

TECHNICAL NOTE

Implications of Revisions to the 2019-20 Fiji Consumption Aggregate

Fiji's 2019-20 consumption aggregate has been revised to better account for non-food expenditures. This revision has lowered the 2019-20 national poverty rate to 24.1 percent. Fiji's 2019 poverty rate was estimated using the 2019-2020 Fiji Household Income and Expenditure Survey (HIES). An analysis of welfare and poverty was reported in the "Fiji Bureau of Statistics: 2019-20 Household Income and Expenditure Survey Main Report," released in August 2021. During a subsequent cross-check review exercise, a coding discrepancy was identified, which has led to an underestimation of households' welfare and an overestimation of poverty. This note details the revision made to the welfare measure and the implications this revision has for poverty, the welfare distribution, and geographical and other disparities. 0

Revisions to the 2019-20 Consumption Aggregate

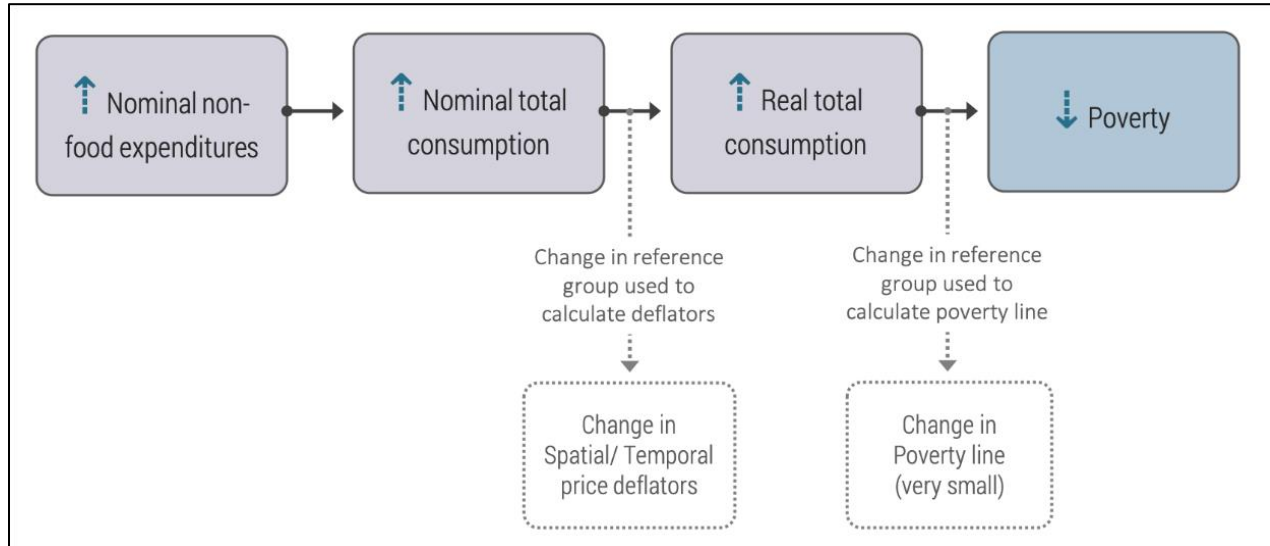
A discrepancy in the coding used for the calculation of the 2019-20 consumption aggregate has resulted in the underestimation of expenditures on select non-food items and thus households' total consumption.¹ This discrepancy has affected nearly 90 percent of households in the HIES 2019-20 sample. Specifically, four expenditure categories were not fully accounted for: utilities (electricity, water, gas, garbage collection), communication services (telephone, TV, broadband internet, post office box rentals), domestic services (care of young children, handicap, or old persons and household chores), and education expenditures (tuition fees, books fees, sports fees, among others). In the 2019-20 consumption aggregate released in August 2021 (hereafter, the "original aggregate"), if a household did not spend on all sub-components of a given category, expenditures for that entire category were not included in household's total consumption.² The revised consumption aggregate now includes all expenditures in each of the four categories regardless of whether households spent on all or just some sub-components of such categories.

The proposed revision to the consumption aggregate has several implications in the poverty measurement process (Figure 1). First, nominal non-food expenditures increase, while nominal food expenditures remain unchanged. As a result, total consumption increases. On average, the revision has led to an increase in nominal per adult equivalent consumption by 8.5 percent. While consumption rises for nearly all households, the increase is not homogeneous across households and thus alters the ranking of households by consumption. This change affects the composition of the reference population groups used to estimate i) the spatial and temporal price deflators and ii) the poverty line. While the real value of total consumption changes, the poverty line remains almost unchanged (see Box 1) meaning a lower rate of poverty than previously estimated.

¹ Total household consumption is calculated as the sum of food and non-food expenditures.

