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COMPARING THE REAL SIZE AND PURCHASING POWER OF AFRICAN ECONOMIES

Highlights of the **2017** International
Comparison Program for Africa



AFRICAN DEVELOPMENT BANK GROUP

STATISTICS DEPARTMENT
ECONOMIC GOVERNANCE AND
KNOWLEDGE MANAGEMENT COMPLEX



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FOREWORD

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Statistical Capacity Building Division
Statistics Department
Economic Governance and Knowledge Management Complex
African Development Bank Group
Avenue Joseph Anoma
01 BP 1387 Abidjan 01
Côte d'Ivoire
Tel.: (225) 20 26 21 75
Fax: (225) 20 26 45 92

E-mail: Statistics@afdb.org
Website: <http://www.afdb.org/statisticsg>
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FOREWORD

The report presents highlights of the results of the International Comparison Program (ICP) for the reference year 2017. The report covers 50 African countries, who fully participated in the global comparison, and compares their economic size, income levels, price levels, and levels of material well-being. It also describes the concepts and methods underlying the results presented herein. Moreover, as Africa's comparison is one of the six regional comparisons that constitute the ICP 2017 global comparison, the report also compares the totals and averages of Africa with the entire world.

The ICP was established in the late 1960s on the recommendation of the United Nations Statistical Commission (UNSC) with the objective of making worldwide comparisons of real gross domestic product (GDP) and its major components at regular intervals. It started as a research project and became operational at global and regional levels. Comparisons are made first by region and then the regional comparisons are linked to obtain a global comparison.

The ICP-Africa has become a major and permanent element of the statistical capacity development of Africa, one that has supported improved measurement of major economic indicators from a regional comparability perspective.

Comparability is an indispensable ingredient in the process of integrating African economies and societies into a borderless and free-trade area. It is the cornerstone of convergence for building systems to guide social and economic development, both globally through the Sustainable Development Goals (SDGs) and across Africa through Agenda 2063 and the AfDB's High 5s. The ICP system allows detailed components of GDP expenditures to be truly comparable, by divesting them from distortions resulting from price differentials between countries. The economic analysis of such comparable indicators sheds light on the relative performance of national economies as well as the Africa region as a whole.

Purchasing Power Parity (PPP) data generated by the International Comparison Program also helps monitor both national and regional efforts for the attainment of SDGs. This is made possible by eliminating the effect of price level differences between countries. That elimination uncovers the actual levels of living standards and other economic trends. Moreover, it makes it easier to identify challenges and the impacts associated with the goals and related targets.

ICP's unique power to adjust economic aggregates for price differences between economies and to generate PPPs has been instrumental in revisiting the estimation of poverty thresholds. More precisely, PPPs are used to determine international poverty lines and provide more accurate assessments of income levels. Using the results from the 2011 ICP round, the minimum daily nutritional, clothing, and shelter needs were estimated and the global threshold of USD 1.90 a day thereby established.

Charles Leyeka LUFUMPA
Chief Economist and Vice President (Ag)
Director, Statistics Department,
African Development Bank



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ACKNOWLEDGMENTS

This report on “Comparing the Real Size and Purchasing Power of African Economies – Highlights from the 2017 International Comparison Program for Africa” was prepared by a team led by Ben Paul Mungyereza, ICP-Africa Coordinator and Manager, Statistical Capacity Building Division, Statistics Department of the African Development Bank. The ICP-Africa team included Grégoire Mboya De Loubassou, Symphorien Tabo, Stephen Bahemuka, Rees Mpofu, Charles Sessede, as well as three consultants: Safa Ben Hadj Mbarek Mkachar, Imen Hafsa, and Michel Mouyelo-Katoula. At an earlier stage, the program benefited from valuable contributions from Oumar Sissoko. The team ensured that all activities running from the inception of the program to the global clearance of regional inputs and results were carried out successfully.

They all deserve to be commended for their relentless efforts. The sense of professionalism they exhibited in attending to all the diverse tasks that ranged from training the countries to validating the final results is worth underlining. It allowed Africa’s data to qualify for seamless incorporation in the computation and validation of the global results. While the relevant credit is granted to all, special mention should be made of the ICP Task Manager Grégoire Mboya De Loubassou, who coordinated the Africa PPP Computation Team (Sergey Sergeev, Yuri Dikhanov, Safa Ben Hadj Mbarek Mkachar, and Michel Mouyelo-Katoula).

By virtue of the technical complexities and requirements of price surveys related to Gross Fixed Capital Formation, two external experts were brought on board to help collect the relevant data. Credit goes to Franck Clovis Nguifo Kamga for the construction and civil engineering survey and Eric Bruggeman for machinery and equipment items.

As regards work that went into effectively aligning Africa’s results to global requirements, special thanks are hereby extended to the ICP Global Office, World Bank, for their technical oversight and support. The 2017 round of the ICP-Africa was a complex exercise, conceptually, methodologically, operationally, and in terms of institutional arrangement. The AfDB worked closely with all 54 countries whose activities were coordinated through

two sub-regional organizations, namely AFRISTAT, who oversaw 30 countries, and COMESA, who oversaw 20. The two SROs provided invaluable assistance in coordinating the activities at sub-regional level under the framework of partnership agreements signed with the Bank. Under guidance from the AfDB, the SROs organized sub-regional workshops on ICP-related administrative matters, and more critically on the validation of price and expenditure data submitted by countries under their respective purviews.

All African countries participated in the ICP-Africa 2017 exercise. Fifty of them implemented all required activities, namely: Algeria; Angola; Benin; Botswana; Burkina Faso; Burundi; Cameroon; Cabo Verde; Central African Republic; Chad; Comoros; Congo, Dem. Rep.; Congo, Rep.; Côte d’Ivoire; Djibouti; Egypt, Arab Rep.; Equatorial Guinea; Eswatini; Ethiopia; Gabon; Gambia, The; Ghana; Guinea; Guinea-Bissau; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mauritania; Mauritius; Morocco; Mozambique; Namibia; Niger; Nigeria; Rwanda; São Tomé and Príncipe; Senegal; Seychelles; Sierra Leone; South Africa; Sudan; Tanzania; Togo; Tunisia; Uganda; Zambia; and Zimbabwe. Director Generals and ICP experts from national statistics offices played the most central role in the success of this exercise. They managed to overcome various administrative and technical challenges that arose at different stages in the process.

The other four countries, namely, Eritrea, Libya, Somalia, and South Sudan, essentially benefited from capacity-building services rendered by the Bank and the two sub-coordinating SROs.

Their objective was to graduate for the next benchmark ICP round.

This publication was prepared under the overall oversight of Charles Leyeka Lufumpa, **Director of the AfDB Statistics Department**, and Ag. Chief Economist and Vice President.

Ben Paul MUNGYEREZA
Manager, Statistical Capacity Building Division
ICP-Africa Regional Coordinator



ABBREVIATIONS



ABBREVIATIONS

AfCFTA	African Continental Free Trade Agreement
AfDB	African Development Bank Group
AFRISTAT	Observatoire Economique et Statistique d'Afrique Subsaharienne
AIC	Actual Individual Consumption
CEMAC	Communauté économique et monétaire de l'Afrique centrale
CIS	Commonwealth of Independent States
CIS-STAT	Interstate Statistical Committee of the CIS
COFOG	Classification of the Functions of Government
COICOP	Classification of Individual Consumption by Purpose
COMESA	Common Market for Eastern and Southern Africa
CPI	Consumer Price Index
ECCAS	Economic Community of Central African States
ECST :	Statistics Department (AfDB)
ECOWAS	Economic Community of West African States
EUROSTAT	Statistics Office of the European Community
eVVe	Expenditure Vector Validation and Editing
GCF	Gross Capital Formation
GDP	Gross Domestic Product
GFCE	Government Final Consumption Expenditure
GFCF	Gross Fixed Capital Formation
GIU	Global Implementing Unit
ICP	International Comparison Program
IMF	International Monetary Fund
LCU	Local currency unit
MORES	Model Report on Expenditure Estimates
NIA	National Implementing Agency
NPISH	Non-Profit Institution Serving Households
NSO	National Statistics Office
OECD	Organisation for Economic Cooperation and Development
PA	Productivity Adjustment
PIM	Perpetual Inventory Method
PLI	Price Level Index
PPP	Purchasing Power Parity
REC	Regional Economic Communities
RIA	Regional Implementing Agency
RMC	Regional Member Countries
SADC	South African Development Community
SDGs	Sustainable Development Goals
SHaSA	Strategy for the Harmonization of Statistics in Africa
SNA	System of National Accounts
SRO	Sub-regional Organization
TAG	Technical Advisory Group
UNDP	United Nations Development Program
UN-ECLAC	United Nations Economic Commission for Latin America and the Caribbean
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNSC	United Nations Statistical Commission
UN-ESCWA	United Nations Economic and Social Commission for Western Asia
UNSD	United Nations Statistics Division
WB	World Bank
XR	Exchange rate
ZAR	South African Rand
Key Symbols	
...	Data not available
Na :	Not Applicable



SECTION 1



SECTION 1 INTRODUCTION

The United Nations International Comparison Project (ICP) was initiated in 1968 with the aim of conducting global comparisons. Comparisons were made every five years commencing in 1970. Almost 200 countries worldwide participated in the last three ICP rounds of 2005, 2011, and 2017. In Africa, some 50 countries participated in the last three rounds, representing the biggest regional participation across the globe.

The successful implementation of the ICP-Africa is reliant on the close collaboration of national statistical offices (NSOs), the African Development Bank (AfDB), two sub-regional organizations (AFRISTAT and COMESA), and the Global Office (World Bank). The African program was implemented in accordance with the governance structure of the ICP at the global level, which is constituted of the bodies mentioned hereunder. The United Nations Statistical Commission (UNSC) decides the frequency and operational modality of the program.

The ICP Governing Board is the highest policy-making body for ICP activities. It comprises 18 members as follows: 11 seats for countries from across the world while agencies hold 7 seats distributed as follows: i) 5 permanent seats for the AfDB, WB, IMF, UNSD, and the Asian Development Bank; ii) a rotating seat for Eurostat and OECD; and iii) one rotating seat for smaller regional programs to ensure that they are represented on the Board regularly. The ICP Technical Advisory Group (TAG) is chaired by the 2015 Nobel Prize Laureate in Economics, Sir Angus Stewart Deaton. Its other nine members are renowned professors of economics and prominent experts in the fields of PPPs, price statistics and national accounts, with knowledge of national statistical systems and capacity-building challenges across various regions. The TAG assures methodological soundness and overall quality of the PPP estimates, and ensures transparency of the process.

The ICP Global Office at the World Bank assures the overall coordination of the global program. All regional coordinators submit data and metadata to it for onward validation and processing of global results.

The ICP Inter-Agency Coordination Group comprises regional and global coordinators of the program and is responsible for designing, implementing, and managing the regional programs, including providing technical guidance and coordinating activities to the participating countries. The AfDB is responsible for managing the African program. The regional agencies are as follows:

- Africa: African Development Bank (50 economies);
- Asia and the Pacific: Asian Development Bank (22 economies);
- Commonwealth of Independent States: CIS-STAT (8 economies);
- European Union and OECD countries: Eurostat and OECD (49 economies);
- Latin America and Caribbean: UN-ECLAC (36 economies); and
- Western Asia and Middle East: UN-ESCWA (12 economies).

ICP-Africa was launched in 2002 by AfDB in time to conduct the 2005 round. That was the first time an African institution had managed the African component of the program since its inception. Previous rounds in Africa were managed from Luxembourg by EuroCost/Eurostat. Subsequent rounds started in 2011 and 2017. Regarding the latter, as the coordinator, the AfDB was supported by two SROs, namely AFRISTAT (30 countries) and COMESA (20 countries) who helped supervise administrative activities as well as coordinate some field activities at the sub-regional level. The AfDB introduced fundamental changes to the program to allow for greater participation by all 54 African countries: either for capacity development only (Libya, Eritrea, South Sudan, and Somalia), or for full participation (50 countries).

The 50 benchmark countries made Africa the largest single regional participating group and represented one-third of the countries in the global comparison. Unlike programs in other regions, the Africa program also serves as a platform for improving the national statistical systems of participating African countries. This broad-based, capacity-building effort involves African and international partnerships.



SECTION 2

The multilayered structure of ICP work and the complexity of methodological steps that aimed to estimate PPP statistics at regional and global levels stem from the operational objective of ensuring the comparability of GDP aggregates emanating from a priori non-comparable countries in terms of their economic attributes. The complex methodological steps are justified by the policy resolve to: (i) improve the wellbeing of African populations and eliminate poverty; (ii) accelerate the pace toward continental integration; (iii) consolidate the harmonization and convergence of price levels in relation to the African Continental Free Trade Area Agreement (AfCFTA); (iv) ascertain the worth of Africa's infrastructural fabric as well as its evolution over time; and (v) report on the real progress toward the attainment of selected goals related to the UN's Agenda 2030 for Sustainable Development and the AfDB's High 5s agenda.



SECTION 2 WHAT ARE PURCHASING POWER PARITIES?

A Purchasing Power Parity (PPP) is a form of exchange rate that takes into account the differences in price levels across countries. One can think of a PPP as a rate at which one country's currency would have to be exchanged to buy the same quantity of goods and services in another country. A PPP between two countries, A and B, is therefore the ratio of the number of units of country A's currency needed to purchase in country A the same quantity of a specific good or service as one unit of country B's currency would purchase in country B. PPPs can be expressed in terms of the currency of either country.

The use of PPPs allows the comparison of real values of goods and services produced in various economies, adjusted through a common set of international (or regional) average prices. The PPPs can be seen as the average price ratios in participating countries. This process allows the removal of distortions caused by different price levels and market exchange rates observed between countries for similar goods and services. PPPs facilitate real comparison of various economic aggregates across countries or across regions within the same countries. Section 4 provides an overview of some of the key uses of PPP statistics.





SECTION 3



SECTION 3

WHY USE PURCHASING POWER PARITIES RATHER THAN EXCHANGE RATES?

Using observed market exchange rates to convert aggregates into local currency units can be misleading because exchange rates do not reflect relative domestic price levels and are inherently biased for several reasons: (i) they do not measure differences in the price levels of commodities in different countries; (ii) in some countries they are fixed by policy decrees and do not necessarily reflect the true value of the currency; (iii) they are subject to fluctuations from currency speculation and short-term capital movements; (iv) they do not indicate differences in price levels in the various sectors of the economy; and (v) fluctuations can result in some arbitrary changes in the wealth of countries sometimes overnight, as has been witnessed in the eurozone following the weakening of the dollar during the past few years. In this sense, PPPs provide a much better comparative measure of economic aggregates across countries at a given time.

