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Clara Capelli
(Università di Pavia)

Gianni Vaggi
(Università di Pavia)

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Via San Felice, 5
I-27100 Pavia
http://epmq.unipv.eu/site/home.html

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**Clara Capelli**
*clara.capelli@unipv.it*

**Gianni Vaggi***
*gianni.vaggi@unipv.it*

University of Pavia
Department of Economics and Business
Via San Felice 5
27100 Pavia
Italy

*Corresponding author. Tel.: +39 0382/986222; Fax: +39 0382/304226.

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**Abstract**

*The Gross National Income (GNI) is often regarded as the best indicator for a country's standard of living. Yet, it does not record unilateral transfers (notably remittances), which in the previous decades have been amongst the largest types of income inflows for developing countries.*

*The Gross National Disposable Income (GNDI), including both net factor income (captured by the GNI) and unilateral transfers, provides a better view of the income available to a country's residents.*

*GNDI is often confused with GNI in common practice and is rarely available in major reports. This paper tries to contribute to closing this void.*

**Keywords:** Gross National Income, Gross Disposable Income, Balance of Payments, Trade Account, Current Account, Remittances

**JEL classification:** F60, O011, O015

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# 1 INTRODUCTION

Measuring the standards of living of an economy is a fundamental concern, not only in development economics. First, knowing how well off the members of a country are on average is extremely important for development policies. Second, it is necessary to be able to make comparisons both over time and across countries, thus assessing improvements and performances.

Traditionally, the Gross Domestic Product (GDP) is the most widely accepted indicator of a country's size and economic performance, although in the last decades many contributions have suggested the need to adopt a larger set of indicators in order to capture people's wellbeing[1].

The monetary income element is also captured by the Gross National Income (GNI), which is often regarded as an either complementary or alternative measure with respect to the GDP. In recent years, the GNI has been largely used, but we will show that - contrary to the held view that GNI is the best indicator for a population's monetary income -, it fails to account for some key elements. A third indicator, the Gross National Disposable Income (GNDI) proves to be more informative and useful in many fields. Let us briefly summarize the argument.

The GNI takes into account the fact that some incomes are generated in another country but accrue to the economy at stake and vice versa. However, what the GNI does not record are the so-called *unilateral transfers*, most importantly remittances. Their value in current prices has increased by seven times between 1990 and 2010 (see the World Bank Database) and they represent by far one the largest types of monetary inflows for developing countries.

GNDI captures *both* factor incomes - included in the GNI - and unilateral transfers. Given the remarkable magnitude of the remittance flows, the latter cannot be neglected, which makes the GNDI a better tool to measure how well off a country's population is.

Yet, the GNDI is rarely available in international reports and databases. Sometimes it is even confused with the GNI in common practice. In order to clarify the meaning of the three aforementioned indicators, we will use the definitions provided in the 2008

version of the *System of National Accounts* (SNA) and the 2009 IMF *Manual on the Balance of Payments*. The difference among the three will recognizably emerge.

**Section 2** sets the general problem of the different indicators for measuring the income of an open economy. **Section 3** illustrates the concepts of GDP, GNI and GNDI, explaining their mutual relations and their distinguishing properties. **Section 4** shows some figures regarding the three indicators with respect to 27 countries where remittances play a very important role. The informativeness of the GNDI relatively to the GNI will be discussed in detail. **Section 5** discusses a number of fields for which the GNDI would be a better indicator. **Section 6** concludes. In **Appendix A** a table shows the various indicators at stake and some national accounts data for the Palestinian Territories. **Appendix B** shows some data on remittances, trade account and current account balance of the 27 economies taken into consideration in Section 4. **Appendix C** contains a table that we have built with the value of GNDI for all the countries of the World Bank Database.

# 2 THE VALUE OF AN ECONOMY

The measurement of the value of an economy is complicated and basically depends on conventions, the existing statistical tools and the availability of data. Errors, omissions and biases are inevitable[2].

This paper will focus on the economic dimension of the "standards of living", namely what Amartya Sen classifies as *opulence* in the sense of "command over a mass of commodities" (Sen, 1987)[3]. We will not join the debate over the definition and the measurement of welfare and wellbeing, simply considering the monetary income side of the standards of living.

The most used indicator for the value of an economy is obviously the GDP. Without going too much into technicalities, the GDP measures the value of *production* of all the residents. It is important to bear in mind that the GDP is closely linked to the concept of value added and can also be measured in terms of *income*, i.e. as the sum of

compensations of employees, operating surpluses, mixed incomes (including taxes and subtracting subsidies on production), etc. Finally, the GDP can be measured following the *expenditure* method, namely summing final consumption, gross capital formation and exports and subtracting imports. These procedures are discussed in detail in the 2008 System of National Accounts, issued by the United Nations (UN, 2008).

With a certain degree of approximation, we can say that the GDP identifies the value of an economy with the value of the activities that take place within its geographical borders. It is a useful indicator for the value of an economy from the point of view of its productive capacity, which is why it is used to compare the size of the economies and evaluate their growth performance.

We will rather focus on the meaning of the GDP in a globalized world, where mobility of people and capital has been steadily growing. First, some producers may operate in an economy that is not the one where they dwell and use the income they get. If residence does not coincide with the location of the production activity, differences arise between the income generated within an economy - the GDP - and the income actually available to the citizens of that country.

Moreover, part of the income generated in a country may be transferred abroad for a number of reasons. Even in this case, differences arise between the income created by an economy and the income at its residents' disposal.

In both cases, the gap between the income resulting from production and the income actually received by a country's inhabitants makes the GDP not a fully informative indicator for living standards and here is the point that this paper wants to discuss. Let us now analyze what are the economic phenomena behind such a gap.

## (a) The GNI and the mobility of factors of production

As explained by the UN Systems of National Accounts (SNA) in the 2008 handbook (p. 105), "*Some of the production of a resident producer may take place abroad, while some of the production taking place within the geographical boundary of the economy may be carried out by non-resident producer units*" (UN, 2008).

In other words, a country's factors of production are not necessarily employed domestically, but may be hired abroad for foreign production process. However, their remunerations will be (mainly) used in the domestic economy, where the factors of production dwell.

This point was stressed - among others - by Paul Sweeney in the *The Celtic Tiger: Ireland's continuing miracle explained*. He questioned the informativeness of GDP, given the weight of multinational corporation profits that were generated in Ireland, but repatriated to the head offices abroad (Sweeney, 1999). His claim was that the GNI[4] was a much better indicator for living standards, as it measures the income generated by the resident factors of production, regardless of the country where they are employed.

If GNI is higher than GDP, it means that part of the economy's factors are employed in foreign production process; conversely, if GNI is lower than GDP, the economy at stake employs foreign factors, so that part of the income that it generates goes abroad. Taking into account the World Bank Database, in the 1990s the Irish GNI was on average 10% lower than the GDP and such difference increased to approximately 15% in the 2000s, hitting 20% in 2011.

Another case of interest refers to the Palestinian Territories. Because of the large number of Palestinians working in Israel between 1994 and 2000, the GNI was on average 15% higher than the GDP[5]. Such a gap was the result of the compensations of employees hired in Israel but living in the Palestinian Territories.

Both examples show that a GDP-focused analysis is not of use to depict a complete picture. In Ireland, the GDP somehow "overestimates" the income really earned by the Irish residents. On the contrary, in the Palestinian Territories it "underestimates" the Palestinians' purchasing power.

In light of considerations of this kind, the GNI has been more and more largely used, thus giving more importance to the income generated by the resident factors of production - no matter where they earn it - than to the income generated within the economy. GNI is therefore considered to be a more informative indicator for a country's standards of living.

For instance, GNI is now used by UNDP to build the Human Development Index (HDI). From 1990 to 2009 the HDI component of (material) living standards was measured by the GDP per capita in PPP US$. In 2010, the latter was replaced by the GNI per capita in PPP US$, namely in order to account for the differences that arise in a globalized world between the income of a country's residents and its domestic production (Kovacevic, 2010; Klugman et al., 2011).

## (b) The GNDI and remittances

As it has already been mentioned, the GNI does not take into consideration a phenomenon whose importance has been remarkably increasing in the last decades, namely that of remittances from people who migrate and send money to their relatives who still live in the country of origin.

According to the World Bank Database, the overall value of remittances amounted to approximately 514 billion US$ in 2011, while in 1990 it was less than 64 billion US$ and in 2003 it was 207 billion US$. These figures merely refer to officially recorded transactions and do not account for the informal transfers of money that seem to be as important as those formally registered[6]. It is clear that such huge inflows have a considerable impact on a country's standards of living.

