

Methodology note: The data behind the debate over Uganda's income status

In July 2022, Ugandan President Yoweri Museveni announced that the country had achieved lower-middle-income status, a claim that the World Bank quickly disputed. This methodology note unpacks the numbers presented in our [blog](#) on the subject in greater detail.

Key points

- The Uganda Bureau of Statistics (UBOS) used Gross Domestic Product (GDP) instead of Gross National Income (GNI); the World Bank estimates that Uganda's GDP is larger than its GNI, by around 2%.
- UBOS used more current income data than the World Bank in its calculations. As Uganda's income is increasing annually, this approach contributed to the UBOS estimate being higher than the World Bank estimate.
- The World Bank increased the 2002 and 2014 census results by 1.8 million and 2 million respectively due to post-enumeration surveys indicating that many people were missing from the data.
- The World Bank used a model that estimates sharper growth in Uganda's population since the most recent census in 2014.
- UBOS used a population figure from the start of the period covered by the income estimate (July 2021–June 2022) instead of a figure taken from the mid-point of that period.

A country's income status is determined by its Gross National Income (GNI) per capita, calculated by dividing the GNI (the total amount of money earned by a nation's people and businesses) by the total population of the country. The [threshold](#) determined by the World Bank between low and lower-middle income for the financial year (FY) 2021/22 was US\$1,046 per capita. UBOS claimed, using GDP, that Uganda had reached the [US\\$1,046](#) per-capita threshold, whereas the World Bank claimed Uganda had a GNI per capita of [US\\$840](#).

So how and why did these figures differ so greatly?

GNI per capita calculations are based on dividing: (1) total national income by (2) total national population. A country is classified as lower-middle income if:

$$\text{Income per capita} = \frac{(1) \text{ Total national income}}{(2) \text{ Population}} \geq \$1046 \text{ (2021)}$$

The numerator: Uganda's total national income

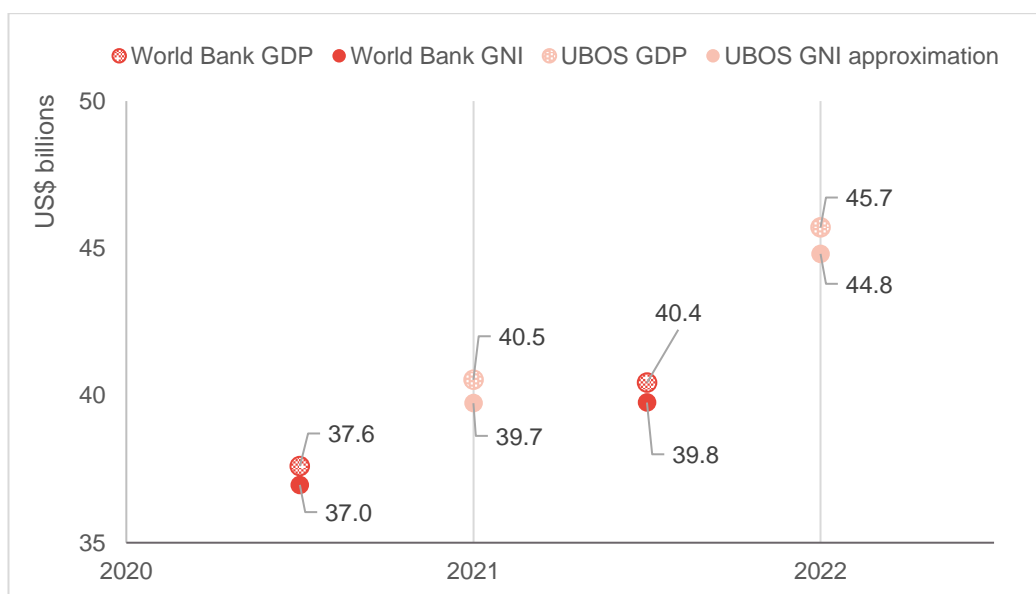
The income figures produced by UBOS and the World Bank differ by US\$6.2 billion (16%). UBOS estimated a GDP figure of [US\\$45.7 billion](#) for the period from July 2021–June 2022, whereas the World Bank estimated a GNI figure of [US\\$39.5 billion](#) for the 2021 calendar year. These figures differ for two reasons:

1. **Use of GDP vs GNI.** UBOS only produces a Gross Domestic Product (GDP) figure, which is the total value of all the finished goods and services produced within a country's borders. Although similar to GNI, GDP can differ significantly from GNI in some countries due to disparities between the location and ownership of economic activity. In Uganda, according to the World Bank, GDP is roughly 2% greater than GNI, contributing to the larger UBOS figure.
2. **Use of figures covering different periods of time.** UBOS estimated GDP for FY 2021/22 from July 2021 to June 2022. The World Bank estimated GNI for the calendar year 2021. As Uganda's income is increasing annually, this approach contributed to the UBOS estimate being higher than the World Bank estimate.

In Figure 1, to enable more direct comparison of these estimates, we have adjusted the UBOS figure down to account for the GDP/GNI difference. Estimates have also been plotted at the mid-point of the respective time period; for UBOS (July 2021–June 2022), the point is plotted at January 2022.

Figure 1: UBOS's estimate of the size of the Ugandan economy was larger than the World Bank's estimate.