Human development has many dimensions and can be measured using various factors, including per capita incomes, economic growth, health, education, social progress, globalization, poverty reduction, or some combination of these factors. In each case, having internationally comparable, high-quality statistical measures is vital to making reliable inter-country comparisons, monitoring progress, and contributing to evidence-based decision making.

Comparing economic and social data (such as poverty statistics) is complex because economic aggregates are typically expressed in national currencies. The use of exchange rates is a common method to convert economic data from a national currency to a numeraire currency such as the United States dollar.

This simplistic approach is not appropriate, however, for comparisons of real income or output, nor for comparisons of productivity and standards of living. Using exchange rates to convert aggregates in national currency units can be misleading because exchange rates do not reflect relative domestic price levels and are influenced by extraneous factors such as financial flows. Exchange rates are often subject to large, short-term swings of a speculative nature that can wrongly imply corresponding shifts in relative living standards. In assessing relative standards of living, it is necessary to compare the volumes of goods and services (value aggregates in real terms or at constant prices) available to residents of different countries in their own countries, taking into account the relative price levels of each of the countries.

PPPs take into account differences in the relative price levels between countries. For example, products in low-income countries are normally cheaper than those in high-income countries largely because services are usually cheaper in low-income countries. Many services are produced and consumed within a country and cannot be exported or imported directly (e.g., haircuts, dry cleaning). The price charged for these services is based largely on the wages paid to those providing the service. As a result, in lower-income countries, the prices paid for such services are cheap because wages are low, and vice versa for high-income countries. Such services do not affect a country's exchange rate, but they have a marked impact on PPPs, which are obtained by directly comparing the prices paid for such services in different countries. Using PPPs rather than exchange rates to convert values into a common currency generally has the effect of (proportionally) narrowing the gap observed between high-income and low-income countries.



SECTION 4



SECTION 4 USES AND APPLICATIONS OF PURCHASING POWER PARITY DATA

As the benefits of PPPs and PPP-converted data have become more apparent, the range and types of users have increased. International organizations, universities, economic analysts, private sector businesses, and policymakers use PPP-based data to analyze levels of economic activity, productivity, income, investment, and inequality in the distribution of incomes between countries and to compile statistics on regional and global poverty.

ICP data also make it possible to analyze the structural characteristics of the economy using international prices. For example, economic and price structures of countries at different stages of development could be examined in relation to a comparator country. A country could also take measures to improve its competitiveness based on an analysis of its price structure in relation to regional price levels. Such an analysis may point to the need to improve transportation and storage facilities, packaging, and marketing practices to reduce transaction costs and thus attract investment. Multinational corporations also increasingly use ICP data for monitoring and assessing exchange rate developments because their investment decisions are based on the real values of the return on their investment.

ICP data are also used for evaluating cross-country investment costs, including unit labor and material

costs, and determining project viability, market size, and asset allocation. The assessment of industrial growth potential and associated investment risks across countries is another potential use of ICP data in the private sector. Some specialized firms use ICP data to determine PPP-adjusted cost-of-living allowances across countries on a monthly basis to meet the needs of multinational corporations, nongovernmental organizations, and international development agencies.

At the international level, PPP data are used, inter alia, to establish the international poverty threshold (WB), construct the Human Development Index (UNDP), compare health expenditures per capita (WHO), assess per capita expenditures in education (UNESCO), monitor the welfare of children (UNICEF), compare the relative sizes of economies, estimate weighted averages of regional growth rates (IMF and AfDB), and adjust salaries and expatriate allowances to compensate for cost-of-living differentials (donors).

The international community uses the poverty threshold of USD 1.9 a day measured in PPPs to monitor progress toward reducing the number of people living in absolute poverty. Including the first goal on poverty, PPPs are used to inform eight of the 17 SDGs.



SECTION 5



SECTION 5

LIMITATIONS OF USING PURCHASING POWER PARITIES

While the use of PPPs provides a more robust method for spatial comparison of various economic aggregates across and within countries and regions, caution should be exercised when using PPPs to draw conclusions about the appropriate exchange rates for any country. First, PPPs do not necessarily provide an indication of what the exchange rate “should be.” This would be the case only if PPPs covered only tradable goods. The PPPs generated in the ICP exercise, however, cover not only tradable products but also non-tradable ones, such as housing and personal and government services. Exchange rates are determined by the total demand for a particular currency, and financing foreign trade is only one component of this demand. Therefore, PPPs should not be used to determine a country’s “correct” exchange rate. This is more appropriately determined by international currency markets.

Second, PPPs are statistical estimates and, therefore, subject to estimation and sampling errors. The same can be said about national accounts statistics that are used as weights for generating PPPs at basic heading levels. When PPPs and national accounts are combined into total or per capita GDP (in PPP terms), the resulting real GDP or per capita figures should not necessarily be used to establish rigid rankings among countries, particularly in situations where differences between countries are relatively small. This is because the reliability of PPPs and volume measures depend to a large extent on the level of detail. At a more aggregated level, PPPs are

likely to be more reliable. For example, PPPs for food and nonalcoholic beverages would be more reliable than PPPs for food alone, while PPPs for bread and cereals are likely to be more reliable than PPPs for just rice. This has been an important consideration in determining the optimal level of data disaggregation presented in this publication.

In the same vein, caution should be exercised when comparing countries by their GDPs or in per capita measures. Because errors may occur in the calculation of GDP and population sizes as well as in the estimation of PPPs, small differences should not be considered significant. Caution should also be applied when making comparisons of price levels or per capita expenditures at low levels of aggregation, where small errors may lead to large discrepancies.

Finally, time series of different benchmark estimates of real GDP (in PPP terms) are not directly comparable over time. Real GDP provides a snapshot of the relative real GDP levels among participating countries for a given benchmark year. When benchmark PPP estimates for different years are placed side by side, these snapshots may appear to provide a moving picture of relative real GDP levels over time. This apparent time series of real GDP, however, is actually similar to a current price time series showing the combined effect of changes in relative price levels and changes in relative real GDP levels. Within each year, the indexes are at a uniform price level, but this changes from one reference year to the next.



SECTION 6



SECTION 6 COMPILATION METHODOLOGY

Participation in ICP-Africa included two basic data requirements. First, each participating country had to provide estimates of its GDP according to the framework described in the 2008 System of National Accounts (SNA 2008) following the expenditure approach. Second, the country had to conduct surveys on the prices of selected goods and services.

For a country's GDP to be used in the ICP-Africa program, the AfDB required that it be compiled using the expenditure approach, and split into 155 basic headings that constitute the lowest levels in the ICP classification. This classification is a stacking of relevant SNA 2008 classifications, including the Classification of Individual Consumption by Purpose (COICOP); the Classification of the Functions of Government (COFOG); and the Classification of the Purposes of Non-Profit Institutions serving households (COPNI). In the ICP classification, Gross Fixed Capital formation (GFCF) is classified by the type of asset on which expenditures were incurred, such as construction and equipment.

Six surveys were conducted covering samples of goods and services selected consistently with the ICP classification. The first survey related to a list of 560 goods and services pertaining to household consumption. The list was composed of a list of regional items and a global list of goods and services

specifically developed to reflect relevant markets across the world.

African countries carried out another five surveys, in terms of collecting prices for 7 private education services, 13 housing items, compensation data for 34 categories of government jobs, prices for 196 machinery and equipment items, as well as unit costs, prices and labor rates for 55 construction and civil engineering items.

Participating countries were also required to provide annual average exchange rates and the mid-year resident population for the reference year. The prices that countries were required to collect were national annual prices charged to consumers. Countries were not required to price inventories, valuables, and exports and imports.

Obtaining PPPs for the 50 participating countries in ICP-Africa involved three broad aggregation processes:

1. Averaging the individual price observations to form a national annual average price for each product in each economy;
2. Calculating PPPs at the basic heading level using the average prices; and
3. Aggregating the basic heading PPPs at GDP and its major aggregates levels.



SECTION 7



SECTION 7

HIGHLIGHTS OF THE RESULTS

This section provides an overview of the key findings of the ICP-Africa data collection exercise conducted during the period September 2017 to January 2019. It provides information on the size and relative rankings of African countries, comparison of living standards across countries, relative price levels observed in the countries, as well as comparative investment expenditure levels.

7.1 Which are the largest and smallest economies?

GDP is the most commonly used measure of the size of a country's economy. A country's GDP is the sum of the product of prices of goods and services consumed during a year and their respective quantities. ICP-Africa provides an opportunity to compare the size of heterogeneous economies on the basis of their purchasing power and to rank countries' contributions to the region's output.

Table 1 in the Appendix shows GDP figures of African countries at PPPs and exchange rates using results from the current ICP-Africa round. The results reveal that when Africa's GDP is measured at PPPs, its size is more than doubled in comparison to its GDP size at market exchange rates. This is because exchange rates often tend to understate the purchasing power of the currencies of developing countries, particularly for non-tradable goods and services. The continent represents only 4.9% of the global GDP, which is far below Asia and Pacific (32.4%) and OECD-Eurostat (53.2%), but exceeds that of the Commonwealth of Independent States (2.4%) and the Caribbean (0.1%).

Figure 1 provides summary information on the distribution of Africa's GDP at current PPPs and official exchange rates. The results reveal that Egypt was the largest economy in PPP terms in 2017 ahead of Nigeria and South Africa, which were the former leaders in 2011. The ten largest economies in the region represent 77.3% of Africa's GDP and 56% of

its total population. The top five biggest economies (Egypt, Nigeria, South Africa, Algeria, and Morocco) represent 61.7% of Africa's GDP and 34.8% of its total population. It is worth noting that in 2011 the top five countries (including four of the biggest in 2017) represented 64% of Africa's GDP. The results further show that emerging countries which ranked below the 10 largest in 2011 are ranked in the top 10 in 2017 (such as Ghana), while Tunisia and Tanzania dropped out of the top ten in 2017. Three of the top five countries in 2017 are oil-producing countries (Nigeria, Egypt, and Algeria), representing almost 45% of continent GDP (Figure 1).

Using either PPPs or exchange rates, the top five economies accounted for more than 50% of the region's GDP. In real terms, it includes Egypt (21.5%), Nigeria (15.1%), South Africa (12.5%), Algeria (8.2%), and Morocco (4.5%). Four (Egypt, Nigeria, Sudan, and Algeria) are oil-producing countries, with one (Nigeria) being the most populated country in Africa (15.8% of Africa's total population). Thirty-four African countries individually account for less than 1% of the region's output and collectively account for less than 12% of the region's total GDP. Some dynamic changes in the relative size and shares of these top five African economies appear, however, when using PPPs or market exchange rates to measure output. In particular, the size and share of the Egyptian economy increase significantly more using PPPs (21.5% PPP-GDP) than when using exchange rates. Egypt's economy is seven percentage points less than the size of the Nigerian and South African economy (17.6% and 16.5% respectively) when using market exchange rates but almost doubled when using PPPs. Egypt's share of the region's aggregate GDP also increases to 21.5% when using PPPs, compared with 11% when using market exchange rates. The remaining 40 economies with a population share of about 44% represent 22.7% of total PPP-GDP for Africa but this share is three points higher using an exchange rate-based GDP.

Figure 1 GDP distribution in Africa, 2017

Top 10 Countries	Share of Africa's GDP (%)		Share of Africa's population (%)
	At PPPs	At Market Exchange Rates	
Egypt	21.5	10.8	7.9
Nigeria	15.1	17.6	15.8
South Africa	12.5	16.5	4.7
Algeria	8.2	7.8	3.4
Morocco	4.5	5.1	2.9
Angola	3.7	5.7	2.5
Kenya	3.5	3.7	4.2
Sudan	3.0	1.9	3.4
Ethiopia	2.9	2.9	8.8
Ghana	2.5	2.8	2.4
TOTAL GROUP	77.3	74.8	56.1
Of which Top 5 countries	61.7	58.4	34.8
Remaining 40 African Countries	22.7	25.2	43.9

Source: AfDB Statistics Department

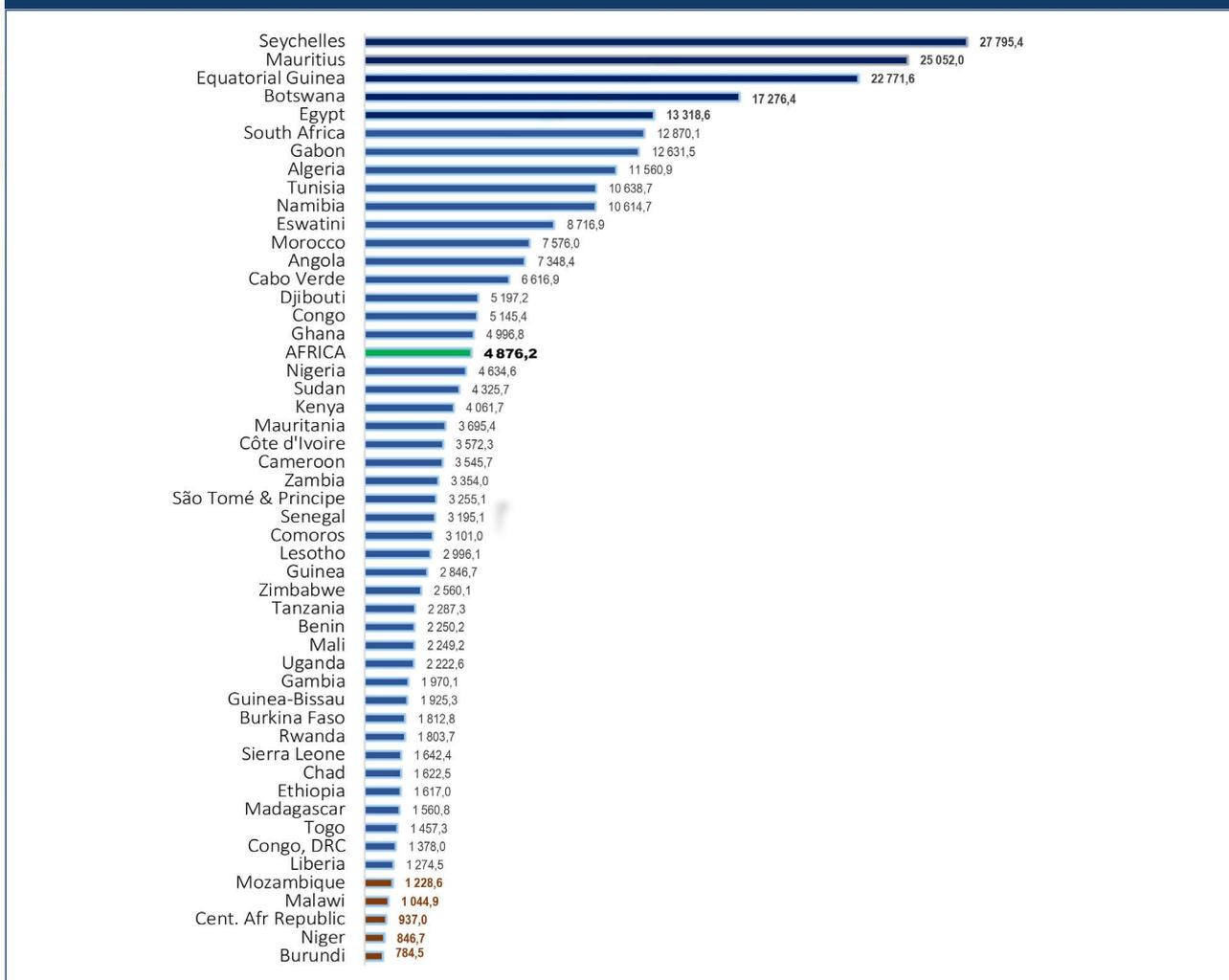
7.2 Which are the richest and the poorest countries?