Nonetheless, the GNI is still the most popular indicator. Furthermore, some degree of confusion exists in common practice, as the GNI is often believed to record also unilateral transfers. For example, the 2011 edition of *Development Economics* by Todaro and Smith - one of the most important handbooks on development economics - comments on the use of the GNI to calculate the HDI as follows (p.54):

> "Gross National Income (GNI) per capita replaces Gross Domestic Product (GDP) per capita. This should be an unambiguous improvement: GNI reflects what citizens can do with income they receive, whereas that is not true of value added in goods and services produced in a country that go to

someone outside it, and income earned from abroad still benefits some of the nation's citizens. As trade and remittance flows have been expanding rapidly, and as aid has been better targeted to very low-income countries, this distinction has become increasingly important."

(Todaro and Smith, 2011)

The last sentence apparently implies that remittances and foreign aid are included in the GNI. This is a common belief shared by many economists, although it is discussed in detail by the Systems of National Accounts[7] and analyzed by the famous *Report by the Commission on the Measurement of Economic Performance and Social Progress* by Stiglitz, Sen and Fitoussi (Stiglitz et al., 2008). In Box 1, page 95, the authors write that:

"Although national income (NI) and national disposable income (NDI) both refer to the income of the whole economy, NDI is a more comprehensive aggregate than NI. [...] At the level of the whole economy, taxes, social security payments and so on that take place inside the country cancel out; but current transfers from and to other countries do not, and the difference between them mark the difference between NI and NDI. Thus, *NDI better measures how well off citizens are*" (emphasis is ours).

The distinction between NI and NDI is no further discussed in the Report. GNDI is rarely provided by reports and databases. One of the few exceptions is the OECD, which calculates the GNDI together with the GDP and the GNI for its member countries and some non-member countries, for instance China and Indonesia[8].

However, for OECD member countries the differences among the three indicators - particularly between the GDP and the GNI - are not so large. Later in this paper we will try to provide a first attempt to calculate the GNDI for a number of economies in order to stress the importance of this indicator.

# 3 DOMESTIC PRODUCT, NATIONAL AND DISPOSABLE INCOME

Before discussing the figures for the three indicators and their meaning, it would be useful to analyze in detail GDP, GNI and GNDI with respect to the global economy.

It is therefore necessary to recall some core characteristics of the Balance of Payments and how different types of income flows are recorded and classified in it[9].

It is important to make clear that in the BoP the concept of ”residence” - and not ”nationality”- is the leading classification criterion. An institutional unit (i.e. a household, an enterprise, etc.) is resident in an economic territory if it has a ”predominant interest” with some location, dwelling, place of production or other premises. For instance, a household is resident in an economic territory if its members mainly dwell there; an enterprise is resident in an economic territory when it is incorporated/registered under the territory's law (UN, 2008; IMF, 2009a).

The BoP becomes a very useful tool to understand the economic conditions of a country. More precisely, one has to look at the current account, which is the account that records how income is re-distributed worldwide via factor incomes and unilateral transfers. The *primary distribution of income* refers to the net remunerations of factors of production and is specifically captured by the GNI. The *secondary distribution of income* regards net unilateral transfers (mostly aid and remittances), which are recorded by the GNDI but are not included in the GNI.

## (a) The Primary Income Account and the GNI

The Primary Income Account records income flows between resident and non-resident institutional units for *i)* their direct contribution to the production process; *ii)* the provision of financial assets; *iii)* the renting of natural resources to institutional units in other countries.

In other words, this account records all the remunerations for the factors of production (labor, capital, and natural resources) employed in a production process that takes

place in an economy that is not the one where the factors are resident.
Following the sixth edition of the IMF Balance of Payments, the primary income account includes:

- **Compensation of employees:** the remuneration in return for the labor input to the production process that comes from/goes to the rest of the world. For the host economy where the productive process takes place, it is the total remuneration payable by resident enterprises to non-resident employees; for the home economy, it is the total remuneration receivable from non-resident enterprises/employers.

  A classic example are the compensations of cross-border employees, namely wages paid to workers who commute to a neighboring country every day, as they are employed in the latter but do not dwell in it.

- **Income associated with the ownership of financial and other non-produced assets**, i.e. dividends, reinvested earnings, interests, rents. Again, the residence criterion holds, therefore the recorded transactions are those between resident and non-resident actors (i.e. repatriated profits, royalty interests on the exploitation of natural resources by non-resident corporations, etc.).

  In the case of countries with a relevant foreign debt, interest payments paid to foreign countries are another important item in the primary income account. This phenomenon drew lots of attention in the Eighties and Nineties, after Mexico's default in 1982 and the following debt crisis[10].

The *Net Primary Income* (NPI) is the balance of primary income flows recorded in the Primary Income Account. It results from the difference between the primary income receivable from non-residents and the primary income payable to non-residents[11].

The NPI represents the *primary distribution of income* that takes place worldwide between the economy of interest and the other countries through production processes and the employment of factors of production with different nationalities.

Following the 2008 SNA Manual and the 2009 IMF BoP Manual, the GNI results

from the sum of GDP and the Net Primary Income, hence:

$$GNI = GDP + NPI$$

The GNI records the income earned by the factors of production that are resident in the economy in question, no matter where they are hired. The focus is on the primary distribution of income and, consequently, on the productive activities in which such factors are involved worldwide.

## (b) The Secondary Income Account and the GNDI

The Secondary Income Account focuses on the redistribution process that takes place worldwide after the process of production: once the factors of production have been paid, their owners decide how to use the income, either keeping it for themselves or transferring (a part of) it to foreign (non-resident) institutions.

In principle, these transfers are not related to any specific contribution to the production process or to any market relationship between the sender and the recipient institutions. Sometimes they are called ”unrequited transfers”, namely because they do not derive from any pre-existing obligation of the sending party, nor do they determine any obligation or debt for the receiving party (IMF, 2009a)[12].

The Secondary Income Account includes:

- **Personal Transfers:** all current transfers in cash or in kind made or received by resident households to or from non-resident households. This source primarily regards personal remittances, namely the transfers of money by migrant workers to their home countries.
- **Current International Cooperation:** current transfers in cash or in kind between the governments of different countries or between governments and international organizations. They range from food and emergency aid to regular contributions and salaries of resident staff.

- **Current Transfers to NPISHs:** transfers received by resident Non-Profit Institutions Serving Households (NPISH)[13] from non-resident institutional units in the form of membership dues, subscriptions, donations, etc.

Introduced for the first time by the System of National Accounts of 1993, the GNDI is defined as the GNI less current transfers payable to non-resident units, plus the corresponding transfers receivable by resident units from the rest of the world (UN, 2008; IMF, 2009a). In other words, it is the GNI plus the Net Secondary Income (NSI), which in turn is the value of the Secondary Income Balance. The difference between the GNI and the GNDI then lies in the Secondary Income Balance and the difference between the GDP and the GNDI lies in the two balances:

$$\text{GNDI} = \text{GNI} + \text{NSI} = \text{GDP} + (\text{NPI} + \text{NSI})$$

The GNDI therefore measures the income that residents can actually use for either consumption or saving, thus accounting for their purchasing power and, consequently, for their living standards. Unilateral direct transfers cannot be ignored when the aim is to assess how well off a population is on average. As we shall see in the following section, the difference between the GNI and the GNDI may prove quite significant.

The following section will take into consideration some developing economies for which the role of remittances is such that GNDI turns out to be a more informative indicator than the GNI.