² Using the utilities category as an example, if a household spent on electricity and water but did not spend on gas and garbage collection, total utilities were not included in the construction of the household's consumption aggregate. However, utilities were part of a household's total consumption if that household spent on the four sub-components integrating the utilities category. That is, if a household spent on electricity, water, gas, and garbage collection.

Figure 1. Changes in the poverty measurement process resulting from the revision

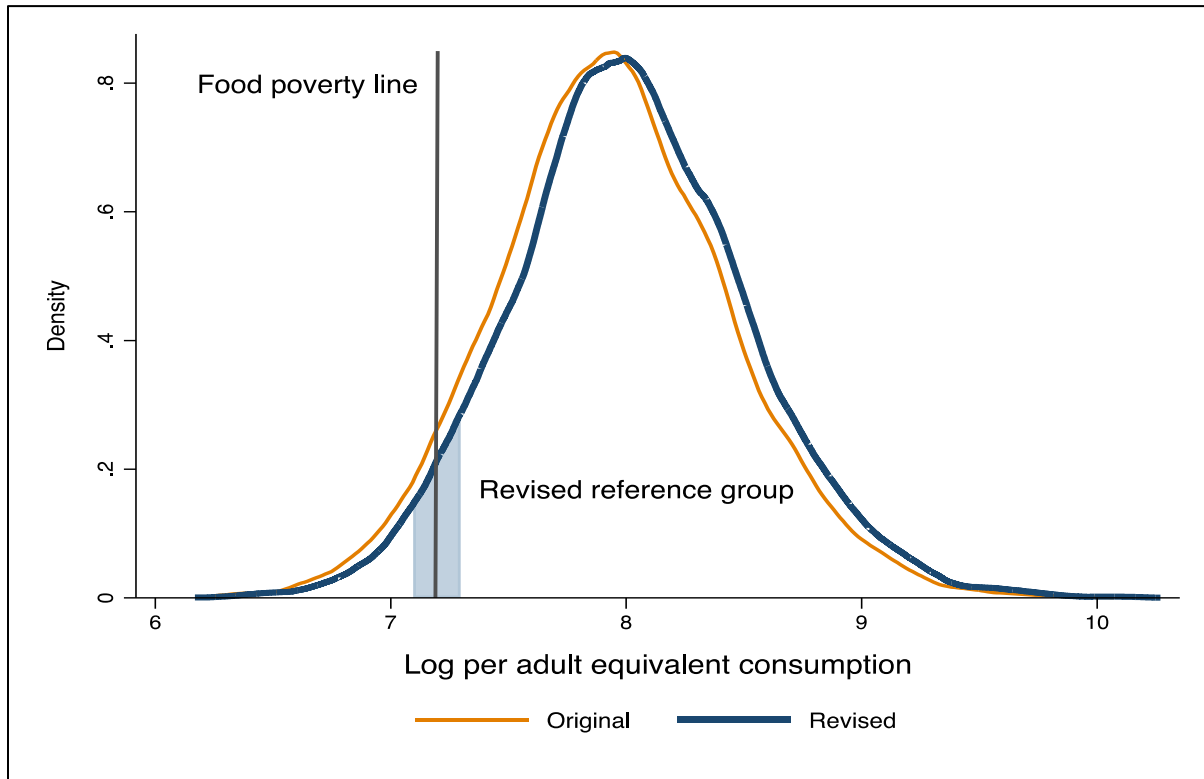


Poverty measurement in Fiji and the National Poverty Line

The process of measuring poverty typically consists of three steps. First, an indicator of welfare is chosen – usually, household consumption or household income. In the case of Fiji, household consumption is used as the measure of welfare, and a “consumption aggregate” is constructed using data on food and non-food expenditures from the 2019-20 HIES. The second step involves estimating a poverty line, or the threshold below which a given household or individual is classified as poor. For the 2019-20 poverty estimation, Fiji has adopted the standard Cost of Basic Needs (CBN) approach of calculating the poverty line, which involves estimating the monetary value of the minimum food and non-food needs of the Fijian population. Finally, in the third step, the poverty line calculated in step two is applied to the consumption aggregate calculated in step one to produce estimates of poverty.

Despite the changes in households’ consumption derived from the revision, Fiji’s national poverty line remains almost unchanged. The national poverty line is constructed as the sum of the food and non-food poverty lines. As described in the 2019-20 HIES Main Report, the lower Ravallion method was used to construct the non-food poverty line. Based on this methodology, the non-food poverty line is estimated using the average non-food expenditure of households whose total consumption is close to the food poverty line (Figure 2). The national poverty line remains almost unchanged because non-food spending of households in this reference group is almost the same in the original (FJD 839.3) and revised (FJD 841.8) scenarios.

