities in income and wealth. More seriously, as soon as production is established, it does not differentiate between a nuisance and a wealth. However, among the goods produced, there are "Bads" (nuisance or inconvenience), whose definitions remain complex and conventional. Since this is not its role, GDP makes no reference to the conservation of natural heritage. This one is supposed constant and free. Patrimonial accounting only intervenes indirectly in the choices of the agents of the market economy, because they are guided mainly by immediate profits. The exploitation of energy resources until their definitive disappearance in one or two centuries considerably increases the value of the GDP of the producing states (economy of rent),

---

<sup>6</sup> It does not include housekeeping, childcare, and child rearing or support activities..



but the natural reserves of the Earth disappear for the future generations.

GDP depends on national and international laws. Should we accept shale gas or oil? What are their real costs in the long run? Shale gas and oil are banned from production in some countries while others, including the United States, produce and sell it for export. The destruction of tropical forests, in order to produce plants for agro-fuels, increases the national GDP of the countries concerned, without any regard for the ecological and humanitarian disaster that it represents. GDP includes positively highly polluting productions that favor diseases such as cancer. In this case, it will even develop three activities: the wealth produced in the commercial world by the initial productive activity, the merchandising of anti-polluting measures and the increase of health expenditure. Everything that sells is considered a factor of wealth.

Finally, one should consider the importance of a country's stocks of economic, natural and human wealth, non-reproducible capital such as the value of land, net "reproducible" productive capital, the overall level of education, and of the health capital of the population. But GDP does not explain income and wealth inequality, relative or absolute poverty, or equality of opportunity within a society. Expenses related to domestic, industrial or road accidents have a positive impact on the activities of doctors, physiotherapists, hospitals, garages or coachbuilders; they will increase the GDP. Conversely, the decline in car accidents may weaken the benchmark as it reduces heavy medical care and car purchases. We should count the "bads". Given its total indifference to the content and effects of what is produced, the increase in GDP can accommodate forms of violence (forced labor), racism (apartheid) or slavery. A high GDP and strong growth can perfectly coexist with deplorable living conditions, a very important pollution and a very uneven distribution of the income. The "median" fortune of the Global Wealth Data Book and some indicators of the human development index (life expectancy, education level), despite their own shortcomings, are more relevant. The end justifies all means.

In fact, GDP remains an interesting chronological indicator, to which the interpretation of it is questionable. It is too much like the power indicator of an economy. Thus, consider that, in purchasing power parities, China has a GDP equivalent to that of

the United States cannot fail to surprise. The impression is that the manipulation of figures gives a distorted picture of the comparative economic and social development of countries. The famous G2 (USA-China) still remains very unbalanced if one wants, besides that of the GDP, to retain the military and geostrategic power, the respective weight of the dollar and the yuan, and the real standard of living of the inhabitants. The power of Russia depends mainly on the prices of raw materials and energy. Their decline or increase is not always due to the dynamism of the country; it is due to the market situation, speculation, the organization of negotiations between the OPEC countries, the economic war of a producing country (such as Iran or Iraq), or changes in agreements relating to climate or the environment. Competitiveness indices (including World Economic Forum and International Institute for Management Development (IMD) indexes, Global Dynamism Index) are sometimes complementary, although tax havens are taking advantage of the international system to develop a policy of beggar -thy-neighbor. In addition, GDP growth may be a mirage that hides a future economic crisis.

It should be renewed to highlight the "bad", even create a new indicator that would really highlight the positive production developed by a country, to compel the government to take into account the negative factors of the growth of productive forces at all costs and especially at any price. Economists and economists value the consistency of GDP content, in order to feed their calculations and equations over the long term. It's a leap forward. However, it will also be necessary to modify the content of GDP to give it a more representative meaning of the economic and social power of a country.

GDP and per capita GDP do not always provide the signals needed to prevent major economic, social and political crises in time. They should not be used as unique, versatile, indiscriminate "markers" in comparisons of current or potential economic and political power of a country relative to that of other states. The question asked is not a simple matter of experts; it goes well beyond. Other indicators should provide additional information, so as to improve the analysis of the concrete economic and human situation and improve decisions on the basis of shared information and democratically defined common objectives.

Osberg and Sharpquie<sup>7</sup> developed an index of well-being (IBE), using several criteria such as market and non-market current consumption flows, wealth stocks (tangible goods, durable consumer goods, accumulation of human and social capital, environmental costs) or the distribution of income (inequality, economic poverty, precariousness). It highlights the gap between GDP per capita and the index of well-being. In this study, after twenty years of economic growth at the end of the twentieth century, the British people's private and collective well-being remained almost constant, while GDP grew by 300% in current national currency units.

The Human Development Indicator proposed since 1990 by the UNDP, proposes a more centered analysis on the man and its development. It includes several criteria, such as the health and longevity of men (measured by life expectancy at birth), knowledge or level of education (average length of schooling or decision-making capacity), standard of living (per capita gross income in purchasing power parity) and the satisfaction of basic material needs such as access to healthy food, clean water, decent housing, good hygiene and medical care. However, these indicators do not always lend themselves to rectilinear interpretation and they always omit values that are not part of an indisputable quantitative analysis. The Economic, Social and Environmental Council (CESE)<sup>8</sup> proposed the presentation of ten indicators in addition to the GDP to serve as a support annexed to the draft budget law.