Real GDP per capita is typically used to distinguish rich and poor economies. Deflating GDP by population removes the distortion created by population size and allows a comparison of the standard of living across countries. Real GDP per capita measures the flow of goods and services available to countries, which contributes to their economic well-being.

Figure 2 illustrates the distribution of per capita GDP in PPP and in nominal terms (USD) by country. Measured by real GDP per capita, 26.2% of Africa's total population live in 17 countries whose real GDP per capita is above the African mean of USD 4,876.2. These range from USD 27,795.4 (Seychelles) to Ghana (USD 4,996.8). Six of these countries are oil-

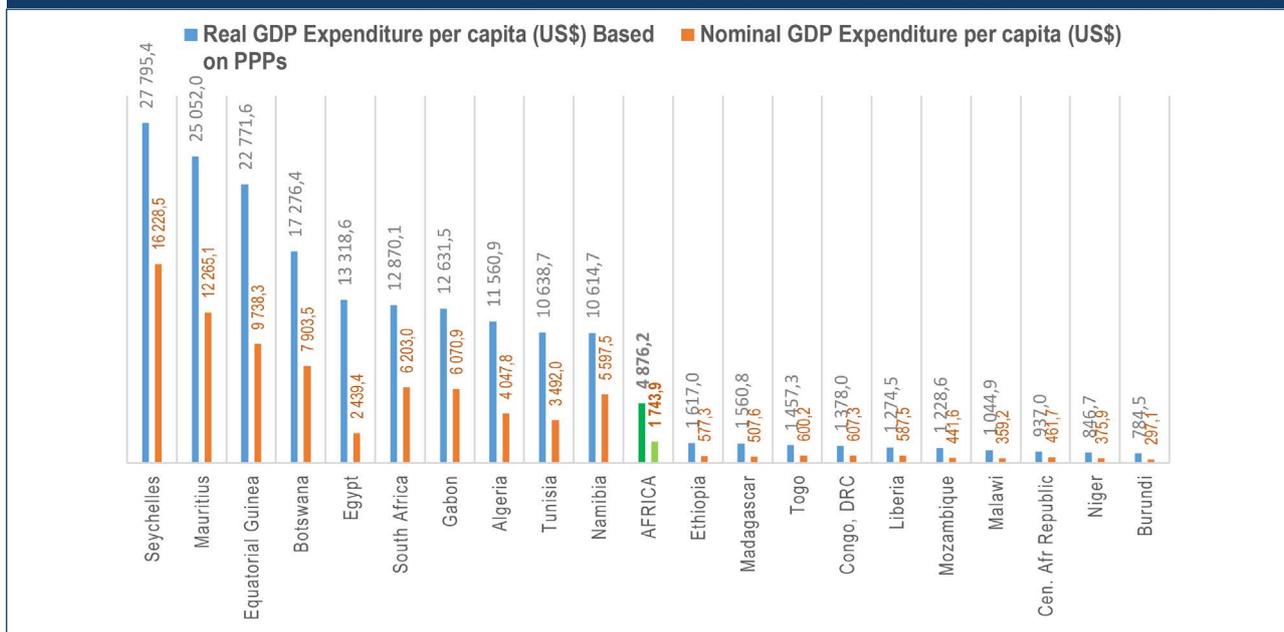
producers (Equatorial Guinea, Egypt, Gabon, Algeria, Angola, and Congo) and are not all among the biggest economies. Nigeria, as Africa's top oil producer in 2017, for instance, recorded a per capita GDP-PPP below the African average. This depicts the diversity in African economic structures and relates to the relative importance of different economic activities in aggregate output. Seychelles recorded the highest GDP per capita at USD 27,795.4 followed by Mauritius (USD 25,052.0), Equatorial Guinea (USD 22,771.6), Botswana (USD 17,276.4), Egypt (USD 13,318.6) and South Africa (USD 12,870.1). The 33 remaining countries represent 73.8% of Africa's population, among which 13 recorded a PPP-GDP per capita between USD 1,000 and USD 2,000. The three smallest countries with GDP per capita in PPP terms of less than USD 1,000 are Central African Republic (USD 937), Niger (USD 846.7), and Burundi (USD 784.5) (Figure 2).

Figure 2 Richest and poorest African countries (real GDP per capita in USD)



Source : AfDB Statistics Department

Figure 3 African richest and poorest countries (nominal and real GDP per capita, in USD)





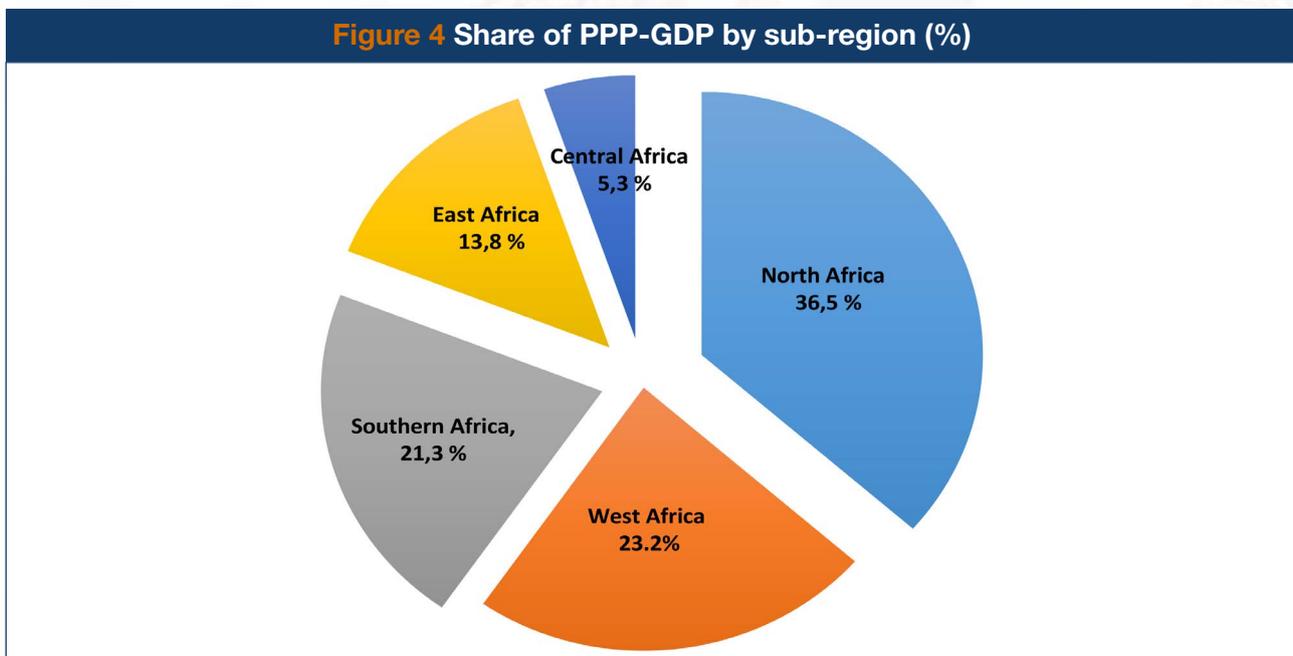
The 2017 Africa comparison reveals differing wealth rankings for some countries, depending on whether the market exchange rate or the PPP exchange rate is used. The largest changes in ranking are for Namibia, Mauritius, and Congo. Namibia is ranked the 23rd richest economy when the market exchange rate is used but drops to 30th when the PPP exchange rate is used. Similarly, Mauritius and Congo drop from 21st and 24th to 26th and 28th place respectively. Some countries are found to be the biggest economies when real GDP per capita is used instead of the market-based exchange rate converted GDP. For example, Egypt moves up from 16th to 5th place, Algeria from 10th to 8th, and Sierra Leone from 45th to 39th (Table 1).

Egypt posts the biggest rank gain when PPP-GDP is used, contributing more than half (54.5%) of all North African economies. North Africa stands out as the sub-region with the largest economy in Africa, with

a share of PPP-based GDP of 36.5% (Figure 4) and a relative demographic weight of 16%. The picture is different when GDP figures are converted to US dollars using market exchange rates; on this basis, North Africa is in second position after Southern Africa, whose nominal share would be 29%. The Central African sub-region contributes only 5% to the entire African economy, and represents 11% of the African population.

The North African and Southern sub-regions have a greater share of PPP-based GDP than their demographic weight might suggest. The East, Central, and West sub-regions contribute less to the African economy compared to their respective demographic weight. The difference in Egypt's ranking illustrates the extent to which PPP rather than market exchange rates is regarded as a better measure of the relative cost of living.

Figure 4 Share of PPP-GDP by sub-region (%)



Source : AfDB Statistics Department

7.3 Which countries have the highest and lowest living standards?

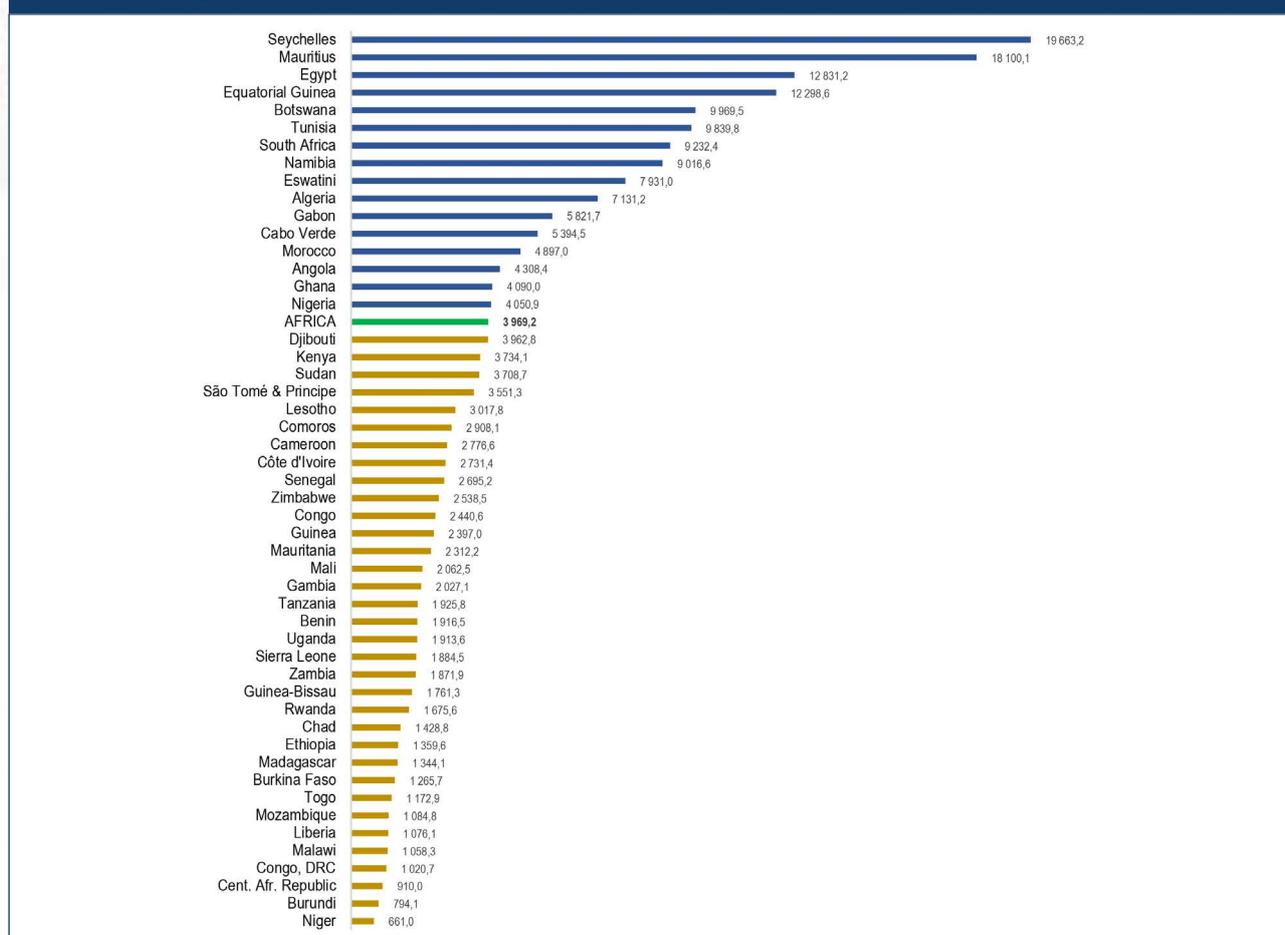
A more appropriate measure of the economic well-being of the population is obtained by comparing per capita Actual Individual Consumption (AIC) expenditure.

AIC per capita better measures the average material well-being of each economy's population. Furthermore, AIC per capita measures all expenditures in the economy that directly benefit individuals – rather than by individual consumption expenditure of households per capita. In 2017, 41.5% of Africa's

population lived in economies with a mean AIC per capita above the continent average of USD 3,969.2. The five economies with highest AIC per capita are Seychelles (USD 19,663.2) followed by Mauritius (USD 18,100.1), Egypt (USD 12,831.2), Equatorial Guinea (USD 12,298.6), and Botswana (USD 9,969.5).