# 4 GDP, GNI AND GNDI IN FIGURES

Tables 1 and 2 below will show the figures for the three indicators at stake, i.e. the GDP, the GNI, and the GNDI with regard to a selection of developing countries. The aim is to highlight the magnitude of the different phenomena discussed so far. We will take into consideration 27 countries for which workers' remittances[14] are particularly important, either in absolute or relative terms. All the countries in Table 1 are among the top twenty receivers of remittances in absolute values in 2011 according to the

Table 1: **Countries among top remittance receivers, absolute terms (Millions of US$)**

| Country | GDP | NPI | GNI | NSI | GNDI | GNDI/GNI |
|---|---|---|---|---|---|---|
| **Bangladesh** | 111,905 | -1,513 | 110,392[a] | 12,242 | 122,634 | 1.11 |
| **Nigeria** | 243,985 | -22,784 | 221,201 | 21,808 | 243,009 | 1.10 |
| **Morocco** | 99.211 | -2,051 | 97,160 | 8.114 | 105,274 | 1.08 |
| **Pakistan** | 210,741 | -3,098 | 207,643[a] | 16,431 | 224,074 | 1.08 |
| **Philippines** | 224,770 | 280 | 225,050 | 18.380 | 243,430 | 1.08 |
| **Egypt** | 235,983 | -6,376 | 229,607 | 15.221 | 244,828 | 1.07 |
| **Vietnam** | 123,600 | -5,019 | 118,581 | 8,685 | 127,266 | 1.07 |
| **Lebanon** | 40,094 | -178 | 39,916 | 2,428 | 42,344 | 1.06 |
| **India** | 1,872,840 | -17,932 | 1,854,908 | 61,574 | 1,916,482 | 1.03 |
| **Mexico** | 1,157,646 | -17,244 | 1,140,402 | 22,974 | 1,163,760 | 1.02 |
| **Ukraine** | 163,422 | -3,796 | 159,626 | 3,708 | 163,334 | 1.02 |
| **Indonesia** | 846,483 | -26,675 | 819,808 | 4,210 | 824,018 | 1.01 |
| **Poland** | 515,666 | -22,880 | 492,786 | 6,231 | 499,017 | 1.01 |
| **China** | 7,314,432 | -70,318 | 7,244,114[a] | 24,511 | 7,268,625 | 1 |

[a] For these economies, the datum on GNI as provided by the World Bank Database appears to be considerably different from the result of GDP + NPI.

World Bank Database (each country had received more than 6,500 million US$). With the exception of Poland, we have excluded high-income countries, focusing only on developing countries.

Data are all in current US$ and refer to 2011. Countries are ranked with respect to their GNDI/GNI ratio. The figures for the GDP, the NPI, and the NSI are directly taken from the World Bank Database[15]. Those for GNI and GNDI are calculated by the authors. The GNI is the sum of GDP and NPI[16]. Finally, GNDI results from the sum of GDP with both NPI and NSI.

Table 2 provides the same kind of figures for the countries that in 2011 were amongst those with the highest share of remittances received as a percentage of GDP. With the exception of Georgia, the share of remittances is higher than 10%. All the

Table 2: **Countries among top remittance receivers, relative terms (Millions of US$)**

| Country | GDP | NPI | GNI | NSI | GNDI | GNDI/GNI |
|---|---|---|---|---|---|---|
| **Liberia** | 1,545 | 88 | 1,633[b] | 1,217 | 2,850 | 1.75 |
| **Tajikistan** | 6,522 | -58 | 6,464 | 2,929 | 9,413 | 1.46 |
| **Haiti** | 7,346 | 40 | 7,386 | 2,757 | 10,143 | 1.37 |
| **Kyrgyz Rep.** | 6,197 | -656 | 5,541 | 1,839 | 7,380 | 1.33 |
| **Nepal** | 18,977 | 147 | 19,124 | 4,726 | 23,850 | 1.25 |
| **Moldova** | 7,001 | 565 | 7,566 | 1,515 | 9,081 | 1.2 |
| **Honduras** | 17,426 | -973 | 16,453 | 3,107 | 19,572 | 1.19 |
| **El Salvador** | 23,054 | -632 | 22,422 | 3,841 | 26,263 | 1.17 |
| **Jordan** | 28,840 | -179 | 28,661 | 4,865 | 33,526 | 1.17 |
| **Bosnia Herz.** | 18,242 | 226 | 18,468 | 2,491 | 20,959 | 1.13 |
| **Senegal** | 14,400 | -150 | 14,250 | 1,550 | 15,800 | 1.11 |
| **Georgia** | 14,400 | -422 | 13,978 | 1,329 | 15,307 | 1.10 |
| **Armenia** | 10,247 | 555 | 10,802 | 722 | 11,524 | 1.07 |

[b] For this economy, the datum on GNI as provided by the World Bank Database appears to be considerably different from the result of GDP + NPI.

countries have a population of at least 3 million people[17].

A few considerations emerge from the two tables. First, the GDP and the GNI are not markedly different for both groups of countries. A striking difference arises between the GDP and the GNDI for those countries in which remittances play a significant role relatively to the GDP. The story goes the same with the difference between the GNI and the GNDI.

For countries with a large number of migrants with respect to the population, the GNDI seems to be a more useful indicator than the GNI, as it captures the value of personal transfers that significantly affect the resident population's living standards. The last column of Table 2 shows in fact that - apart from Armenia - the GNDI is always

at least 10% higher than the GNI, ranging from a stunning 75% for Liberia to 10% for Georgia.

Most of the countries in Tablee 2 have a rather small economy - measured in terms of GDP - and a rather small population, which makes remittances an extremely important phenomenon that has a huge impact on people's purchasing power and on the economy as a whole. The story is the same even for Nepal, whose population exceeds 27 million people and GNDI is around 25% of the GNI.

It is also worth noting that in Table 2 the magnitude of net unilateral transfers (measured by the Net Secondary Income) is far higher than that of net factor income (the Net Primary Income). Hence, focusing just on the income earned by resident factors of production does not enable us to assess people's purchasing power, as the latter is rather the result of a process of secondary distribution of income through personal transfers.

NSI's weight is substantially much higher than NPI even for a number of countries in Table 1, namely Bangladesh, Egypt, India, Lebanon, Pakistan, and the Philippines. NSI not only has a far higher magnitude, but since it represents a net surplus in the Secondary Income Balance, it more than offsets the deficit in the Primary Income Balance. For Bangladesh and Nigeria the GNDI/GNI ratio is beyond 10%. Morocco, Pakistan and the Philippines follow with 8% Only in a few cases the Primary Income Balance is in deficit and offsets the surplus of the Secondary Income Balance: China, Indonesia and Poland are characterized by remarkable income outflows that are not compensated by remittances despite their value in absolute terms.

The outflows of income are usually due to dividends and distributed profits paid to foreign companies; compensation of employees do not seem to be particularly relevant (Central Bank of Nigeria, 2011; Central Bank of Poland, 2011; Central Bank of Vietnam, 2011)[18].

Another important item for the Primary Income Account may also be due to interest payments on foreign debt held by the governments. In the Eighties and Nineties, they represented a very large outflow of income for developing countries. In 2000, the interests paid by all developing countries amounted to 2% of the GNP (the old denomination of GNI), with Sub-Saharan Africa 4.3%. In 1990 - when the debt crisis was at

its peak - this figure was 6.3% (World Bank, 2002)..

In general, remittances have become an important phenomenon since the early Nineties. The difference between GDP and GNDI was rather tiny, although even at that time it was larger than 10% in eight countries, reaching 25% in Jordan (Kapur, 2004). In 2011, 24 countries were above the 10-percent threshold for the GNDI/GNI ratio and remittances accounted for at least 3% of the GDP in 59 countries and for more than 40% of the GDP in 40 countries (World Bank, 2012b).

In 2001 the overall value of remittances received by developing countries was 90 billion US$, but in 2011 it hit 355 billion US$ (World Bank, 2013a). This phenomenon was particularly remarkable in Asia, for example in Bangladesh, Nepal, Pakistan, and Vietnam. Ukraine, countries in Central America (e.g. El Salvador and Honduras) and the MENA region (Egypt, Jordan, Morocco) already exhibit a significant difference between the two indicators in 2001.

In the WDI reports, remittances and compensation of employees are grouped together under the label of "personal remittances" (see World Bank 2013b, Table 6.13), but there are no specific figures for the GNDI. This is also true for the major reports, often focusing on remittances but do not provide an indicator that synthetically captures their effect on an economy's living standards (see for instance *2012 Global Development Finance* or *2013 International Debt Statistics*). As it has been mentioned before, the only exception is represented by the OECD, which provides the data on NPI, NSI, and GNDI.

# 5 HOW TO USE THE THREE INDICATORS

We can sum up the considerations made in the previous sections as follows:

1. The GDP refers to the productive strength of an economy;

2. The GNI represents the productive strength of the resident factors of production,

no matter where they are employed;

3. The GNDI regards the income that is actually available to a country's resident citizens, no matter who has generated it and where.

In Section 4 some considerations have emerged on the use of the different indicators. We will now discuss see that in some relevant cases the GNDI is more informative than the GNI and should probably replace it.

**1. How to build the Human Development Index (HDI).** As it has been briefly mentioned before, the GNI has replaced the GDP (Both per capita in PPP) to calculate the dimension of the standards of living, one of the three sub-indexes on which the HDI is built. This change is meant to provide a better approximation of the income available to a country's residents, as it accounts for the mobility of income worldwide.