Figure 2. Distribution of consumption per adult equivalent

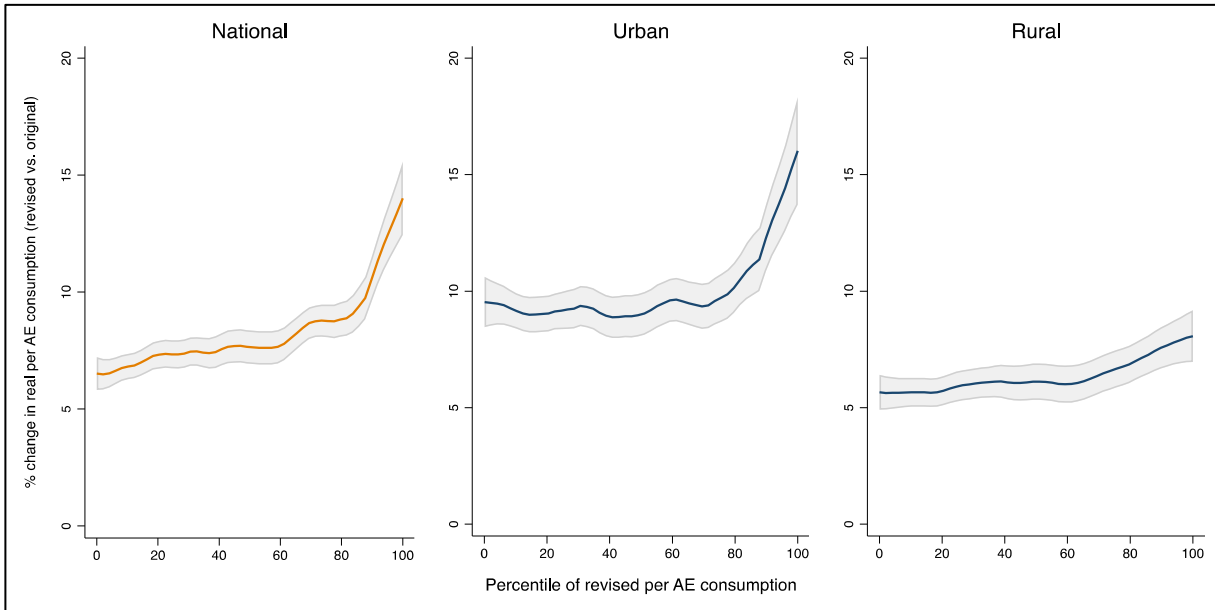


Implications of Revisions to the 2019-20 Consumption Aggregate

Wealthier households showed the greatest increase in consumption relative to the original aggregate. While increases in consumption were seen across the distribution, households in the top 20 percent of the revised distribution exhibited the largest percentage changes – an average of 11 percent (Figure 3). Original estimates suggest that on average, the affected non-food items account for 3.9 percent of total household consumption, with marginally higher shares among households at the top of the distribution (Figure 4A). The revision indicates, however, that the affected items constitute an average of 11.4 percent of total consumption, and wealthier households spend a significantly larger share of consumption on the affected non-food items (Figure 4B).

The geographic rankings by consumption levels are unchanged, albeit with larger spatial gaps. In general, the affected non-food items comprise a larger share of urban household consumption than rural consumption. The percentage change in total consumption between the revised and the original aggregates is thus higher in urban areas (10 percent) than in rural areas (6 percent). In particular, households in the top 10 to 20 percent of urban areas saw a 9-12 percent increase in consumption, while differences across the rural distribution were more modest (Figure 3). These differential impacts have contributed to an increase in the urban-rural gap (defined as the urban-to-rural ratio in real per adult equivalent consumption) from 1.40 to 1.45. The revision has caused consumption to increase more in the Central and Western Divisions, which together make up the main island of Viti Levu and account for 80 percent of Fiji’s population (Figure 5).

Figure 3. Percentage change in real per adult equivalent consumption by area



Note: The x-axis shows percentiles of the revised real per adult equivalent consumption for each area.
Source: Fiji 2019-20 HIES

Figure 4. Distribution of consumption by quintile (%)