Thirty-four countries recorded a mean AIC per capita below Africa's average. Three of them displayed the lowest AIC in the region: Central African Republic (USD 910), Burundi (USD 794.1) and Niger (USD 661); this is shown in Figure 5 below which depicts real per capita AIC for the highest and lowest African economies in 2017.

Figure 5 Actual Individual Consumption expenditure per capita (USD)



Source: AfDB Statistics Department

When real household expenditures per capita is used rather than real GDP per capita, the largest drop in the rankings of countries is observed for Zambia, which moves from the 24th position to the 35th, then for Burkina Faso dropping from 37th to 42nd, Congo from 16th to 27th, and Algeria from 8th to 10th. For other countries, the ranking in terms of real household expenditures per capita instead of real GDP per capita causes Malawi to drop from the 47th to 44th, and São Tomé and Príncipe from 25th to 19th.

7.4 Which are the most and least expensive countries?

The Price Level Index (PLI) is defined as the ratio of a PPP to the corresponding exchange rate. An index above (or below) Africa 100 means that prices are relatively higher (or lower) than Africa's average price level. PLIs allow the identification of the most and the least expensive countries.

The 2017 comparison shows that 38 countries have a PLI above the African average, ranging from 100.3% to 166.8%.

Both groups include countries with high and low per capita GDP. The price levels of some less wealthy economies rise sharply with changes in income, while in some wealthy countries their price levels drop substantially with relatively small changes in GDP per capita. These are Egypt (PLI = 51.2%) as the cheapest in the region, Algeria (PLI = 97.9%), Burundi (PLI = 105.9%) Niger (PLI = 124.2%), Seychelles (163.3%), and the most expensive Djibouti with a PLI of 166.8% above the Africa mean (Figure 6a).

Selected GDP expenditure components in countries reveal other consumption behaviors in the wealthy and smallest countries. For instance, Egypt remains cheapest for the component Food and nonalcoholic beverages (Figure 6b), and for Health (Figure 6e) and Transportation (Figure 6d).

Seychelles is most expensive for Alcoholic beverages, tobacco and narcotics followed by Mauritius, Morocco, and Botswana; Nigeria being the cheapest country of this category (Figure 6c). Another component of interest is Health expenditures by Households (Figure 6e), which shows that Djibouti is the fifth of the top five most expensive countries



on health care, while Uganda, Tanzania and Egypt have the affordable access to health services and facilities. The most expensive countries for Transport are Zambia followed by South Africa, Mauritius, and Cabo Verde (Figure 6d). Egypt remains again

the cheapest country for this component. Lowest prices in Egypt can be explained by the effects of the Egyptian Food Ration and Subsidy System and have been driven by economic reforms since 2004 which led to robust expansion.

Figure 6a Most and least expensive countries in Africa, 2017 (PLI, Africa =100)

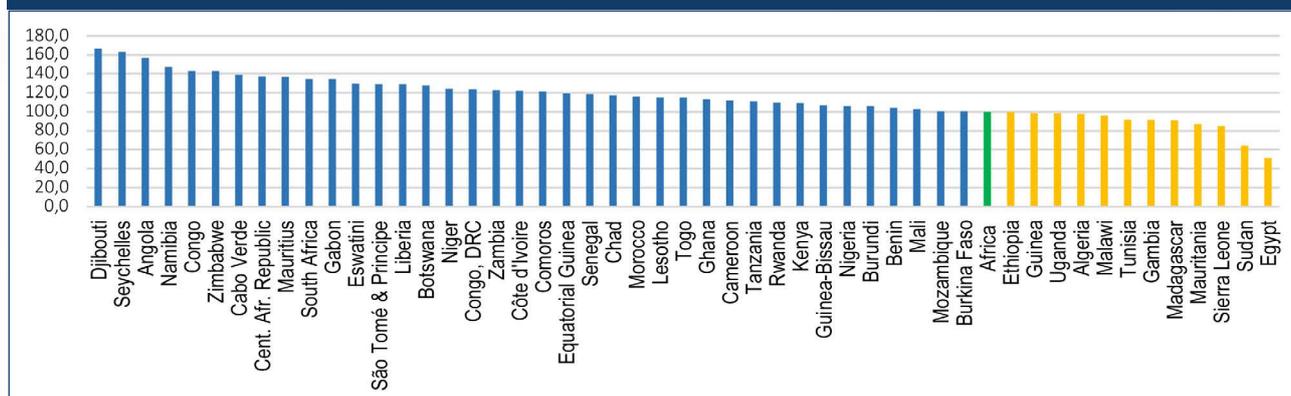


Figure 6b Top 5 and bottom 5 Food and non-alcoholic beverages PLIs (Africa=100)

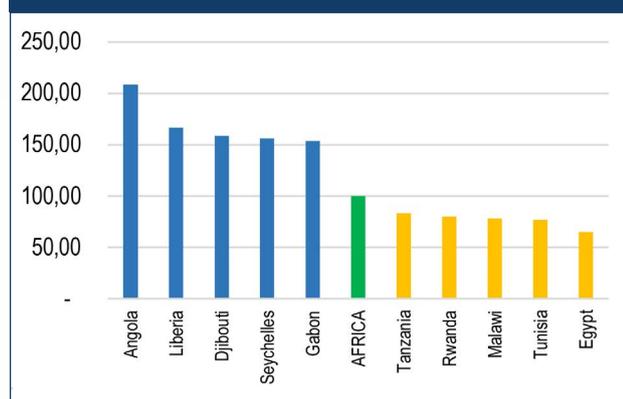


Figure 6c Top 5 and bottom 5 Alcoholic beverages, tobacco and narcotics PLIs (Africa=100)

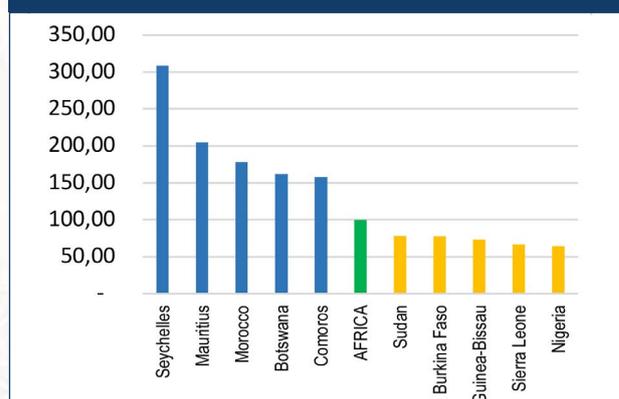


Figure 6d Top 5 and bottom 5 Transportation PLIs (Africa=100)

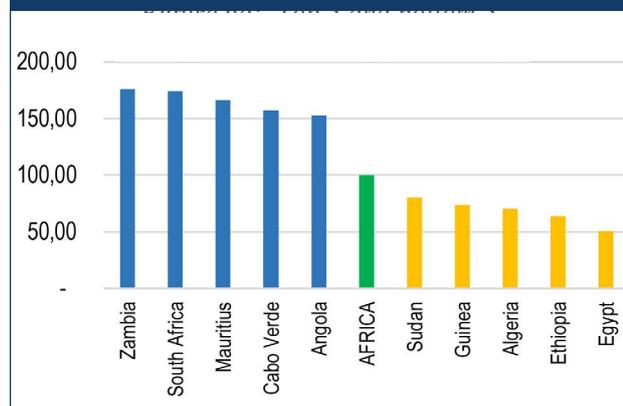
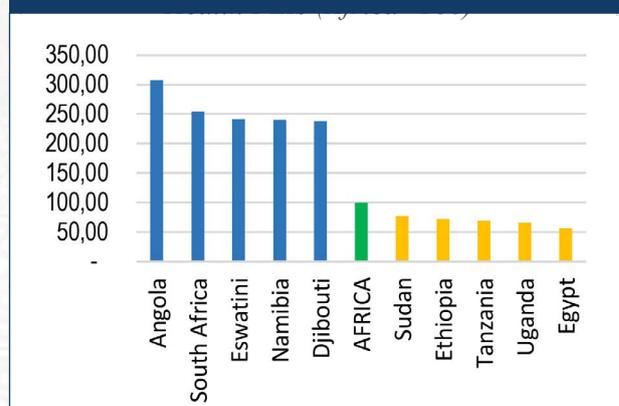


Figure 6e Top 5 and bottom 5 Health PLIs (Africa=100)



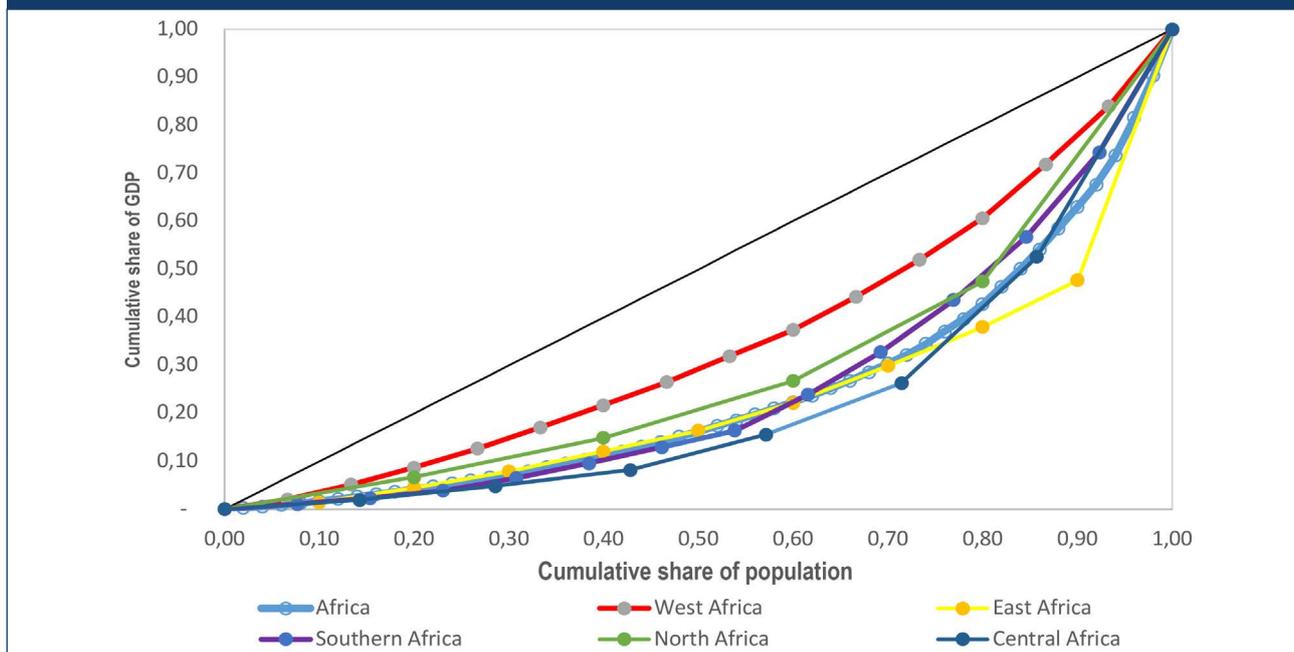
Source: AfDB, Statistics Department

7.5 Intercountry income inequality

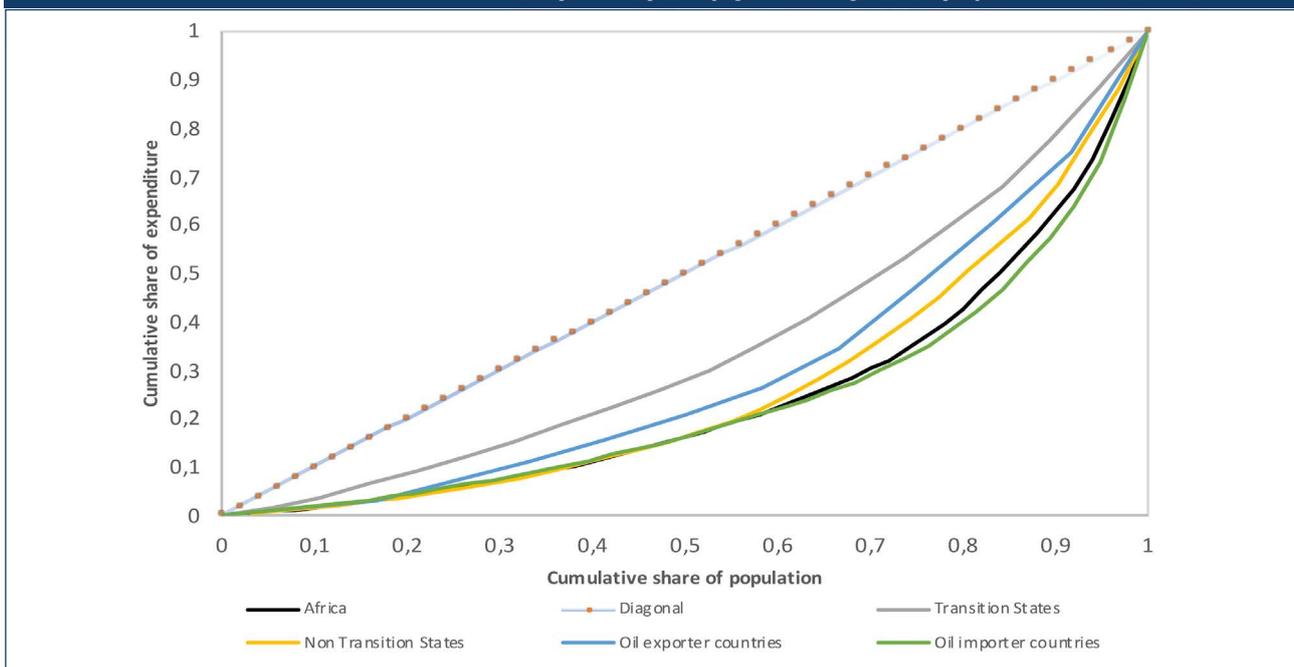
Figure 7a shows the proportion of cumulative share of expenditure held by a given cumulative share of the population. The surface of the area between the diagonal and the Lorenz curve determines the level of concentration of expenditure. The more the area tends toward 0, the more egalitarian the distribution; conversely, when Gini coefficient is equal to 1, the distribution of expenditure is perfectly unequal.