Yet, the GNI is not best way to capture people's living standards, because it does not include unilateral transfers - foreign aid and most importantly remittances. As we have already seen, remittances unquestionably play an important role in enhancing a country's standards of living, especially for developing countries. The GNDI includes all types of income inflows, therefore it may prove a more useful indicator for living standards and should probably replace the GNI for building the HDI[19].

**2. Income classifications for economies.** As we know well, the World Bank classifies the countries according to three income per capita thresholds, expressed in terms of GNI per capita (World Atlas method) and updated every year to account for inflation[20].

Leaving aside the ongoing debate on the relevance of these thresholds and on their usefulness[21], let us discuss what emerges in Tables 1 and 2. Given the existing thresholds in terms of GNI, no country in Table 1 would change its position. Two countries in Table 2 would upgrade from Low to Lower Middle Income, namely Tajikistan (from 870US$ to 1,268 US$ per capita) and the Kyrgyz Republic (from 900 US$ to 1,192 US$). El Salvador would move to the Upper Middle Income group (from 3,480 US$ to

4,076 US$). It is clear that a change of group can only affect countries that are already somehow close to the thresholds.

The adoption of the GNDI instead of the GNI to define the thresholds would probably lead to minor changes. However, the choice of the indicator depends on the purpose of the analysis. If the aim is to assess the living conditions of a population, then the GNDI should be adopted. If, on the other hand, the thresholds are used to describe the characteristics of an economy, its structural weaknesses and strengths in relation to other countries, thus the GDP per capital could probably prove to be a better tool.

**3. The poverty lines.** The choice of the indicator does not directly affect another very important threshold: the so-called absolute poverty line of 1.25US$ a day (currently referring to 2005 PPP prices). This concept is the basis for the First Millennium Goal, according to which the number of people living in absolute poverty should be reduced at least by 50% by 2015, with respect to the 1990 situation.

The World Bank method to set the poverty line is based on household consumption (using consumption surveys) and instead of income[22]. No problems of choosing among the three indicators would arise. Yet, it is clear that the income actually available to the households of a country influences their expenditure pattern. Without unilateral transfers, effective consumption might be lower, so that GNDI should also be linked to the field of poverty measurement.

The story is the same for the Multidimensional Poverty Index, developed by the Oxford Poverty and Human Development Initiative (OPHI) since 2010. The ten dimensions of the index do not include income - not even in the case of appreciation of the living standards, which are directly assessed in terms of deprivation with respect to six "basic needs"[23]. Here too it can reasonably be assumed that in may Low and Middle Income economies deprivation would be higher without a (largely) positive Net Secondary Income Account, which is captured by the GNDI.

**4. The Dutch Disease.** GNDI and the GNDI/GNI ratio in particular may prove more useful than GNI to analyze the possible existence of Dutch Disease phenomena. Indeed, consumption and saving do not only depend on the domestic productive capacities of an economy, since residents' purchasing power is affected by unilateral transfers.

Such additional flows - usually net inflows for developing countries - contribute to increase domestic demand and, consequently, domestic absorption without enhancing the domestic productive performance[24]. In economies with a very weak and undiversified productive base, this may easily result in a remarkable increase in imports. The extent of this phenomenon obviously depends on the magnitude of the inflows received and their weight on the GDP.

**5. The Current Account and the Trade Account.** The Current Account Balance (CAB) is the sum of three elements: *i)* the Trade Balance (TB), namely the difference between exports (X) and imports (M); *ii)* the Net Primary Income (NPI); *iii)* the Net Secondary Income (NSI):

$$\text{CAB} = (\text{X-M}) + \text{NPI} + \text{NSI}.$$

The CAB and its ratio to the GDP are commonly regarded as very important elements for the assessment of the macroeconomic conditions of a country. Imbalances in the international position of an economy are usually related to surplus/deficits in the CAB. The CAB/GDP ratio is quite often adopted either as a policy target or a constraint.

Appendix B contains two tables - Table B1 and Table B2 - showing the data on remittances received (both in absolute and relative terms) and the balances for both the trade and the current account for the 27 economies analyzed in Section 4. The two tables show remarkable differences between the trade and the current account balances. Apart from China, Indonesia and Nigeria, they all show a deficit in the trade account, which is larger than 20% of the GDP for the countries in Table B2.

What is more, with the exception of the three aforementioned countries plus Poland and Ukraine, the CAB is much better than the TB, indeed thanks to the huge inflows

of remittances. The positive Secondary Income Account helps ease the trade deficit, so that the CAB is far less severe. In the case of Nepal, a trade deficit of nearly 23% is coupled with a surplus of approximately 1.5% in the current account.

In order to assess the strength and competitiveness of an economy, it would be more appropriate to take into consideration the TB rather than the CAB. The latter gives a sort of more reassuring picture of the external position of the countries at stake, but this is mostly due to net remittances. The TB may help understand how competitive an economy is, while the CAB tells us whether or not a country gets (more) indebted with the rest of the world. This leads us to the final point.

**6. Debt interests and the Non-Interest Current Account.** The current account is linked to the changes in the net asset position of a country with the rest of the world, it determines whether a country gets more indebted or not. That said, let us introduce another concept that was very much in vogue during the debt crisis of the Eighties-Nineties, i.e. the Non-Interest Current Account (NICA)[25]. It is the value of the current account net of interest payments on foreign debt.

A positive NICA is equivalent to a primary surplus in the case of national accounting and domestic debt. A primary surplus is extremely important for an economy, as it shows the ability of a country to sustain its budget, were it not for its pre-existing debt[26].

For many developing countries, the NICA plays exactly the same role: the overall deficit in the Current Account is reduced by a positive NICA. Tables B1 and B2 in Appendix B show that in many countries both the trade balance and the primary income account are in deficit, so that the relevant contribution for a surplus in the NICA comes from the secondary income balance. It is thanks to workers' remittances and international aid that these economies can improve their financial position with the rest of the world and - in case of foreign debt - cope with interest payments[27].

# 6 CONCLUSION

It is rather common to think that the GNI captures the income available to those who live in a country, thus providing information on the standards of living in the economy at stake, while the GDP accounts for a country's productive strength.

This view goes together with the idea that in developing countries GNI is generally higher than GDP, precisely because of the income flows from abroad. However, following SNA 2008 and the 2009 Balance of Payments Manual by IMF, another story seems to emerge.

We have seen that in many cases the GNI is lower than the GDP, and - in general - the Gross National Disposable Income is a much better indicator to assess the income available to the residents of a country. The GNI only includes the income flows that are recorded in the Primary Income Account. However, in most developing countries the most relevant sources of inflows are workers' remittances and international aid, which are part of the GNDI through the Secondary Income Account.

During the last twenty years a huge process of income distribution has been taking place worldwide and it cannot be ignored. The notion of GNDI, which includes both primary and secondary income tells us the income actually available to the people of a country for their expenditures. It is a much better indicator than the GNI of the standard of living and should replace GNI in several fields.

# Notes

[1]This paper will not focus on the several aspects of wellbeing, sticking to a definition of "standards of living" that substantially refers to the monetary resources actually available to a country's population. On the recent debate on the limits of the concept of GDP and on wellbeing, see the *Report of the Commission on The Measurement of Economic Performance and Social Progress* of 2008 by Stiglitz, Sen and Fitoussi and the *2013 World Happiness Report* edited by Helliwell, Layard and Sachs. On the concept of sustainable wellbeing, see Dasgupta and Duraiappah, 2012, pp. 15,18,23.

[2]On problems related to the provision of proper data and indicators - most importantly the GDP - , see for instance *Poor Numbers: How We are Misled by African Development Statistics and What to Do About it* by Jerven Morten, 2013.

[3]Let us recall that Pigou used "standard of living", "standard of real income", "material prosperity" as synonyms for "economic welfare", in turn defined as "the part of social welfare that can be brought directly or indirectly into relation with the measuring rod of money" (Pigou, 1929, p. 11). Moreover, Sen specifies that this approach also dates back to Adam Smith, who wrote at the very beginning of his *Wealth of Nations* that "*the nation will be better or worse supplied with the necessaries and conveniences for which it has occasion*", thus implying a notion of standards of living as opulence or prosperity (Smith, 1776, p.10).

[4]In the book, Sweeney made reference to the GNP - i.e. the Gross National Product - instead of the GNI. Nevertheless, the two terms are intended to be considered as synonymous.