The single or dominant reference to GDP is dangerous. GDP was better adapted to the reality of the period during which it was conceived the very idea of economic development, of indefinite growth and "catching up" for developing countries, is called into question with the concept of development "sustainable. "American-style" economic growth, consuming too much raw materials and too polluting, cannot be an objective for other national economies, without even highlighting the unresolved issues of today's climate, excessive social inequalities or the rapid appearance of new rarities. Economic actors must no longer be encouraged to go in the direction of a form of unsustainable growth. It is necessary to have indicators on

---

<sup>7</sup> Lars Osberg et Andrew Sharpe, « [Une évaluation de l'indicateur de bien-être économique dans les pays de l'OCDE](#) », Séminaire de la DARES, 15 Octobre 2002. OCDE, *Du bien-être des nations, le rôle du capital humain et social*. Paris. 2001. Sharpe A., Méda. D, Jany-Catrice F. et Perret B (2003), "Débat sur l'indice de bien-être économique", *Travail et Emploi*, n° 93, Janvier 2003.

<sup>8</sup> CESE is an advisory body made up of social representatives (employers, unions, associations).

democratic freedoms, citizen solidarity, cultural influence, the rise of the digital economy and artificial intelligence. It is also of primary importance to count the least, the "Bads" and their costs, such as the definitive disappearance of certain raw materials, the influence of pollution on the persons concerned and, in international relations, their effects on neighboring countries.

### Bibliography

Aben, J., Fontanel, J. (2018), Military expenditure as a proxy for State's power, *Defence and Peace Economics*.

Aganbeguyan, A., Fontanel, J. (1994), Un monde en transition. Les exemples de la Russie et de l'industrie d'armement, *Cahiers de l'Espace Europe*, n°5, Grenoble, mars 1994

Bensahel L. & Fontanel J. (2006). *L'économie souterraine : l'exemple de la Russie*, L'Harmattan.

Bourova, N., Kouznetsov, A., Lamande, V. (2006), L'économie souterraine en Russie, le cas de Kaliningrad, in « L'économie souterraine. L'exemple de la Russie, L'Harmattan, Paris..

Bourova Natalia (16/11/06), Les activités économiques illégales : principes d'évaluation ». Thèse en co-tutelle. Publié en russe en Russe dans les Presses Universitaires de Saint-Pétersbourg.

CESE, France Stratégie (2015), Le CESE et France Stratégie proposent 10 indicateurs phares complémentaires au PIB. <http://www.lecese.fr/content/le-cese-et-france-strat-gie-proposent-10-indicateurs-phares-compl-mentaires-au-pib>

Coulomb, F., Fontanel, J. (2006), Mondialisation, guerre économique et souveraineté nationale, in *Question politique en économie internationale*, La Découverte, Paris

Coulomb, F., & Fontanel, J. (2011). *War and Capitalism. The Marketing of War in the Age of the Neo-Militarism*, New York et Londres, Routledge

Donsimoni, M., Fontanel, J. (2019), Les ambiguïtés de la mesure de la puissance économique par les parités de pouvoir d'achat, *Annuaire Français des Relations Internationales*, Paris.

Fontanel, J. (2007), *Questions d'éthique : guerre, démocratie, économie, éducation, marketing, sport, genre*, L'Harmattan, Paris.

Fontanel, J. (2016) *La sécurité économique et sociétale : pour une conceptualisation humaniste multidimensionnelle*, *PSEI*,

Paix et Sécurité Européenne et Internationale, n° 3.  
<http://revel.unice.fr/psei/>.

Fontanel, J. (2016), *Paradis fiscaux, pays filous. La fuite organisée des impôts vers les pays complices*, L'Harmattan, Paris.

[Guilhaudis, J.F., Fontanel, J \(2017\), Le PIB, Indicateur, Totem et mauvais marqueur, in](#) Guilhaudis, J.F. Relations internationales contemporaines, 4<sup>e</sup> édition augmentée, Lexis Nexis, Paris.

Guilhaudis, J-F., Fontanel, J. (2019), Les effets pervers de l'usage du PIB pour la décision politique et les relations internationales. Comment en sortir ? Annuaire Français des Relations Internationales, AFRI

Nordhaus W., Tobin J., (1973) « Is Growth Obsolete ? » in , The Measurement of Economic and Social Performance, Studies in Income and Wealth, National Bureau of Economic Research, vol.38, 1973.

OCDE (2001), *Du bien-être des nations, le rôle du capital humain et social*. Paris. 2001.

Osberg, L. & et A.Sharpe, [« Une évaluation de l'indicateur de bien-être économique dans les pays de l'OCDE »](#), Séminaire de la DARES, 15 Octobre 2002.

Sharpe A., Méda. D, Jany-Catrice F. et Perret B (2003), "Débat sur l'indice de bien-être économique", Travail et Emploi, n° 93, Janvier 2003.