Depicting the results by the AfDB regional grouping, Figure 7a shows that the distribution is less concentrated in North Africa and West Africa than in the other regions (Central Africa, East Africa, and Southern Africa). Similarly, the distribution of expenditure is more unequal in the oil-importing countries than those that export (Figure 7b). The same figure shows that fragile countries are more egalitarian than non-fragile countries in terms of concentration of expenditure per capita.

Figure 7a Lorenz curves for the distribution of PPP-based GDP per capita by sub-region



7b. Lorenz curves for the distribution of 2017, PPP-based GDP per capita (by country Groups)



7.6 Which countries have the highest or lowest relative investment expenditures?

Gross Capital Formation (GFC) or investment, has long been recognized as the key to economic development. GCF is measured by the total value of the gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables. In other words, GCF consists of investment in residential and other buildings, roads, bridges, railroads, and electricity. This enhances a country's potential for future growth. The developed countries have accumulated large stocks of machinery and equipment as well as infrastructure assets like ports, high-quality roads, power transmission systems, dwellings and commercial buildings. These assets account for their higher levels of productivity and hence higher incomes.

African countries are still at an early stage of building up their capital stocks. The main components of GCF are machinery, equipment, and construction. The continent represents only 3% of the global investment, which is far below Asia and Pacific (42.1%) and OECD-Eurostat (46.8%), but better

than the Commonwealth of Independent States (2.5%) and Caribbean (0.1%). The 2017 results reveal the biggest investment expenditures in five African countries. Algeria tops with 15.5% of Africa's total investment expenditure, followed by South Africa (13.3%), Egypt (11.3%), Nigeria (9.8%), and Morocco at 9.6%. These five are also the biggest economies and together they account for almost 60% of the continent's investment.

The link between investments and income (expenditures) has been widely discussed in the literature. Investment and economic growth are strongly pro-cyclical. This economic assumption is largely verified in the case of 2017 PPP-based expenditure data. The higher the GDP per capita, the higher the investment per capita. In other words, high per capita PPP-based GDP countries invest on average more than low per capita PPP-based GDP countries. The 5 countries with the highest per capita gross capital formation in 2017 are, in order of importance: Seychelles, Mauritius, Botswana, Algeria and Morocco (Figure 8). The five smallest per capita GCF economies are, in order of importance: Guinea-Bissau, Burundi, Sierra Leone, Madagascar, and Malawi.

Figure 8 PPP-based GDP per capita versus Gross Capital Formation per capita in Africa (USD)

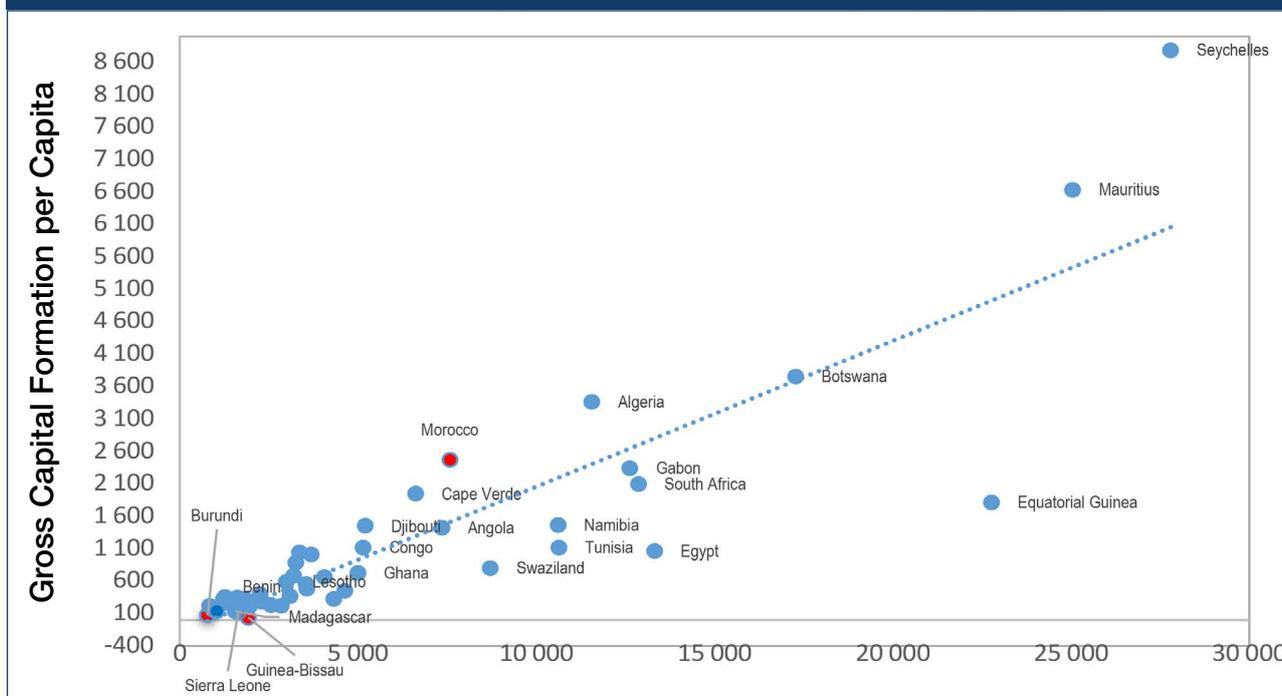
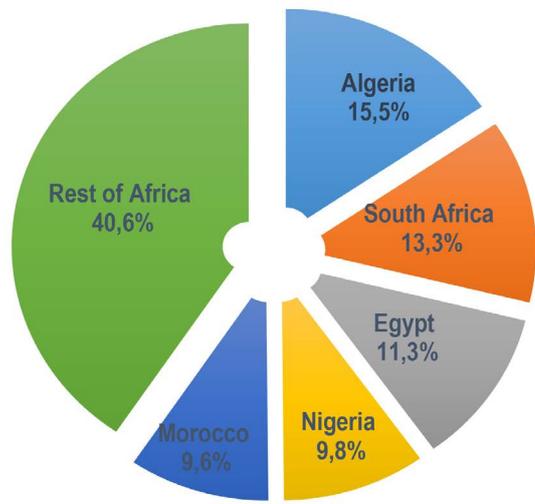




Figure 9 Distribution of real Gross Fixed Capital Formation in Africa



Source : AfDB Statistics Department



SECTION 8



SECTION 8 CONCLUSION AND THE WAY FORWARD

The ICP Africa 2017 is the third milestone in a series of successfully implemented rounds. All of them were coordinated by the AfDB from the beginning to the end and recorded the full participation of almost all the countries on the African continent. The involvement of sub-regional organizations in the day-to-day management of the ICP program on the ground, as well as the technical support from the ICP Global Office, ensured sound methodologies and orderly data collection procedures. Consequently, the estimates provide a firm basis for meaningful inter-country comparisons.

The results generated from this ICP-Africa round resulted in improved data to assess the relative standing of the countries in the region. Country GDPs can now be compared using PPPs, which provide a more robust set of comparisons than was previously the case when only exchange rates were used. Additionally, ICP-Africa provided an opportunity to strengthen human resource skills in the region.

The ICP results comprise a critical input in the policy-management and decision-making processes at national and international levels. Besides the usefulness of the data for facilitating cross-country comparison of GDP and related aggregates, the results are critical for comparing regional poverty incidences and analyzing poverty across countries. They can also be used in the investment and employment decisions of various economic agents.

In view of the importance of ICP data for development policy management, the AfDB and African countries

must sustain ICP activities beyond the current round. In particular, countries must make ICP activities an integral part of their regular activities with a specified resource envelope. Some countries have committed resources for ICP activities, and the heads of national statistical offices made a commitment in the Accra Declaration of December 2007 to integrate the core ICP-Africa activities into their routine statistical activities. The commitment was reiterated at various regional meetings on statistical development in Africa.

Most countries participating in ICP-Africa also collected data in 2017, 2018 and 2019. A pilot ICP exercise will be conducted from August to December 2020 and the resulting data will serve as a baseline for the measurement of the impact of Covid-19 on the living standards of African populations in 2020/2021. The pilot data and data collected in 2017-2019 will also be used in the procedures of quality control related to the computation of the 2021 results.

The implementation of both the pilot exercise and the ICP 2021 itself will build on enhanced synergies between the ICP on the one hand and countries' work in national accounts and price statistics on the other.

Relevant synergistic steps will be agreed with all the countries in compliance with their respective NSDS (National Strategy for the Development of Statistics) and utmost alignment to the second edition of the Strategy for the Harmonization of Statistics in Africa (SHaSA-2).



APPENDICES & TABLES





NOTES ON THE ANALYTICAL TABLES



This publication of the 2017 ICP-Africa results is centered on the following tables that are grouped into 2 main categories: (a) Benchmarked countries with input data – which relates to national accounts data as provided by the countries for the reference year 2017.

- The The PPP results are based on Purchasing Power Parities (last column of Tables 2 to 4), whose deviation from a country's exchange rate is an indicator of price level indices. Interpreted as “economic exchange rates,” PPPs for a particular country are used to convert the country's Nominal Expenditures into real values.
- Price Level Indices (Africa Region = 100) for each of the GDP main components.
- Per Capita Real Expenditures Relatives: Africa Region = 100% – contains volume indices that show how a particular country compares with the African average in terms of its per capita consumption.
- Real Expenditures: Country Shares – shows the contribution of a particular country to the total Africa expenditure for each pertinent category of household goods and services.
- The data on Individual Consumption Expenditure by Household and NPISHs.

The main set of results are presented in the following tables:

- Table 1 : Summary Results Related to Gross Domestic Product (GDP),
- Table 2 : Actual Individual Consumption (AIC)in PPP Terms,
- Table 3 : General Government Final Consumption Expenditures in PPP Terms,
- Table 4 : Gross Capital Formation (GCF) in PPP Terms

Table 1 Summary Results Related to Gross Domestic Product (GDP)