[5]Authors' calculations on the basis of the database of the Palestinian Central Bureau of Statistics (PCBS). After 2000 the difference has basically halved.

[6]Remittances are increasingly better measured and estimated with respect to the past. On the informal value transfer systems, see for instance Kapur, 2004, p.8 and Acosta *et al* 2007, p. 44.

[7]See SNA 2008, p.35.

[8]See OECD Database, National Accounts Section.

[9]We will adopt here the classification of the sixth edition of the Balance of Payments Manual, published by the IMF in 2009. The 2013 edition of the *World Development Indicators* makes reference to this manual. The previous editions of the report would use the 1993 edition of the IMF Balance of Payments Manual.

[10]In the late Nineties, interest payments in the Severely Indebted Low Income Countries (SILIC) represented 3% of their GNI and approximately 8% of the value of their exports (World Bank, 2002). Many issues of the *Global Development Finance* by the World Bank provide a synthetic but exhaustive description of the flows on debt and of net transfers to developing countries. See for instance the 2002 edition.

[11]It is also known as *Net Factor Income* (NFI), an expression that was used in the earlier versions of the IMF Balance of Payments Manual and SNA Manual.

[12]In the fifth edition of the BoP Manual, the secondary income was labelled as "current transfers"; the primary income was simply referred to as "income" (see also World Bank 2012b, Table 4.17 p. 278).

[13]NPISH may be NGOs, charities, relief and aid organizations, trade unions, consumers' associations, re-

ligious institutions, cultural and recreational clubs, foundations. They are mainly engaged in providing goods and services to households and to the community either free of charge or at prices that are not economically significant (non-market producers).

[14]"Remittances" here refer to what the IMF Balance of Payments Manual calls "personal transfers". The Manual also introduces the concept of "personal remittances", which is the sum of personal transfers and compensation of employees (see also World Bank 2013b, Table 6.13).

[15]At the moment of writing (fall 2013), the World Bank Database did not provide the data for 2012, only forecasts.

[16]The data available in the World Bank Database are usually slightly different from the result of GDP + NPI, which may be due to the fact that GNI also includes product taxes (less subsidies).

[17]Very small countries are not included, as for instance Gambia, Guyana, Jamaica, Kosovo, Lesotho, Samoa, Timor-Leste, Tonga, and Togo. West Bank and Gaza should also be included in Table 2, but data are not available for 2011. Finally, Bangladesh, Lebanon, and the Philippines have a share of remittances higher than 10% of their GDP, but have already been discussed in Table 1.

[18]This phenomenon is consistent with the *International Debt Statistics 2013* and the data on the item called *Primary Income on FDIs*, previously known as *Profit Remittances on FDIs* (World Bank, 2013a). See also World Bank 2013b, Table 4.17.

[19]As it is well known, GDP and GNI can be measured with both the Atlas and the PPP method. The same could be done with the GNDI.

[20]In 2011, a country is Low Income if the GNI per capita is 1,205 US$ or less; between that level and 4,035 US$ per capita, it is considered a Lower Middle Income country; between 4,035 and 12,474 US$ per capita it is an Upper Middle Income country; above that threshold, it is a High Income country (see World Bank 2013b)

[21]For more information, see Sumner, 2013, pp. 13-16. According to him, the income thresholds are useful because they provide an easy classification method. Nonetheless, "apart from income groups there are more important structural elements that play a major role in the understanding of the relative economic power of countries".

[22]Income-based measurement methods are adopted by Sala-i-Martin (Sala-i-Martin, 2006). For more information on the problems of using either consumption or income see Ravaillon, *Poverty Lines in Theory and Practice*, 1998.

[23]See Alkire *et al* 2013.

[24]For further information, see Fajnzylber and Lopez, 2007.

[25]On the importance of the NICA for developing countries, see Vaggi and Prizzon 2013 (in press).

[26]We all know the 3-percent-threshold for the overall budget deficit as part of the conditions of the Maastricht treaty, which is now deemed as a sort of strategic limit for public finances in the Euro zone. Most countries of the Euro zone satisfy this criterion because they have a primary surplus that (partly) compensates for large interest payments. For instance, Belgium has had a primary surplus of 4-5 percent of the GDP since the mid-Eighties. Following the financial crisis of 2007-2008 and in particular since 2010, growing

attention has arisen towards debt indicators for countries of the Euro zone (World Bank, 2013a).

[27]During the debt crisis of the Eighties and Nineties a huge debate took place about aid flows being *de facto* used to pay interests abroad.

# References


Acosta, P., Fajnzylber, P., and Lopez, J. H. (2007). How Important are Remittances in Latin America. In Fajnzylber, P. and Lopez, H., editors, *Remittances and Development. Lessons from Latin America*. The World Bank, Washington D.C.

Alkire, S., Roche, J., and Seth, S. (2013). Multidimensional Poverty Index 2013.

Central Bank of Nigeria (2011). Annual Report.

Central Bank of Poland (2011). Annual Report.

Central Bank of Vietnam (2011). Annual Report.

Dasgupta, P. and Duraiappah, A. (2012). Well-Being and Wealth. In UNU-IHDP and UNEP, editors, *Inclusive Wealth Report 2012. Measuring Progress Towards Sustainability*. Cambridge University Press.

Driffield, N. and Jones, C. (2013). Impact of FDI, ODA and Migrant Remittances on Economic Growth in Developing Countries: A Systems Approach. *European Journal of Development Research*, 25(2):173–196.

Giacaman, D. (2013). The Role of Industrial Zones in Promoting Economic Growth in Palestine. Case Study of Bethlehem Multidisciplinary Industrial Park (BMIP). Master's thesis, Master in International Cooperation and Development (MICAD), Bethlehem University.

Helliwell, J., Layard, R., and Sachs, J. (2013). World Happiness Report.

IMF (2009a). Balance of Payments Manual. Washington D.C. Sixth Edition.

IMF (2009b). International Transactions in Remittances. Guide for Compilers and Users. Washington D.C.

Kapur, D. (2004). Remittances: The New Development Mantra. *UNCTAD G-24 Discussion Paper Series*, 29.

Klugman, J., Rodriguez, F., and Choi, H. (2011). The HDI 2010: New Controversies, Old Critiques. *UNDP Human Development Research Paper*, 01.

Kovacevic, M. (2010). Review of HDI Critiques and Potential Improvements. *UNDP Human Development Research Paper*, 33.

Mazumdar, P. (2013). Remittances and the Rupee: A Puzzle. Centro Studi Luca D'Agliano.

Morse, S. (2013). For Better or for Worse, till the Human Development Index Do Us Part? *Ecological Economics*, 45(2):281–296.

Morten, J. (2013). *Poor Numbers: How We Are Misled by African Development Statistics and What to Do About it*. Cornell University Press:Ithaca, NY.

OECD Database (2013). *http://stats.oecd.org/*.

PCBS (2013). Palestine In Figures 2012. Washington D.C.

Pigou, A. (1929). *Economics of Welfare*. Macmillan:London.

Ravaillon, M. (1998). Poverty Lines in Theory and Practice. *Living Standards Measurement Study Working Paper*, 133.

Sala-i-Martin, X. (2006). The World Distribution of Income: Falling Poverty and Period of Convergence. *The Quarterly Journal of Economics*, 02(121):351–397.

Sen, A. (1987). *The Standard of Living*. Cambridge University Press :Cambridge.

Sikeci, I., Cohen, J., and Ratha, D. (2012). Migration and Remittances during the Global Financial Crisis and Beyond. Washington D.C.

Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Oxford University Press:Oxford. edited by R.H. Campbell, A.S. Skinner and W.B. Todd, 1976.

Stiglitz, J., Sen, A., and Fitoussi, J. P. (2008). Report by the Commission on the Measurement of Economic Performance and Social Progress.

Sumner, A. (2013). Global Poverty, Aid and Middle-Income Countries. Are the Country Classifications Moribund or is Global Poverty in the Process of "Nationalizing"? *WIDER Working Paper*, 062.

Sweeney, P. (1999). *The Celtic Tiger: Ireland's Continuing Miracle Explained*. Oak Tree Press:Dublin.

Todaro, M. and Smith, S. (2011). *Development Economics*. Pearson:Boston. Eleventh Edition.

UN (2008). Systems of National Accounts.

UNDP (2010). Human Development Report. New York.

Vaggi, G. and Prizzon, A. (in press). On the Sustainability of External Debt: Is Debt Relief Enough? *Cambridge Journal of Economics*.