Ugandan economy magnitude estimates from UBOS and the World Bank.



Source: Development Initiatives based on World Bank and UBOS data.

Note: Data points are plotted in the mid-point of the time period for which the value applies.

Even after adjusting for differences in the unit of measurement and the time period, UBOS and the World Bank still disagreed on the size of the economy. The World Bank estimated the GNI of Uganda to be US\$39.8 billion for the calendar year 2021. After adjusting the UBOS GDP estimate to approximate GNI, the calendar year 2021 estimate for UBOS would be US\$42.3 billion, US\$2.5 billion greater than the World Bank estimate.

This data dispute extends beyond UBOS and the World Bank; other international organisations have also produced distinct estimates of Uganda's GDP. The International Monetary Fund (IMF), which assists governments in producing financial and economic information, generated a GDP estimate of [US\\$43 billion](#). This is closer to the UBOS estimate than to the World Bank estimate.

The denominator: Uganda's total population

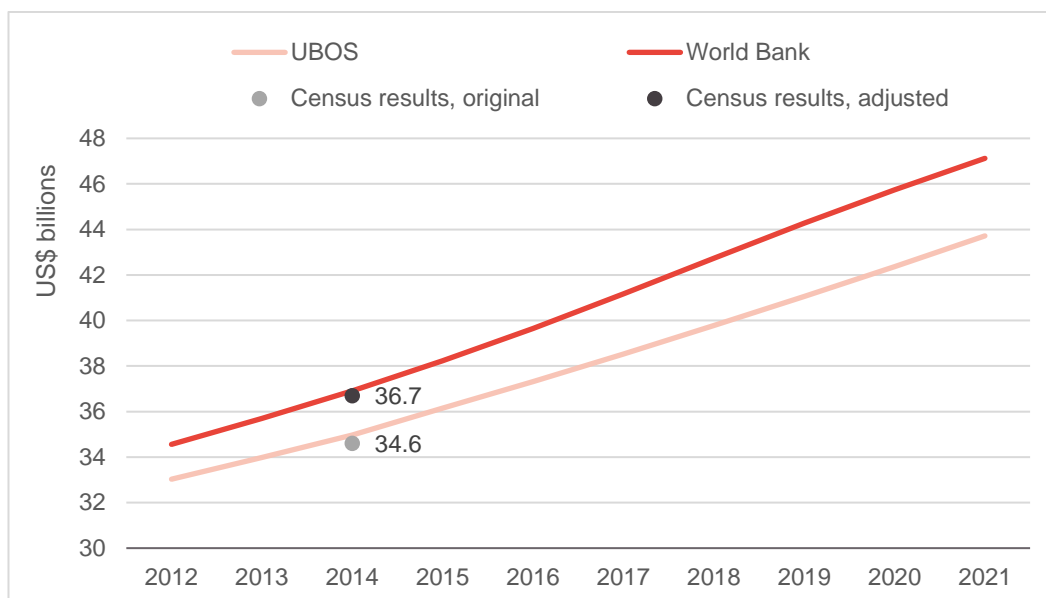
The population figures produced by UBOS and the World Bank differed by 3.4 million (8%). For 2021, UBOS estimated a population of [43.7 million](#) and the World Bank estimated [47.1 million](#). They both use mid-year estimates (i.e., as of 1 July in any given year) produced from recent censuses. However, these figures differ due to two identifiable reasons: (1) a post-enumeration survey that the World Bank applied to account for missing people; and (2) a slightly faster population growth rate since the last census used by the World Bank.

Both organisations used the same census results as a starting point: 24.2 million in 2002 and 34.6 million in 2014. However, the World Bank adjusted these census results upwards to 26 million (2022) and 36.6 million (2014). According to the World Bank, these numbers were adjusted upwards due to post-enumeration surveys, based on which the UN believe there is an undercounting of around 2.3 million people. It is common practice for countries to update figures based on these surveys.

In addition to the upwards adjustment, the World Bank used a model with a fast growth rate meaning that the estimates diverge over time. In 2014, the two baseline points (adjusted and unadjusted) differed by 2 million. However, by 2021 the baseline points differed by 3.4 million.

Figure 2: World Bank population estimates started from a higher baseline and grew at a faster rate.

Population estimates from the World Bank and UBOS.



Source: Development Initiatives based on World Bank and UBOS data.

The population figure is also contested by international organisations. In 2021, the UN population division estimated the Ugandan population to be [45.9 million](#), whereas the IMF estimated it to be [42.5 million](#), both considerably smaller than the World Bank's estimate of 47.1 million.

Uganda's income per capita

In addition to differences between the two elements of the equation determining income status, there are also differences between how they are combined to produce the final income per capita figure.

The World Bank divided its GNI estimate for January 2021–December 2021 by the population figure for July 2021. This is the population estimate at the mid-point of the period for which the income data is estimated.

In contrast, UBOS used a population figure from the beginning of the period in question. They divide their more recent GDP estimate of July 2021–June 2022 by the population estimate for July 2021. Since the population of Uganda is increasing every year (by 1.3 million between 2020 and 2021 according to UBOS), this difference in method underestimates the population for this period, likely by at least 0.6 million people.¹

¹ The population should be larger by half a year of growth. Since the population growth rate of Uganda is increasing, using half of 1.3 million from the prior year is a lower-bound estimate for this difference.

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