Country	Reference data			2017 GDP-PPPs (US\$ = 1.00) (4)	Price level indices		GDP Expenditures in nominal terms (Billions USD) (6)	Selected GDP Aggregates in PPP Terms					Rankings for Selected GDP Aggregates in PPP Terms (1=Highest)			Africa in the World : Expenditure shares (World = 100)		
	GDP Expenditures in nominal terms (Billions LCU) (1)	Population (millions) (2)	Exchange rates (US dollar = 1.00) (3)		(Africa=100) (5)	Per Capita GDP (Billion US\$) (7)		Per Capita GDP (US\$) (8)	Actual Individual Consumption Expenditure Per Capita (US\$) (9)	Gross Fixed Capital Expenditure Per Capita (US\$) (10)	Price Level Indices (PLI) Ranking (1=Highest) (11)	Per Capita GDP Expenditures (12)	Per Capita Actual Individual Consumption Expenditure (13)	Per Capita Gross Fixed Capital Expenditure Per Capita (14)	Based on PPPs (15)	Based on XRs (16)		
																	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Algeria	18 591.71	41.39	110.97	38.9	97.9	167.5	478.5	11 560.95	7 131.18	9 131.18	3 364.57	42	8	10	1	0.4009	0.2104	
Angola	20 365.42	29.82	165.92	92.9	156.6	122.7	219.1	7 348.38	4 308.37	4 308.37	1 427.58	3	13	14	6	0.1836	0.1542	
Benin	5 450.91	11.18	582.07	216.8	104.1	9.4	25.1	2 250.21	1 916.48	1 916.48	400.59	35	32	33	27	0.0211	0.0118	
Botswana	1 800.33	2.21	10.35	4.7	127.9	17.4	38.1	17 276.36	9 969.54	9 969.54	3 756.23	15	4	5	21	0.0319	0.0219	
Burkina Faso	7 263.27	19.19	582.07	208.7	100.3	12.5	34.8	1 812.84	1 265.66	1 265.66	323.67	38	37	42	22	0.0292	0.0157	
Burundi	5 582.40	10.83	1 729.06	654.9	105.9	3.2	8.5	784.51	794.06	794.06	75.42	34	50	49	45	0.0071	0.0040	
Cameroun	20 277.04	24.57	582.07	232.8	111.8	34.8	87.1	3 545.68	2 776.64	2 776.64	563.07	28	23	23	13	0.0730	0.0438	
Cabo Verde	1 721.41	0.54	97.80	48.5	138.6	1.8	3.6	6 616.87	5 394.46	5 394.46	1 949.38	7	14	12	41	0.0030	0.0022	
Cent. African Republic	1 235.24	4.60	582.07	286.8	137.8	2.1	4.3	937.05	909.97	909.97	156.54	8	48	48	46	0.0036	0.0027	
Chad	5 936.31	15.02	582.07	243.6	117.0	10.2	24.4	1 622.49	1 428.77	1 428.77	247.56	23	40	39	29	0.0204	0.0128	
Comoros	479.84	0.81	436.57	190.1	121.8	1.1	2.3	3 101.01	2 908.05	2 908.05	367.91	20	27	22	48	0.0021	0.0014	
Congo	7 827.54	5.11	582.07	297.7	143.0	13.4	26.3	5 145.41	2 440.61	2 440.61	1 123.87	5	16	16	24	0.0220	0.0169	
Congo, DRC	72 390.05	81.40	1 464.42	645.4	123.2	49.4	112.2	1 378.02	1 020.74	1 020.74	269.34	17	44	47	9	0.0940	0.0621	
Cote d'Ivoire	22 150.80	24.44	582.07	253.7	121.9	38.1	87.3	3 572.32	2 731.39	2 731.39	482.44	19	22	24	17	0.0731	0.0476	
Djibouti	520.20	0.94	1 777.72	106.0	166.8	2.9	4.9	5 197.24	3 962.76	3 962.76	1 452.21	1	15	17	39	0.0041	0.0037	
Egypt	4 127.09	94.80	17.85	3.3	51.2	231.3	1 262.6	13 318.61	12 831.16	12 831.16	1 066.71	50	5	5	3	1 057.9	0.2904	
Equatorial Guinea	7 153.60	1.26	582.07	248.9	119.6	12.3	28.1	22 771.61	12 298.61	12 298.61	1 820.30	21	3	4	36	0.0241	0.0154	
Ethiopia	1 465.97	106.40	23.87	8.5	99.8	61.4	172.1	1 617.02	1 359.64	1 359.64	349.21	39	7	7	7	0.1442	0.0771	
Gabon	7 296.50	2.06	582.07	279.8	134.4	12.5	26.1	12 631.53	5 821.73	5 821.73	2 341.15	11	7	11	25	0.0219	0.0157	
Gambia	66.67	2.21	46.61	15.3	91.7	1.4	4.4	1 970.14	2 027.07	2 027.07	218.71	45	35	31	47	0.0037	0.0018	
Ghana	256.67	29.12	4.35	1.8	113.4	59.0	145.5	4 996.83	4 090.01	4 090.01	730.83	27	17	15	10	0.1219	0.0741	
Guinea	110 474.19	12.07	9 125.74	3 215.9	98.5	12.1	34.4	2 846.68	2 397.00	2 397.00	221.22	40	29	28	34	0.0288	0.0152	
Guinea-Bissau	783.99	1.83	582.07	222.7	107.0	1.3	3.5	1 925.31	1 761.27	1 761.27	38.08	32	36	37	50	0.0029	0.0017	
Kenya	8 196.67	50.22	103.41	40.2	108.7	79.3	204.0	4 061.66	3 734.11	3 734.11	664.85	31	20	18	8	0.1709	0.0995	
Lesotho	34.50	2.09	13.33	5.5	115.5	2.6	6.3	2 996.14	3 017.79	3 017.79	594.37	25	28	21	40	0.0053	0.0032	
Liberia	311.37	4.70	112.71	52.0	128.9	2.8	6.0	1 274.51	1 076.08	1 076.08	357.75	14	45	45	38	0.0050	0.0035	
Madagascar	40 445.25	25.57	3 116.11	1 013.4	90.9	13.0	39.9	1 560.80	1 344.08	1 344.08	136.03	46	42	41	31	0.0334	0.0163	
Malawi	4 635.56	17.67	730.27	251.1	96.1	6.3	18.3	1 044.90	1 068.28	1 068.28	141.79	43	47	46	35	0.0155	0.0080	
Mali	8 931.34	18.51	582.07	214.5	103.0	15.3	41.6	2 249.18	2 062.50	2 062.50	332.94	36	33	30	23	0.0349	0.0193	
Mauritania	1 760.69	4.28	357.49	111.3	87.0	4.9	15.3	3 695.42	2 312.16	2 312.16	1 014.69	47	21	20	28	0.0133	0.0062	
Mauritius	534.78	1.26	34.48	16.9	136.9	15.5	31.7	25 051.98	18 100.07	18 100.07	6 643.16	9	2	2	2	0.0265	0.0195	
Morocco	1 063.35	34.85	9.69	4.0	116.2	109.7	264.0	7 576.00	4 897.04	4 897.04	2 472.34	24	12	13	5	0.2212	0.1378	
Mozambique	804.46	28.65	63.58	22.9	100.5	12.7	35.2	1 228.63	1 084.84	1 084.84	326.45	37	46	44	19	0.0295	0.0159	
Namibia	179.04	2.40	13.31	7.0	147.5	13.4	25.5	10 614.72	9 016.58	9 016.58	1 465.18	4	10	8	30	0.0214	0.0169	
Niger	4 727.07	21.60	582.07	258.5	124.2	8.1	18.3	846.67	6 61.03	6 61.03	219.98	16	49	50	26	0.0153	0.0102	
Nigeria	102 593.52	190.87	305.79	116.0	106.0	376.4	884.6	4 634.64	4 050.92	4 050.92	459.97	33	18	16	4	0.7412	0.4214	
Rwanda	7 025.72	11.98	831.53	325.1	109.3	8.4	21.6	1 803.70	1 675.57	1 675.57	268.75	30	38	38	33	0.0181	0.0106	
São Tomé and Príncipe	6.78	0.21	21.74	10.1	129.3	0.3	0.1	3 255.13	3 551.35	3 551.35	885.33	13	25	20	49	0.0006	0.0004	
Senegal	12 157.97	15.42	582.07	246.8	118.5	20.9	49.3	3 195.14	2 695.19	2 695.19	687.67	22	26	25	18	0.0413	0.0262	
Seychelles	21.36	0.10	13.65	8.0	163.3	1.6	2.7	27 795.36	19 663.24	19 663.24	8 790.34	2	1	1	44	0.0022	0.0020	
Sierra Leone	27 610.77	7.49	7 384.43	2 244.9	85.0	3.7	12.3	1 642.44	1 884.51	1 884.51	115.93	48	39	35	43	0.0103	0.0047	
South Africa	47 152.22	57.01	13.33	6.4	134.8	353.6	733.7	12 870.06	9 232.37	9 232.37	2 099.06	10	6	6	7	2	0.6148	0.4441
Sudan	815.86	40.78	20.13	4.6	64.2	40.5	176.4	4 325.68	3 708.68	3 708.68	332.89	49	19	19	14	0.1478	0.0509	
eSwatini	60.84	1.12	13.33	6.2	130.1	4.6	9.8	8 716.93	7 930.99	7 930.99	800.39	12	11	9	42	0.0082	0.0057	
Tanzania	110 651.11	54.66	2 228.86	885.0	111.0	49.6	125.0	2 287.26	1 925.81	1 925.81	285.41	29	31	32	12	0.1048	0.0623	
Togo	2 689.39	7.70	582.07	239.7	115.2	4.6	11.2	1 457.33	1 172.94	1 172.94	288.50	26	43	43	37	0.0094	0.0058	
Tunisia	96.60	11.43	2.42	0.8	91.8	39.9	121.6	10 638.71	9 839.75	9 839.75	1 123.50	44	9	6	15	0.1019	0.0501	
Uganda	116 251.48	41.17	3 611.22	1 270.6	98.4	32.2	91.5	2 222.58	1 913.60	1 913.60	291.77	41	34	34	16	0.0767	0.0404	
Zambia	236.98	16.85	9.52	4.2	123.1	24.9	56.5	3 354.00	1 871.88	1 871.88	1 049.87	18	24	24	36	0.11	0.0474	
Zimbabwe	18.63	14.24	1.00	0.5	142.9	18.6	36.4	2 538.53	2 336.63	2 336.63	745.71	6	30	26	32	0.0305	0.0234	
AFRICA	.....	1 204.64	.....	.....	100.0	2 141.6	5 874.1	4 876.2	3 969.2	3 969.2	745.71	.....	.....	.....	.....	4 921.8	2 638.4

Table 2 Actual Individual Consumption (AIC) in PPP Terms

Country	Expenditure (billion US\$)		Expenditure per capita (US\$)	Price level indices (Africa = 100.0)		Expenditure per Capita Indices (Africa = 100.0)		Expenditure Shares (Africa = 100.0)		PPPs (US dollar = 1.00)
	Based on PPPs	Based on XRs		Based on PPPs	Based on XRs	Based on PPPs	Based on XRs	Based on PPPs	Based on XRs	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Algeria	295.2	91.1	7,131.2	2,201.4	95.8	179.7	172.1	6.2	5.9	34.3
Angola	128.5	74.9	4,308.4	2,512.7	181.0	108.5	196.4	2.7	4.9	96.0
Benin	21.4	7.4	1,916.5	661.2	107.1	51.7	51.7	0.4	0.5	200.8
Botswana	22.0	9.8	9,969.5	4,429.0	137.9	251.2	346.2	0.5	0.6	4.6
Burkina Faso	24.3	7.8	1,265.7	406.2	99.6	31.9	31.8	0.5	0.5	186.8
Burundi	8.6	3.0	794.1	274.2	107.1	20.0	21.4	0.2	0.2	597.0
Cameroon	68.2	25.2	2,776.6	1,027.5	114.8	70.0	80.3	1.4	1.6	215.4
Cabo Verde	2.9	1.3	5,394.5	2,414.8	138.9	135.9	188.8	0.1	0.1	43.8
Cent. African Republic	4.2	2.0	910.0	434.3	148.1	22.9	34.0	0.1	0.1	277.8
Chad	21.5	8.2	1,428.8	543.8	118.1	36.0	42.5	0.4	0.5	221.5
Comoros	2.4	1.0	2,908.1	1,258.7	134.3	73.3	98.4	0.0	0.1	189.0
Congo	12.5	5.5	2,440.6	1,082.1	137.6	61.5	84.6	0.3	0.4	258.1
Congo, DRC	83.1	33.3	1,020.7	409.2	124.4	25.7	32.0	1.7	2.2	587.0
Côte d'Ivoire	66.7	26.9	2,731.4	1,099.8	124.9	68.8	86.0	1.4	1.7	234.4
Djibouti	3.7	2.1	3,962.8	2,182.0	170.9	99.8	170.6	0.1	0.1	97.9
Egypt	1,216.4	212.7	12,831.2	2,243.3	54.2	323.3	175.4	25.4	13.8	3.1
Equatorial Guinea	15.5	6.8	12,298.6	5,412.7	136.6	309.9	423.2	0.3	0.4	256.2
Ethiopia	144.7	47.1	1,359.6	442.2	100.9	34.3	34.6	3.0	3.1	7.8
Gabon	12.0	5.9	5,821.7	2,859.3	152.4	146.7	223.5	0.3	0.4	285.9
Gambia	4.5	1.3	2,027.1	604.9	92.6	51.1	47.3	0.1	0.1	13.9
Ghana	119.1	43.7	4,090.0	1,501.9	113.9	103.0	117.4	2.5	2.8	1.6
Guinea	28.9	9.3	2,397.0	769.2	99.6	60.4	60.1	0.6	0.6	2,928.3
Guinea-Bissau	3.2	1.2	1,761.3	637.6	112.3	44.4	49.8	0.1	0.1	210.7
Kenya	187.5	69.4	3,734.1	1,382.0	114.8	94.1	108.0	3.9	4.5	38.3
Lesotho	6.3	2.4	3,017.8	1,132.7	116.5	76.0	88.5	0.1	0.2	5.0
Liberia	5.1	2.0	1,076.1	419.7	121.0	27.1	32.8	0.1	0.1	44.0
Madagascar	34.4	9.7	1,344.1	381.1	88.0	33.9	29.8	0.7	0.6	883.5
Malawi	18.7	5.7	1,058.3	324.4	95.1	26.7	25.4	0.4	0.4	223.8
Mali	38.2	12.5	2,062.5	676.3	101.7	52.0	52.9	0.8	0.8	190.9
Mauritania	9.9	3.1	2,312.2	728.7	97.8	58.3	57.0	0.2	0.2	112.7
Mauritius	22.9	11.1	18,100.1	8,759.4	150.2	456.0	684.8	0.5	0.7	16.7
Morocco	170.7	72.1	4,897.0	2,070.0	131.2	123.4	161.8	3.6	4.7	4.1
Mozambique	31.1	10.2	1,084.8	367.3	102.2	27.3	27.9	0.7	0.7	20.9
Namibia	21.7	10.6	9,016.6	4,421.4	152.2	227.2	345.7	0.5	0.7	6.5
Niger	14.3	5.7	661.0	263.8	123.8	16.7	20.6	0.3	0.4	232.3
Nigeria	773.2	264.3	4,050.9	1,384.7	106.1	102.1	108.3	16.2	17.2	104.5
Rwanda	20.1	6.6	1,675.6	548.9	101.6	42.2	42.9	0.4	0.4	272.4
São Tomé and Príncipe	0.7	0.3	3,551.3	1,578.6	137.9	89.5	123.4	0.0	0.0	9.7
Senegal	41.6	15.9	2,895.2	1,028.9	118.5	67.9	80.4	0.9	1.0	222.2
Seychelles	1.9	1.1	19,683.2	11,374.9	179.5	495.4	889.3	0.0	0.1	7.9
Sierra Leone	14.1	3.8	1,884.5	501.4	82.6	47.5	39.2	0.3	0.2	1,964.7
South Africa	526.3	243.5	9,232.4	4,270.6	143.5	232.6	333.9	11.0	15.8	6.2
Sudan	151.2	36.0	3,708.7	882.8	73.9	93.4	69.0	3.2	2.3	4.8
eSwatini	8.9	3.8	7,931.0	3,412.0	133.5	199.8	266.7	0.2	0.2	5.7
Tanzania	105.3	34.3	1,925.8	626.8	101.0	48.5	49.0	2.2	2.2	725.4
Togo	9.0	3.5	1,172.9	456.3	120.7	29.6	35.7	0.2	0.2	226.5
Tunisia	112.5	32.5	9,839.6	2,842.4	89.6	247.9	222.2	2.4	2.1	0.7
Uganda	78.8	24.1	1,913.6	566.3	95.1	48.2	45.8	1.6	1.6	1,106.3
Zambia	31.5	13.0	1,871.9	768.5	127.4	47.2	60.1	0.7	0.8	3.9
Zimbabwe	36.1	16.2	2,538.5	1,140.9	139.5	64.0	89.2	0.8	1.1	0.4
AFRICA	4,781.4	1,540.9	3,969.2	1,279.1	100.0	100.0	100.0	100.0	100.0	...