World Bank (2002). Global Development Finance. Washington D.C.

World Bank (2003). World Development Indicators. Washington D.C.

World Bank (2012a). Global Development Finance. Washington D.C.

World Bank (2012b). Outlook for Remittance Flows 2012-14. *Migration and Development Brief*, 17.

World Bank (2013a). International Debt Statistics. Washington D.C.

World Bank (2013b). World Development Indicators. Washington D.C.

World Bank Database (2013). *http://data.worldbank.org/english*.

# Appendix A THE NATIONAL ACCOUNTS IN THE PALESTINIAN TERRITORIES[1] FOR 2011

Table A below shows some data on the National Accounts of the Palestinian Territories, Constant Prices (Base Year 2004), Millions US$. It can be seen that unilateral transfers play a remarkable role in enhancing the population's standards of living, who can afford a much higher consumption level.

| **Indicator** | **Palestinian Territories** | **West Bank** | **Gaza Strip** |
|---|---|---|---|
| **Gross Domestic Product (GDP)** | 6,257.9 | 4,572.3 | 1,685.6 |
| GDP per capita, US$ | 1,593.5 | 1,955.3 | 1,061.0 |
| **Gross National Income (GNI)** | 6,821.8 | 4,984.3 | 1,837.5 |
| GNI per capita, US$ | 1,737.1 | 2,131.5 | 1,156.6 |
| **Gross Disposable Income (GDI)** | 7,908.6 | 5,778.4 | 2.130.2 |
| GDI per capita, US$ | 2,013.9 | 2,471.1 | 1,340.9 |
| Final Consumption Expenditure | 7,868.1 | 6,075.3 | 1,792.8 |
| Gross Capital Formation | 1,179.2 | 1,017.5 | 161.7 |
| Net Export of Goods and Services | -2,789.5 | -2,604.7 | -184.8 |

Source: PCBS 2012, Palestine in Figures. Data are preliminary and based on quarterly estimates.

[1] Data do not include those parts of Jerusalem annexed by Israel in 1967.

# Appendix B REMITTANCES, TRADE ACCOUNT AND CURRENT ACCOUNT BALANCE

Tables B1 and B2 show some data on remittances, trade balance and current account balance for the 27 countries analyzed in Section 4. The year of reference is 2011. The data on remittances in absolute values are in millions of US dollars, current value. The other three columns refer to remittances, trade account and current account balance relatively to the countries' GDP.

**Table B1: Countries among top remittance receivers. Remittances, Trade Balance and Current Account Balance (millions US$, % GDP)**

| Country | Remittances | Rem.(%) | Trade Balance | CA Balance |
|---|---|---|---|---|
| **Bangladesh** | 12,068 | 10.44% | (-)10.33% | (-)0.14% |
| **Nigeria** | 20,619 | 8.45% | (+)3.99% | (+)3.56% |
| **Morocco** | 7,256 | 7.24% | (-)13.41% | (-)7.98% |
| **Pakistan** | 12,263 | 5.82% | (-)5.06% | (-)1.06% |
| **Philippines** | 23,065 | 10.26% | (-)5% | (+)3.1% |
| **Egypt** | 14,324 | 6.24% | (-)6.85% | (-)2.39% |
| **Vietnam** | 8,600 | 6.96% | (-)4.22% | (+)0.19% |
| **Lebanon** | 7,531 | 18.78% | (-)26.69% | (-)12.14% |
| **India** | 63,011 | 3.36% | (-)6.45% | (-)3.2% |
| **Mexico** | 23,588 | 2.04% | (-)1.33% | (-)0.79% |
| **Ukraine** | 6,176 | 4.06% | (-)5.4% | (-)6.19% |
| **Indonesia** | 6.923 | 0.82% | (+)1.44% | (+)0.2% |
| **Poland** | 7,641 | 1.49% | (-)1.2% | (-)4.86% |
| **China** | 61,635 | 0.84% | (+)4.07% | (+)2.76% |

The countries for which remittances have the highest weight on GDP - e.g. Bangladesh, Lebanon, Morocco, the Philippines - exhibit a significant trade deficit. The only exception is Nigeria, which however is an oil-exporting country.

Thanks to remittances, these economies show a less severe current account, apart from Ukraine and Poland (which have a relatively high negative NPI). The surplus in unilateral transfers can indeed at least partially offset the deficit in the trade account and in the case of the Philippines and Vietnam the latter is matched with a current account surplus.

Let us now look at Table B2:

**Table B2: Countries among top remittance receivers. Remittances, Trade Balance and Current Account Balance (millions US$, % GDP)**

| Country | Remittances | Rem.(%) | Trade Balance | CA Balance |
|---|---|---|---|---|
| **Liberia** | 360 | 23.3% | (-)65.84% | (-)48.9% |
| **Tajikistan** | 3060 | 46.9% | (-)42.91% | (-)12.07% |
| **Haiti** | 1,551 | 21.11% | (-)41.44% | (-)4.6% |
| **Kyrgyz Rep.** | 1,724 | 27.82% | (-)27.1% | (-)6.09% |
| **Nepal** | 4,217 | 21.72% | (-)22.81% | (+)1.52% |
| **Moldova** | 1,612 | 23.03% | (-)41.21% | (-)11.29% |
| **Honduras** | 2,875 | 16.5% | (-)21.18% | (-)8.6% |
| **El Salvador** | 3,667 | 15.9% | (-)19.22% | (-)4.64% |
| **Jordan** | 3,453 | 11.97% | (-)28.28% | (-)12.03% |
| **Bosnia Herz.** | 1,959 | 10.74% | (-)22.36% | (-)9.43% |
| **Senegal** | 1,478 | 10.34% | (-) 19.52% | (-)6.69% |
| **Georgia** | 1,110 | 8.63% | (-)36% | (-)11.8% |
| **Armenia** | 1,295 | 12.64% | (-)24.61% | (-)11.9% |

All the countries in the above tables are characterized by both tremendous trade deficits and high remittances. This makes clear how unilateral transfers from abroad sustain people's purchasing power, much beyond a country's productive strength, without excessively weakening its net position with foreign economies.

# Appendix C 2011 GDP, GNI, AND GNDI FOR ALL WORLD BANK COUNTRIES

Data are provided by the *2013 World Development Indicators*(World Bank, 2013b), which in turn uses the World Bank Database. The GNI results from the sum GDP and NPI. The GNDI is calculated summing the GDP with the NPI and the NSI[28].

**Table C: GDP, GNI, and GNDI for all the World Bank Countries (millions US$)**

| | GDP | NPI | GNI | NSI | GNDI |
|---|---|---|---|---|---|
| **Afghanistan** | 18,030 | 234 | 18,264[a] | 165 | 18,429 |
| **Albania** | 13,000 | 31 | 13,031[a] | 1,252 | 14,283 |
| **Algeria** | 198,500 | -2,114 | 196,386 | 2,646 | 199,032 |
| **Am. Samoa** | - | - | - | - | - |
| **Andorra** | - | - | - | - | - |
| **Angola** | 104,100 | -9,697 | 94,403 | -1,362 | 93,041 |
| **Antigua and Barb.** | 1,100 | -36 | 1,064 | 23 | 1,087 |
| **Argentina** | 446,000 | -11,999 | 434,001 | -539 | 433,462 |
| **Armenia** | 10,100 | 556 | 10,656 | 722 | 11,378 |
| **Aruba** | 2,600 | -229 | 2,371 | -114 | 2,257 |
| **Australia** | 1,384,100 | -52,617 | 1,331,483 | -41,729 | 1,289,754 |
| **Austria** | 417,700 | -230 | 417,470 | -2,685 | 414,785 |
| **Azerbaijan** | 63,400 | -4,860 | 58,540 | 673 | 59,213 |
| **Bahamas, The** | 7,900 | -236 | 7,664 | -36 | 7,628 |