Source : AIDB Statistics Department

Table 3 General Government Final Consumption Expenditures in PPP Terms

country	Expenditure (billion US\$)		Expenditure per capita (US\$)		Price level indices (Africa = 100.0)	Expenditure per Capita Indices (Africa = 100.0)		Expenditure Shares (Africa = 100.0)		PPPs (US dollar = 1.00)
	Based on PPPs (1)	Based on XRs (2)	Based on PPPs (3)	Based on XRs (4)		Based on PPPs (6)	Based on XRs (7)	Based on PPPs (8)	Based on XRs (9)	
Algeria	173.9	31.9	4,201.1	770.8	75.7	414.0	313.4	14.2	10.8	20.4
Angola	62.2	15.8	2,085.4	529.8	104.8	205.5	215.4	5.1	5.3	42.2
Benin	7.1	1.6	630.9	143.3	93.7	62.2	58.3	0.6	0.5	132.2
Botswana	10.9	3.2	4,949.7	1,453.4	121.2	487.7	591.0	0.9	1.1	3.0
Burkina Faso	10.0	2.7	522.0	142.8	112.9	51.4	58.1	0.8	0.9	159.2
Burundi	2.4	0.6	217.8	53.2	100.7	21.5	21.6	0.2	0.2	422.2
Cameroon	16.5	3.9	671.2	158.4	97.4	66.1	64.4	1.3	1.3	137.3
Cabo Verde	1.2	0.4	2,264.2	666.4	121.4	223.1	271.0	0.1	0.1	28.8
Cent. African Republic	1.0	0.3	220.8	56.0	104.7	21.8	22.8	0.1	0.1	147.7
Chad	3.3	1.0	217.5	68.7	130.4	21.4	27.9	0.3	0.3	183.9
Comoros	0.7	0.1	821.9	141.4	71.0	81.0	57.5	0.1	0.0	75.1
Congo	6.4	1.6	1,243.4	321.3	106.6	122.5	130.6	0.5	0.6	150.4
Congo, DRC	18.2	5.6	223.4	69.1	127.6	22.0	28.1	1.5	1.9	453.0
Côte d'Ivoire	15.7	5.5	640.8	223.6	144.0	63.1	90.9	1.3	1.8	203.1
Djibouti	0.8	0.4	847.3	391.6	190.7	83.5	159.2	0.1	0.1	82.1
Egypt	182.2	20.7	1,921.8	217.9	46.8	189.4	88.6	14.9	7.0	2.0
Equatorial Guinea	17.9	3.1	14,213.9	2,478.6	72.0	1,400.7	1,007.9	1.5	1.1	101.5
Ethiopia	36.4	8.3	341.8	78.3	94.6	33.7	31.8	3.0	2.8	5.5
Gabon	12.3	2.8	5,964.9	1,376.0	95.2	587.8	559.5	1.0	1.0	134.3
Gambia	0.6	0.1	289.3	58.3	83.2	28.5	23.7	0.1	0.0	9.4
Ghana	19.0	4.6	651.6	156.6	99.2	64.2	63.7	1.6	1.5	1.0
Guinea	8.9	1.8	736.0	145.9	81.8	72.5	59.3	0.7	0.6	1,808.9
Guinea-Bissau	1.2	0.2	634.3	136.5	88.8	62.5	55.5	0.1	0.1	125.3
Kenya	59.6	16.1	1,187.3	321.4	111.7	117.0	130.7	4.9	5.4	28.0
Lesotho	2.6	0.9	1,223.4	418.4	141.1	120.6	170.1	0.2	0.3	4.6
Liberia	1.9	0.7	407.0	140.1	142.0	40.1	57.0	0.2	0.2	38.8
Madagascar	9.5	2.1	370.4	81.1	90.4	36.5	33.0	0.8	0.7	682.5
Malawi	2.3	0.6	131.9	34.1	106.5	13.0	13.8	0.2	0.2	188.5
Mali	8.1	2.3	439.2	126.7	119.0	43.3	51.5	0.7	0.8	167.9
Mauritania	6.3	1.1	1,465.2	255.0	71.8	144.4	103.7	0.5	0.4	62.2
Mauritius	6.8	1.9	5,387.9	1,512.5	115.8	530.9	615.0	0.6	0.6	9.7
Morocco	60.8	20.8	1,743.5	597.5	141.4	171.8	243.0	5.0	7.0	3.3
Mozambique	11.8	3.6	412.7	125.1	125.0	40.7	50.9	1.0	1.2	19.3
Namibia	8.0	3.2	3,333.3	1,333.8	165.1	328.5	542.3	0.7	1.1	5.3
Niger	3.5	1.3	162.3	61.8	157.1	16.0	25.1	0.3	0.5	221.6
Nigeria	81.1	17.4	425.0	91.0	88.4	41.9	37.0	6.6	5.9	65.5
Rwanda	4.2	1.4	349.9	115.1	135.7	34.5	46.8	0.3	0.5	273.5
São Tomé and Príncipe	0.2	0.1	1,135.6	243.1	88.3	111.9	98.8	0.0	0.0	4.7
Senegal	8.8	2.9	573.7	187.3	134.8	56.5	76.2	0.7	1.0	190.1
Seychelles	1.1	0.3	11,056.0	3,280.1	122.4	1,089.5	1,333.8	0.1	0.1	4.0
Sierra Leone	1.8	0.4	240.0	52.0	89.4	23.7	21.1	0.1	0.1	1,589.2
South Africa	207.7	72.6	3,642.4	1,273.3	144.3	358.9	517.8	17.0	24.5	4.7
Sudan	34.3	2.8	840.6	67.9	33.3	82.8	27.6	2.8	0.9	1.6
eSwatini	3.2	1.1	2,855.7	970.2	140.2	281.4	394.5	0.3	0.4	4.5
Tanzania	18.5	7.1	338.7	130.2	158.2	33.4	52.9	1.5	2.4	856.6
Togo	3.4	0.9	442.3	111.5	104.0	43.6	45.3	0.3	0.3	146.7
Tunisia	34.5	8.3	3,018.8	725.2	99.1	297.5	294.9	2.8	2.8	0.6
Uganda	13.3	2.8	322.1	68.4	87.6	31.7	27.8	1.1	1.0	766.6
Zambia	8.7	2.7	518.3	158.7	126.3	51.1	64.5	0.7	0.9	2.9
Zimbabwe	11.9	4.8	834.8	334.4	165.3	82.3	136.0	1.0	1.6	0.4
AFRICA	1,222.5	296.2	1,014.8	245.9	100.0	100.0	100.0	100.0	100.0	...

Source : AIDB Statistics Department

Table 4 Gross Capital Formation (GCF) in PPP Terms

Country	Expenditure (billion US\$)		Expenditure per capita (US\$)		Price level indices (Africa = 100.0)	Expenditure per Capita Indices (Africa = 100.0)		Expenditure Shares (Africa = 100.0)		PPPs (US dollar = 1.00)
	Based on PPPs (1)	Based on XRs (2)	Based on PPPs (3)	Based on XRs (4)		Based on PPPs (6)	Based on XRs (7)	Based on PPPs (8)	Based on XRs (9)	
Algeria	139.3	81.1	3,364.6	1,959.3	106.4	451.2	479.9	15.5	16.5	64.6
Angola	42.6	28.2	1,427.6	946.1	121.0	191.5	231.7	4.7	5.7	110.0
Benin	4.5	2.6	400.6	230.3	105.0	53.7	56.4	0.5	0.5	334.7
Botswana	8.3	4.6	3,756.2	2,093.2	101.8	503.7	512.7	0.9	0.9	5.8
Burkina Faso	6.2	3.3	323.7	172.5	97.4	43.4	42.3	0.7	0.7	310.3
Burundi	0.8	0.5	75.4	45.7	110.6	10.1	11.2	0.1	0.1	1,047.2
Cameroon	13.8	8.0	563.1	326.0	105.7	75.5	79.8	1.5	1.6	337.0
Cabo Verde	1.0	0.7	1,949.4	1,346.2	126.1	281.4	329.7	0.1	0.1	67.5
Cent. African Republic	0.7	0.4	156.5	91.1	106.3	21.0	22.3	0.1	0.1	338.9
Chad	3.7	2.2	247.6	145.8	107.5	33.2	35.7	0.4	0.4	342.7
Comoros	0.3	0.2	367.9	204.9	101.7	49.3	50.2	0.0	0.0	243.1
Congo	5.7	5.0	1,123.9	975.5	158.5	150.7	239.0	0.6	1.0	505.2
Congo, DRC	21.9	13.6	269.3	167.3	113.5	36.1	41.0	2.4	2.8	909.6
Côte d'Ivoire	11.8	6.7	482.4	274.8	104.0	64.7	67.3	1.3	1.4	331.5
Djibouti	1.4	1.0	1,452.2	1,016.0	127.8	194.8	248.9	0.2	0.2	124.3
Egypt	101.1	35.9	1,066.7	378.9	64.9	143.1	92.8	11.3	7.3	6.3
Equatorial Guinea	2.3	1.3	1,820.3	1,045.8	104.9	244.1	256.2	0.3	0.3	334.4
Ethiopia	37.2	20.9	349.2	196.7	102.9	46.8	48.2	4.1	4.3	13.4
Gabon	4.8	3.0	2,341.2	1,475.1	115.1	314.0	381.3	0.5	0.6	366.7
Gambia	0.5	0.3	218.7	134.8	112.5	29.3	33.0	0.1	0.1	28.7
Ghana	21.3	13.5	730.8	462.1	115.5	98.0	113.2	2.4	2.7	2.8
Guinea	2.7	1.6	221.2	133.7	110.4	29.7	32.8	0.3	0.3	5,517.2
Guinea-Bissau	0.1	0.0	38.1	21.5	103.3	5.1	5.3	0.0	0.0	329.2
Kenya	33.4	16.3	664.8	324.6	89.2	89.2	79.5	3.7	3.3	50.5
Lesotho	1.2	0.7	594.4	330.7	101.6	79.7	81.0	0.1	0.1	7.4
Liberia	1.7	1.1	357.7	236.4	120.7	48.0	57.9	0.2	0.2	74.5
Madagascar	3.5	2.1	136.0	82.2	110.3	18.2	20.1	0.4	0.4	1,882.5
Malawi	2.5	1.5	141.8	83.1	107.0	19.0	20.3	0.3	0.3	427.9
Mali	6.2	3.5	332.9	189.8	104.1	44.6	46.5	0.7	0.7	331.8
Mauntania	4.3	1.9	1,014.7	444.1	79.9	136.1	108.8	0.5	0.4	156.5
Mauntius	8.4	4.9	6,643.2	3,909.8	107.5	890.9	957.7	0.9	1.0	20.3
Morocco	86.2	35.8	2,472.3	1,027.9	75.9	331.6	251.8	9.6	7.3	4.0
Mozambique	9.4	4.8	326.5	168.3	94.2	43.8	41.2	1.0	1.0	32.8
Namibia	3.5	2.1	1,465.2	887.9	110.7	196.5	217.5	0.4	0.4	8.1
Niger	4.8	2.7	220.0	126.7	105.2	29.5	31.0	0.5	0.6	335.2
Nigeria	87.7	58.1	459.6	304.6	121.1	61.6	74.6	9.8	11.8	202.7
Rwanda	3.2	2.1	268.7	179.4	121.9	36.0	43.9	0.4	0.4	555.1
São Tomé and Príncipe	0.2	0.1	885.3	537.4	110.9	118.7	131.6	0.0	0.0	13.2
Senegal	10.6	6.2	687.7	405.3	107.7	92.2	99.3	1.2	1.3	343.1
Seychelles	0.8	0.6	8,790.3	5,775.9	120.0	1,178.9	1,414.8	0.1	0.1	9.0
Sierra Leone	0.9	0.6	115.9	81.3	128.1	15.5	19.9	0.1	0.1	5,178.4
South Africa	119.7	65.6	2,099.1	1,151.3	100.2	281.5	282.0	13.3	13.3	7.3
Sudan	13.6	4.6	332.9	113.7	62.4	44.6	27.9	1.5	0.9	6.9
eSwatini	0.9	0.5	800.4	461.1	105.2	107.3	112.9	0.1	0.1	7.7
Tanzania	15.6	11.6	285.4	212.4	135.9	52.0	52.0	1.7	2.4	1,658.3
Togo	2.2	1.3	288.5	163.8	103.7	38.7	40.1	0.2	0.3	330.5
Tunisia	12.8	7.8	1,123.5	681.4	110.8	150.7	166.9	1.4	1.6	1.5
Uganda	12.0	7.7	291.8	186.1	116.5	39.1	45.6	1.3	1.6	2,303.7
Zambia	17.7	10.5	1,049.9	622.0	108.2	140.8	152.3	2.0	2.1	5.6
Zimbabwe	3.3	2.1	233.6	149.8	117.1	31.3	36.7	0.4	0.4	0.6
AFRICA	898.3	491.8	745.7	408.3	100.0	100.0	100.0	100.0	100.0	...

Source : AfDB Statistics Department

COUNTRY GROUPINGS

Central Africa

Cameroon
Central African Republic
Chad
Congo
Congo Democratic Republic
Equatorial Guinea
Gabon

North Africa

Algeria
Egypt, Arab Republic
Libya
Mauritania
Morocco
Tunisia

West Africa

Benin
Burkina Faso
Cabo Verde
Côte d'Ivoire
Gambia, The
Ghana
Guinea
Guinea Bissau
Liberia
Mali
Niger
Nigeria
Senegal
Sierra Leone
Togo

Southern Africa

Angola
Botswana
Lesotho
Madagascar
Malawi
Mauritius
Mozambique
Namibia
São Tomé & Príncipe
South Africa
ESwatiní
Zambia
Zimbabwe

East Africa

Burundi
Comoros
Djibouti
Eritrea
Ethiopia
Kenya
Rwanda
Seychelles
Sudan
South Sudan
Tanzania
Uganda
Somalia

Transition States

Burundi
Central African Republic
Chad

Comoros
Congo
Congo Democratic Republic
Côte d'Ivoire
Djibouti
Eritrea
Guinea
Guinea Bissau
Liberia
Madagascar
Mali
Mozambique
São Tomé & Príncipe
Sierra Leone
Somalia
South Sudan
Sudan
Togo
Zimbabwe

Oil Exporting

Algeria
Angola
Cameroon
Chad
Congo
Congo Democratic Republic
Côte d'Ivoire
Guinea
Gabon
Libya
Nigeria
South Sudan
Sudan

GLOSSARY

accounting period. The period to which estimates of GDP refer, usually a calendar year or a quarter. For ICP comparisons of GDP, the accounting period is a calendar year.

Actual Individual Consumption (AIC). The total value of the individual consumption expenditures of households, of nonprofit institutions serving households (NPISHs), and of government. It is a measure of the individual goods and services that households actually consume as opposed to what they actually purchase.

additive. A method that, for each economy being compared, provides real expenditures for aggregates that are equal to the sum of the real expenditures of their constituent basic headings. An additive aggregation method provides real expenditures that satisfy the average test for volumes but are subject to the Gerschenkron effect.

aggregation. The process of weighting and averaging basic-heading PPPs to obtain PPPs for each level of aggregation up to GDP.

basic heading. The lowest aggregation level in the ICP expenditure classification. In theory, a basic heading is defined as a group of similar well-defined goods or services. In practice, it is defined by the lowest level of final expenditure for which explicit expenditure weights can be estimated. Thus, an actual basic heading can cover a broader range of items than is theoretically desirable and includes both goods and services. It is at the level of the basic heading that expenditures are defined and estimated, items are selected for pricing, prices are collected and validated, and PPPs are first calculated and averaged.

basic price. The amount received by the producer from the purchaser for a unit of good or service produced as output. It includes subsidies on products and other taxes on production. It excludes taxes on products, other subsidies on production, the supplier's retail and wholesale margins, and separately invoiced transport and insurance charges. Basic prices are the prices most relevant for decision making by suppliers (producers).

changes in inventories. The acquisition less disposals of stocks of raw materials, semi-finished

goods, and finished goods that are held by producer units prior to being processed further or sold or otherwise used. Semi-finished goods cover work in progress (partially completed products whose production process will be continued by the same producer in a subsequent accounting period), including the natural growth of agricultural crops prior to harvest and the natural growth in livestock raised for slaughter. Inventories also cover all raw materials and goods stored by government as strategic reserves.

characteristics. The technical parameters and price-determining properties of an item listed in an item specification

Classification of the Functions of Government (COFOG). Classification of transactions by government, including outlays on final consumption expenditure, intermediate consumption, gross fixed capital formation (GFCF), and capital and current transfers, by function or purpose. A major use of COFOG is to identify which final consumption expenditures of government benefit households individually and which benefit households collectively.