| | | | | | |
|---|---|---|---|---|---|
| **Bahrain** | 22,900 | -3,764 | 19,136 | -2,050 | 17,086 |
| **Bangladesh** | 111,900 | -1,514 | 110,386[a] | 12,243 | 122,629 |
| **Barbados** | 3,700 | -113 | 3,587 | 56 | 3,643 |
| **Belarus** | 64,300 | -1,361 | 62,939 | -2,484 | 60,455 |
| **Belgium** | 513,900 | 9,690 | 523,590 | -9,275 | 514,315 |
| **Belize** | 1,400 | -98 | 1,302 | 84 | 1,386 |
| **Bermuda** | 7,300 | -53 | 7,247 | 155 | 7,402 |
| **Bhutan** | 1,800 | -84 | 1,7161 | 283 | 1,999 |
| **Bolivia** | 23,900 | -986 | 22,914 | 1,177 | 24,091 |
| **Bosnia and Herz.** | 18,200 | 227 | 18,427 | 2,491 | 20,918 |
| **Botswana** | 16,000 | 300 | 16,300[a] | 1,091 | 17,391 |
| **Brazil** | 2,476,700 | -47,319 | 2,429,381 | 2,984 | 2,432,365 |
| **Brunei** | 16,400 | 52 | 16,452[a] | -445 | 16,007 |
| **Bulgaria** | 53,500 | -2,526 | 50,974 | 2,363 | 53,337 |
| **Burundi** | 2,400 | -17 | 2,383 | 264 | 2,647 |
| **Cambodia** | 12,800 | - 695 | 12,105 | 584 | 12,689 |
| **Cameroon** | 25,300 | -239 | 25,061 | 146 | 25,207 |
| **Canada** | 1,777,800 | -26,918 | -1,750,882[a] | -3,509 | 1,747,373 |
| **Cape Verde** | 1,900 | -71 | 1,829 | 359 | 2,188 |
| **Cayman Islands** | - | - | - | - | - |
| **Central African Rep.** | 2,200 | - | - | - | - |
| **Chad** | 10,600 | - | - | - | - |
| **Channel Islands** | - | - | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| **Chile** | 251,200 | -14,141 | 237,059 | 2,892 | 239,951 |
| **China** | 7,321,900 | -70,318 | 7,251,582[a] | 24,511 | 7,276,093 |
| **Hong Kong, SAR** | 248,700 | 6,788 | 255,488 | -2,542 | 252,946 |
| **Macao, SAR** | 36,800 | -4,945 | 31,855 | -538 | 31,317 |
| **Colombia** | 336,300 | -16,003 | 320,297 | 4,938 | 325,235 |
| **Comoros** | 600 | 600 | - | - | - |
| **Congo, Dem. Rep.** | 15,700 | - | - | - | - |
| **Congo, Rep.** | 14,400 | - | - | - | - |
| **Costa Rica** | 41,000 | -567 | 40,433[a] | 323 | 40,756 |
| **Cote d'Ivoire** | 24,100 | -914 | 23,186 | -439 | 22,747 |
| **Croatia** | 61,800 | -1,189 | 60,611 | 1,580 | 62,191 |
| **Cuba** | - | - | - | - | - |
| **Curacao** | - | - | - | - | - |
| **Cyprus** | 25,000 | 160 | 25,160 | -269 | 24,891 |
| **Czech Republic** | 216,000 | -13,781 | 202,219 | -763 | 201,456 |
| **Denmark** | 333,600 | 6,831 | 340,431 | -5,872 | 334,559 |
| **Djibouti** | 1,200 | 9 | 1,209 | 74 | 1,283 |
| **Dominica** | 500 | -10 | 490 | 20 | 510 |
| **Dominican Rep.** | 55,700 | -2,128 | 53,572 | 3,406 | 56,978 |
| **Ecuador** | 77,700 | -1,223 | 76,477 | 2,723 | 79,200 |
| **Egypt, Arab Rep.** | 236,000 | -6,377 | 229,623 | 15,221 | 244,844 |
| **El Salvador** | 23,100 | -632 | 22,468 | 3,841 | 26,309 |
| **Equatorial Guinea** | 16,800 | - | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| **Eritrea** | 2,600 | - | - | - | - |
| **Estonia** | 22,200 | -1,298 | 20,902 | 350 | 21,252 |
| **Ethiopia** | 31,700 | -77 | 31,623 | 5,130 | 36,753 |
| **Faeroe I.** | 2,200 | 83 | 2,283 | 146 | 2,429 |
| **Fiji** | 3,800 | -101 | 3,699 | 120 | 3,819 |
| **Finland** | 263,200 | -317 | 262,883 | -2,193 | 260,690 |
| **France** | 2,779,700 | 64,871 | 2,844,571 | -50,940 | 2,793,631 |
| **French Polynesia** | - | 685 | - | 863 | - |
| **Gabon** | 18,800 | - | - | - | - |
| **Gambia** | 900 | -16 | 884 | 132 | 1,016 |
| **Georgia** | 14,400 | -422 | 13,978 | 1,329 | 15,307 |
| **Germany** | 3,600,800 | 81,434 | 3,682,234 | -46,741 | 3,65,493 |
| **Ghana** | 39,200 | -1,245 | 37,955 | 2,597 | 40,552 |
| **Greece** | 289,600 | -11,981 | 277,619 | 737 | 278,356 |
| **Greenland** | 1,300 | - | - | - | - |
| **Grenada** | 800 | -36 | 764 | 27 | 791 |
| **Guam** | - | - | - | - | - |
| **Guatemala** | 47,000 | -1,555 | 45,445 | 5,208 | 50,653 |
| **Guinea** | 5,100 | -133 | 4,967[a] | -139 | 5,106 |
| **Guinea Bissau** | 1,000 | -2 | 998 | 60 | 1,058 |
| **Guyana** | 2,600 | -20 | 2,580 | 371 | 2,951 |
| **Haiti** | 7,320 | 41 | 7,361 | 2,757 | 10,098 |
| **Honduras** | 17,400 | -974 | 16,426 | 3,108 | 19,534 |

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|---|---|---|---|---|---|
| **Hungary** | 138,700 | -8,604 | 130,096 | 637 | 130,733 |
| **Iceland** | 14,100 | -1,992 | 12,108 | -73 | 12,035 |
| **India** | 1,872,800 | -17,932 | 1,854,868 | 61,574 | 1,916,442 |
| **Indonesia** | 846,300 | -26,676 | 819,624 | 4,211 | 823,835 |
| **Iran, Islamic Rep.** | 514,100 | 328,600 | - | - | - |
| **Iraq** | 180,600 | -201 | 180,399 | -4,386 | 176,013 |
| **Ireland** | 220,800 | -44,331 | 176,469 | -1,657 | 174,812 |
| **Isle of Man** | - | - | - | - | - |
| **Israel** | 242,900 | -4,949 | 237,951 | 8,732 | 246,692 |
| **Italy** | 2,192,400 | -13,193 | 2,179,207 | -22,025 | 2,157,182 |
| **Jamaica** | 14,400 | -518 | 13,882 | 1,996 | 15,878 |
| **Japan** | 5,896,800 | 175,794 | 6,072,594 | -13,825 | 6,058,769 |
| **Jordan** | 28,800 | -180 | 28,620 | 4,866 | 33,486 |
| **Kazakhstan** | 188,000 | -26,484 | 161,516 | - 256 | 161,260 |
| **Kenya** | 33,600 | 7 | 33,607 | 3,102 | 36,709 |
| **Kiribati** | 200 | 200 | - | - | - |
| **Korea, Dem. R.** | - | - | - | - | - |
| **Korea, Rep.** | 1,114,500 | 2,891 | 1,117,391 | -2,633 | 1,114,758 |
| **Kosovo** | 6,500 | 142 | 6,642 | 1,320 | 7,962 |
| **Kuwait** | 176,600 | 11,097 | 187,697[a] | -15,124 | 172,573 |
| **Kyrgyz Rep.** | 6,200 | -656 | 5,544 | 1,839 | 7,383 |
| **Lao PDR** | 8,200 | -79 | 8,121[a] | 223 | 8,344 |
| **Latvia** | 28,500 | -265 | 28,235[a] | 868 | 29,103 |