Classification of Individual Consumption According to Purpose (COICOP). Classification of the individual consumption expenditures of three institutional sectors — households, nonprofit institutions serving households, and government — by the ends that they wish to achieve through these expenditures. Individual consumption expenditures are those that are made for the benefit of individual households. All final consumption expenditures by households and NPISHs are defined as individual, but only the final consumption expenditures by government on individual services are treated as individual.

collective consumption expenditure by government. The final consumption expenditure of government on collective services. It is a measure of the services that government provides to the community as a whole and that households consume collectively.

collective services. Services provided by government that benefit the community as a whole: general public services, defense, public order and



safety, economic affairs, environmental protection, and housing and community amenities. They also include the overall policy-making, planning, budgetary, and coordinating responsibilities of government ministries overseeing individual services and government research and development for individual services. These activities cannot be identified with specific individual households and are considered to benefit households collectively.

comparability. The requirement that economies price items that are identical or, if not identical, then equivalent. Items are said to be comparable if they have identical or equivalent technical parameters and price-determining properties. Equivalent means that they meet the same needs with equal efficiency so that purchasers are indifferent between them and are not prepared to pay more for one than for the other. The pricing of comparable items ensures that the differences in prices between economies for an item reflect actual price differences and are not affected by differences in quality. If differences in quality are not avoided or corrected, they can be mistaken for apparent price differences, leading to an underestimation or overestimation of price levels and an overestimation or underestimation of volume levels.

compensation of employees. All payments in cash and in kind made by employers to employees in return for work carried out during the accounting period. These payments comprise gross wages and salaries in cash and in kind, employers' actual social contributions, and imputed social contributions.

component. A subset of goods or services or both that make up some defined aggregate.

consumption expenditure by government. The actual and imputed final consumption expenditure incurred by government on individual goods and services and collective services. It is the total value of the individual consumption expenditure and collective consumption expenditure by government. consumption of fixed capital. The reduction in the value of the fixed assets used in production during the accounting period resulting from physical deterioration, normal obsolescence, or normal accidental damage.

editing. The first step of validation, which entails scrutinizing data for errors. It is the process of checking survey prices for nonsampling errors by identifying those prices that have extreme values — that is, prices whose value is determined to be either too high or too low vis-à-vis the average according to certain criteria. The price may score a value for a given test that exceeds a predetermined critical value, or its value may fall outside some pre-specified

range of acceptable values. Both are standard ways of detecting errors in survey data, and both are employed by the ICP. Prices with extreme values are not necessarily wrong. But the fact that their values are considered extreme suggests that they could be wrong. They are possible errors, and as such they need to be investigated to establish whether they are actual errors.

employers' actual social contributions. Payments actually made by employers to social security funds, insurance enterprises, or autonomous pension funds for the benefit of their employees.

error. The difference between the observed value of a PPP or volume index and its correct value. Errors may be random or systematic. Random errors are generally called errors; systematic errors are called biases.

expenditure weight. The share of nominal expenditure of a basic heading in GDP.

final consumption expenditure. The expenditure on goods and services consumed by individual households or the community to satisfy their individual or collective needs or wants.

Financial Intermediation Services Indirectly Measured (FISIM). An indirect measure of the value of the financial intermediation services that financial institutions provide clients but for which they do not charge explicitly.

Gerschenkron effect. An effect applicable only to aggregation methods that use either a reference price structure, whereby each economy's quantities are valued by a uniform set of prices to obtain volumes, or a reference volume structure, whereby each economy's prices are used to value a uniform set of quantities to obtain PPPs. For methods employing a reference price structure, an economy's share of total GDP — that is, the total for the group of economies being compared — will rise as the reference price structure becomes less characteristic of its own price structure. For methods employing a reference volume structure, an economy's share of total GDP will fall as the reference volume structure becomes less characteristic of its own volume structure. The Gerschenkron effect arises because of the negative correlation between prices and volumes.

goods. Physical objects for which a demand exists, over which ownership rights can be established, and whose ownership can be transferred from one institutional unit to another by engaging in transactions on the market. They are in demand because they may be used to satisfy the needs or wants of households or the community or used to produce other goods or services.



government. General government, which is the institutional sector that consists of federal, central, regional, state, and local government units together with the social security funds imposed and controlled by those units. It includes nonprofit institutions engaged in nonmarket production that are controlled and financed mainly by government units or social security funds.

Gross Capital Formation (GCF). The total value of gross fixed capital formation (GFCF), changes in inventories, and acquisitions less disposals of valuables.

Gross Domestic Product (GDP). When estimated from the expenditure side, the total value of the final consumption expenditures of households, nonprofit institutions serving households, and government plus gross capital formation plus the balance of exports and imports.

Gross Fixed Capital Formation (GFCF). The total value of acquisitions less disposals of fixed assets by resident institutional units during the accounting period, plus the additions to the value of nonproduced assets realized by the productive activity of resident institutional units.

gross wages and salaries. The wages and salaries in cash and in kind paid by enterprises to employees before the deduction of taxes and social contributions payable by employees.

household. A small group of persons who share the same living accommodation, who pool some or all of their income and wealth, and who consume certain types of goods and services collectively, mainly food and housing. A household may consist of only one person.

importance. A concept that is defined in terms of a specific economy within a basic heading. An item is either important or less important in the economy for the given basic heading. An important item is one that accounts for a significant share of the expenditure on the basic heading in the economy in question. Weighted PPP estimation methods use importance as an indication of weight.

imputed social contributions. The imputations that have to be made when employers provide social benefits directly to their employees, former employees, or dependants out of their own resources without involving an insurance enterprise or autonomous pension fund and without creating a special fund or segregated reserve for the purpose.

indirect binary comparison. A price or volume comparison between two economies made through

a third economy. For example, for economies A, B, and C, the PPP between A and C is obtained by dividing the PPP between A and B by the PPP between C and B, so that $PPP_{A/C} = PPP_{A/B} / PPP_{C/B}$.

individual consumption expenditure by government. The actual and imputed final consumption expenditure incurred by government on individual goods and services.

individual consumption expenditure by households. The actual and imputed final consumption expenditure incurred by resident households on individual goods and services. Includes expenditures on individual goods and services sold at prices that are not economically significant. By definition, all final consumption expenditures of households are for the benefit of individual households and are individual.

individual consumption expenditure by nonprofit institutions serving households (NPISHs). The actual and imputed final consumption expenditure incurred by NPISHs on individual goods and services. Because most final consumption expenditures of NPISHs are individual, all final consumption expenditures of NPISHs are treated by convention as individual.

individual good or service. A consumption good or service acquired by a household and used to satisfy the needs and wants of members of that household. individual services. A term used to describe the services (and goods) provided to individual households by nonprofit institutions serving households and government. Such services include housing, health care, recreation and culture, education, and social protection. They do not include the overall policy-making, planning, budgetary, and coordinating responsibilities of the government ministries overseeing individual services. Nor do they include government research and development for individual services. These activities are considered to benefit households collectively and are therefore classified under collective services.

institutional sector. The five sectors identified by the System of National Accounts: nonfinancial corporations, financial corporations, government, households, and nonprofit institutions serving households.

intercountry validation. The validation that takes place after participating economies have completed their intracountry validation and submitted their survey prices to the regional coordinator. It is an iterative process consisting of several rounds of questions and answers between the regional



coordinator and participating economies. It involves editing and verifying the average survey prices reported by participating economies for a basic heading and assessing the reliability of the PPPs they produce for the basic heading. The objective is to establish that the average survey prices are for comparable items, that the items have been priced accurately, and that the allocation of important indicators is correct. In other words, it seeks to ascertain whether economies have interpreted the item specifications in the same way and whether their price collectors have priced them without error. The Quaranta and Dikhanov editing procedures are employed for this purpose. Both procedures entail detecting outliers among the average survey prices by identifying outliers among the corresponding price ratios. Economies verify the outliers found in order to ascertain whether they are valid observations. If they are not, the economy either corrects or suppresses them.

intermediate consumption. The value of the goods and services, other than fixed assets, that are used or consumed as inputs by a process of production. intracountry validation. This is the validation that **precedes intercountry validation.** It is undertaken by participating economies prior to submitting their survey prices to the regional coordinator. Each economy edits and verifies its own prices without reference to the price data of other economies. Validation is carried out at the item level. The objective is to establish that price collectors within the economy have priced items that match the item specifications and that the prices they have reported are accurate. This entails an economy searching for outliers first among the individual prices that have been collected for each item it has chosen to survey and then among the average prices for these items. Subsequently, the economy verifies the outliers found in order to ascertain whether they are valid observations. If they are not, the economy either corrects or suppresses them.

item. A good or service that is the result of production. Items are exchanged and used for various purposes — as inputs in the production of other goods and services, for final consumption, or for investment.

item list. The common list of well-defined goods and services from which economies participating in a comparison make a selection of items to price for the purpose of compiling PPPs.

item specification. A list of the physical and economic characteristics that can be used to identify an item selected for pricing, thereby ensuring that economies price comparable items. An item specification can be either brand and model specific (that is, a specification in which a particular

brand and model is stipulated) or generic (that is, a specification in which only the relevant price-determining and technical characteristics are given and no brand is designated).

national annual average price. A price that has been averaged both over all localities of an economy in order to take into account the regional variations in prices and over the whole of the reference year in order to allow for seasonal variations in prices as well as general inflation and changes in price structures. nominal expenditure. An expenditure that is valued at national price levels. It can be expressed in local currencies or in a common currency to which it has been converted with market exchange rates. It reflects both volume and price differences between economies.

nonmarket service. A service that is provided to households free or at a price that is not economically significant by nonprofit institutions serving households or by government.

Nonprofit Institution Serving Households (NPISHs). A nonprofit institution that is not predominantly financed and controlled by government, that provides goods or services to households free or at prices that are not economically significant, and whose main resources are voluntary contributions by households.

observation. An individual price, or one of a number of individual prices, collected for an item at an outlet. outlet. A shop, market, service establishment, Internet site, mail order service, or other place from where goods or services can be purchased and from where the purchasers' or list prices of the items sold can be obtained.

outlier. A term generally used to describe any extreme value in a set of survey data. Extreme values are not necessarily wrong, but the fact that they are considered extreme suggests that they could be wrong. They are possible errors, and as such they need to be investigated to establish whether they are actual errors.

Price Level Index (PLI). The ratio of PPP to an market exchange rate. PLIs provide a measure of the differences in price levels between economies by indicating for a given aggregation level the number of units of the common currency needed to buy the same volume of the aggregation level in each economy. At the level of GDP, they provide a measure of the differences in the general price levels of economies.

price measure. PPPs and the price level indexes to which they give rise.



price relative. The ratio of the price of an individual item in one economy to the price of the same item in some other economy. It shows how many units of currency A must be spent in economy A to obtain the same quantity and quality — that is, the same volume — of the item that X units of currency B purchase in economy B.

productivity adjustment. An adjustment made to the prices paid by nonmarket producers for labor, capital, and intermediate inputs so that they correspond to a common level of multifactor productivity. In practice, it is an adjustment made to the prices (compensation of employees) paid by nonmarket producers for labor so that they represent the same level of labor productivity.

Purchasing Power Parity (PPP). Spatial price deflators and currency converters that eliminate the effects of the differences in price levels between economies, thereby allowing volume comparisons of GDP and its components.

real expenditure. An expenditure that has been converted to a common currency and valued at a uniform price level with PPPs. It reflects only volume differences between economies.

reference year. The calendar year to which the results of the comparison refer.

resident population. The number of people present in the economic territory at a given point in time.

services. Outputs that are produced to order and that cannot be traded separately from their production. Ownership rights cannot be established over services, and by the time their production is completed, they must have been provided to consumers. An exception to this rule is a group of industries, generally classified as service industries, some of whose outputs have the characteristics of goods. These industries are those concerned with the provision, storage, communication, and dissemination of information, advice, and entertainment in the broadest sense of those terms. The products of these industries, where ownership rights can be established, may be classified as either goods or services, depending on the medium by which these outputs are supplied.

social transfers in kind. Individual goods and services provided as transfers in kind to individual

households by government units (including social security funds) and nonprofit institutions serving households. The goods and services can be purchased on the market or produced as nonmarket output by government units or nonprofit institutions serving households.

subsidies on production. Subsidies on goods and services produced as outputs by resident enterprises that become payable as a result of the production of these goods or services (that is, subsidies payable per unit of good or service produced) as well as subsidies that resident enterprises may receive as a consequence of engaging in production (for example, subsidies to reduce pollution or to increase employment). The former are called subsidies on products; the latter are called other subsidies on production.

System of National Accounts (SNA). The internationally agreed-on standard set of recommendations on how to compile measures of economic activity. The SNA describes a coherent, consistent, and integrated set of macroeconomic accounts in the context of a set of internationally agreed-on concepts, definitions, classifications, and accounting rules.

taxes on production. Taxes on the goods and services produced as outputs by resident enterprises that become payable as a result of the production of these goods or services (that is, taxes payable per unit of good or service produced, such as excise duties and a nondeductible value added tax) as well as taxes that resident enterprises may pay as a consequence of engaging in production (for example, payroll taxes and taxes on motor vehicles). The former are called taxes on products; the latter are called other taxes on production.

volume index. A weighted average of the relative levels in the quantities of a specified set of goods and services between two economies. The quantities have to be homogeneous, and the relative levels for the different goods and services must be weighted by their economic importance as measured by their values in one or other or both economies

volume measure. Volume measures are the real expenditures, the real expenditures per capita, and the volume indexes to which they give rise. Basic prices are the prices most relevant for decision making by suppliers (producers).

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African Development Bank Group

Avenue Joseph Anoma
01 BP 1387 Abidjan 01
Côte d'Ivoire

Immeuble du Centre de commerce International
d'Abidjan CCIA
Avenue Jean-Paul II
01 BP 1387
Abidjan 01, Côte d'Ivoire
Phone (Standard): +225 2026 3900



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STATISTICS DEPARTMENT
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