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|---|---|---|---|---|---|
| **Lebanon** | 40,100 | -178 | 39,922 | 2,429 | 42,351 |
| **Lesotho** | 2,500 | 332 | 2,832 | 626 | 3,458 |
| **Liberia** | 1,500 | 88 | 1,588[a] | 1,218 | 2,806 |
| **Libya** | 62,400 | 501 | 62,901[a] | 3,528 | 66,429 |
| **Liechtenstein** | 4,800 | - | - | - | - |
| **Lithuania** | 42,900 | -1,601 | 41,299 | 1,498 | 42,797 |
| **Luxembourg** | 59,200 | -16,521 | 42,679 | -1,493 | 41,186 |
| **Macedonia** | 10,400 | -173 | 10,227 | 2,056 | 12,283 |
| **Madagascar** | 9,900 | 9,700 | - | - | - |
| **Malawi** | 5,600 | 5,500 | -98 | 574 | 6,076 |
| **Malaysia** | 287,900 | -7,184 | 280,716 | -6,857 | 273,859 |
| **Maldives** | 2,200 | -333 | 1,867 | -219 | 1,648 |
| **Mali** | 10,700 | -419 | 10,281 | 538 | 10,819 |
| **Malta** | 9,200 | -532 | 8,668 | 49 | 8,717 |
| **Marshall I.** | 200 | - | - | - | - |
| **Mauritania** | 4,300 | - | - | - | - |
| **Mauritius** | 11,200 | 1-65 | 1,135[a] | 120 | 11,255 |
| **Mexico** | 1,158,100 | -17,244 | 1,140,856 | 22,974 | 1,163,760 |
| **Micronesia F.S.** | 300 | - | - | - | - |
| **Moldova** | 7,000 | 566 | 7,566 | 1,516 | 9,082 |
| **Monaco** | 6,100 | - | - | - | - |
| **Mongolia** | 8,800 | -845 | 7,955 | 238 | 8,193 |
| **Montenegro** | 4,500 | | 37 4,537[a] | 163 | 4,700 |

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|---|---|---|---|---|---|
| **Morocco** | 99,200 | -2,052 | 97,148 | 8,115 | 105,263 |
| **Mozambique** | 12,600 | -190 | 12,410 | 795 | 13,205 |
| **Myanmar** | - | - | - | - | - |
| **Namibia** | 12,500 | -478 | 12,022 | 1,322 | 13,344 |
| **Nepal** | 19,000 | 147 | 19,147 | 4,726 | 23,873 |
| **Netherlands** | 836,100 | 22,417 | 858,517[a] | -14,913 | 843,604 |
| **New Caledonia** | - | - | - | - | - |
| **New Zealand** | 139,800 | -8,633 | 131,167[a] | -170 | 130,997 |
| **Nicaragua** | 9,600 | -254 | 9,346 | 1,230 | 10,576 |
| **Niger** | 6,000 | -47 | 5,953 | 448 | 6,401 |
| **Nigeria** | 244,000 | -22,784 | 221,216 | 21,809 | 243,025 |
| **North. Mariana I.** | - | - | - | - | - |
| **Norway** | 491,100 | 6,769 | 497,869[a] | -5,081 | 492,788 |
| **Oman** | 71,800 | -3,199 | 68,601[a] | -7,215 | 61,386 |
| **Pakistan** | 210,700 | -3,908 | 206,792[a] | 16,431 | 224,033 |
| **Palau** | 200 | - | - | - | - |
| **Panama** | 31,300 | -1,854 | 29,446[a] | 167 | 29,613 |
| **Papua N.G.** | 12,400 | -592 | 11,808 | 190 | 11,998 |
| **Paraguay** | 26,000 | -307 | 25,693[a] | 701 | 26,394 |
| **Peru** | 176,900 | -13,710 | 163,190 | 3,200 | 166,390 |
| **Philippines, The** | 224,800 | 280 | 225,080 | 18,380 | 243,460 |
| **Poland** | 515,700 | -22,880 | 492,820 | 6,231 | 499,051 |
| **Portugal** | 237,600 | -11,869 | 225,731 | 4,176 | 229,907 |

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|---|---|---|---|---|---|
| **Puerto Rico** | 98,800 | - | - | - | - |
| **Qatar** | 173,000 | -13,271 | 159,729[a] | -12,651 | 147,078 |
| **Romania** | 189,800 | -3,091 | 186,709 | 4,646 | 191,355 |
| **Russian Fed.** | 1,899,100 | -60,399 | 1,838,701 | -5,725 | 1,832,976 |
| **Rwanda** | 6,400 | -55 | 6,345 | 876 | 7,221 |
| **Samoa** | 600 | -32 | 568 | 151 | 719 |
| **San Marino** | - | - | - | - | - |
| **Sao Tome and P.** | 200 | 0 | 200 | 12 | 212 |
| **Saudi Arabia** | 576,800 | 9,684 | 586,484 | -29,386 | 557,098 |
| **Senegal** | 14,400 | -150 | 14,250 | 1,550 | 15,800 |
| **Serbia** | 43,300 | -1,060 | 42,240 | 4,378 | 46,618 |
| **Seychelles** | 1,100 | -51 | 1,049 | 35 | 1,084 |
| **Sierra Leone** | 2,900 | -35 | 2,865 | 249 | 3,114 |
| **Singapore** | 245,000 | -2,183 | 242,817 | -5,853 | 236,964 |
| **Sint Maarten** | - | -27 | | - | - |
| **Slovak Republic** | 96,100 | -2,336 | 93,764 | -497 | 93,267 |
| **Slovenia** | 50,300 | -772 | 49,528 | 210 | 49,738 |
| **Solomon Islands** | 900 | -134 | 766 | 129 | 895 |
| **Somalia** | - | - | - | - | - |
| **South Africa** | 401,800 | -9,286 | 392,514 | -1,972 | 390,542 |
| **South Sudan** | 19,200 | - | - | - | - |
| **Spain** | 1,476,900 | -35,815 | 1,441,085 | -8,889 | 1,432,196 |
| **Sri Lanka** | 59,200 | -647 | 58,553 | 4,643 | 63,196 |

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|---|---|---|---|---|---|
| **St. Kitts and N.** | 700 | -30 | 682 | 57 | 727 |
| **St.Lucia** | 1,200 | -41 | 1,159 | 21 | 1,180 |
| **St.Martin** | - | - | - | - | - |
| **St. Vincent** | 700 | -18 | 682 | 10 | 692 |
| **Sudan** | 64,100 | -558 | 63,542[a] | 1,112 | 64,654 |
| **Suriname** | 4,300 | -262 | 4,038 | 87 | 4,125 |
| **Swaziland** | 4,000 | -226 | 3,774 | 400 | 4,174 |
| **Sweden** | 539,300 | 13,890 | 553,190 | -6,979 | 546,211 |
| **Switzerland** | 659,300 | 1,165 | 660,465[a] | -13,098 | 647,367 |
| **Syrian Arab Rep.** | 73,700 | -1,514 | 72,186 | 949 | 73,135 |
| **Tajikistan** | 6,500 | -58 | 6,442 | 2,950 | 9,392 |
| **Tanzania** | 23,900 | 23,600 | -360 | 941 | 24,481 |
| **Thailand** | 345,700 | -11,345 | 334,355 | 10,835 | 345,190 |
| **Timor-Leste** | 1,100 | 3,621 | 4,721 | 527 | 5,248 |
| **Togo** | 3,700 | -23 | 3,677[a] | 356 | 4,033 |
| **Tonga** | 400 | 4 | 404 | 87 | 491 |
| **Trinidad and T.** | 23,500 | -1,080 | 22,420 | 29 | 22,449 |
| **Tunisia** | 46,400 | -1,979 | 44,421 | 1,899 | 46,320 |
| **Turkey** | 774,800 | -7,841 | 766,959 | 1,758 | 768,717 |
| **Turkmenistan** | 28,100 | - | - | - | - |
| **Tuvalu** | - | - | - | - | - |
| **Uganda** | 16,800 | -402 | 16,398[a] | 1,424 | 17,822 |
| **Ukraine** | 163,400 | -3,796 | 159,604 | 3,708 | 163,312 |

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|---|---|---|---|---|---|
| **UAE** | 360,200 | - | - | - | - |
| **United Kingdom** | 2,444,900 | 49,383 | 2,494,283[a] | -35,098 | 2,459,185 |
| **United States** | 14,991,300 | 227,007 | 15,218,307 | -133,092 | 15,285,215 |
| **Uruguay** | 46,400 | -1,565 | 44,835 | 126 | 44,961 |
| **Uzbekistan** | 45,300 | - | - | - | - |
| **Vanuatu** | 800 | -27 | 773 | 13 | 786 |
| **Venezuela, RB** | 316,500 | -7,124 | 309,376 | -790 | 308,586 |
| **Vietnam** | 123,700 | -5,019 | 118,681 | 8,685 | 127,366 |
| **Virgin Islands** | - | - | - | - | - |
| **WB and Gaza** | - | 1,098 | - | 2,176 | - |
| **Yemen, Rep.** | 31,700 | -2,552 | 29,148 | 2,134 | 31,282 |
| **Zambia** | 19,200 | -1,562 | 17,638 | 378 | 18,016 |
| **Zimbabwe** | 9,700 | - | - | - | - |

[a] For these economies, the datum on GNI as provided by the World Bank Database appears to be considerably different from the result of GDP + NPI.