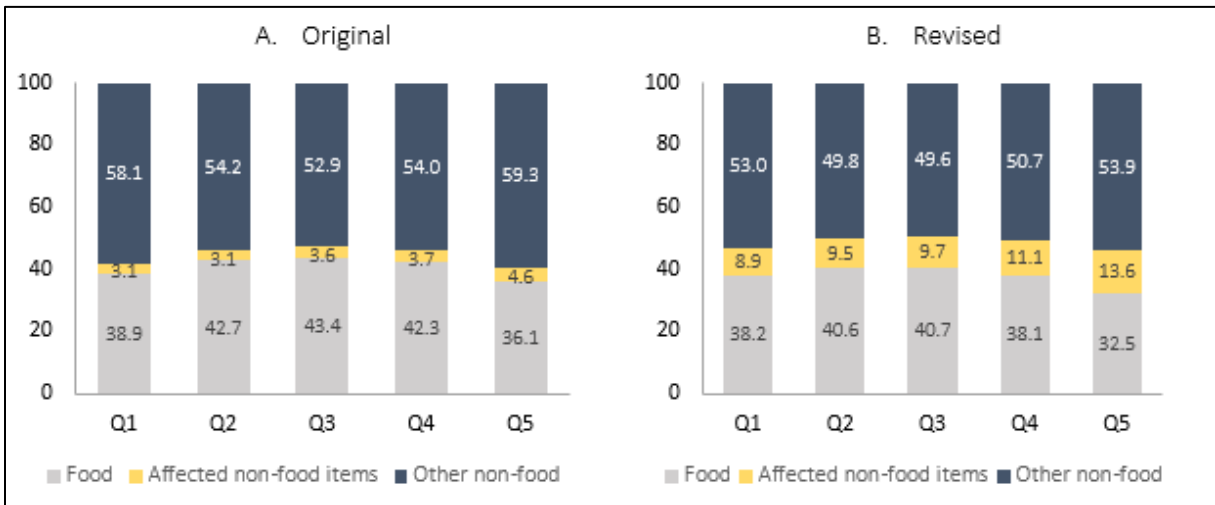
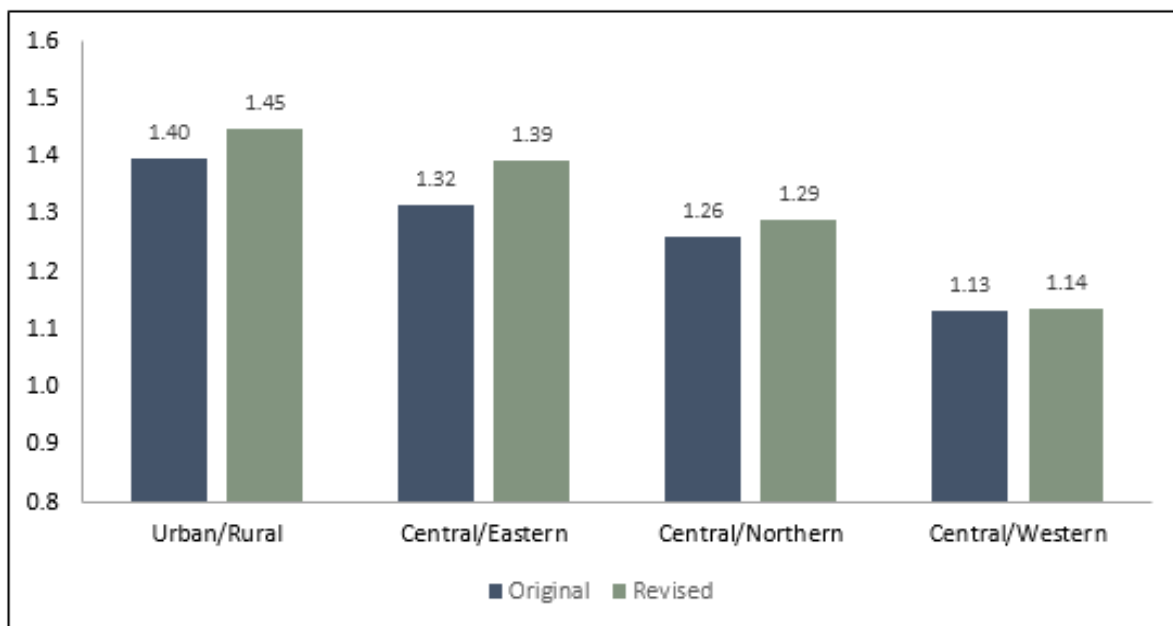


Figure 5. Differences by geographic division

Gap in average real per adult equivalent consumption



Source: Fiji 2019-20 HIES

Wider urban-rural and regional disparities due to the revision has meant that inequality at the national level is estimated to be slightly higher than previously estimated. The urban and rural Gini coefficients have both been revised upward by 0.2-0.3 points, yet the national Gini coefficient has been revised upward by 0.6 points, to 30.7 – another indication that disparities between urban and rural areas are greater with the revised consumption aggregate. Among geographical divisions, the Central Division has had the largest upward revisions in the Gini (0.9), also reflecting greater inequalities within the division. Other measures of inequality show similar trends.

Implications of Consumption Aggregate Revisions for Poverty Rates

The revision to the consumption aggregate means that the national poverty rate is estimated to be 24.1 percent, which is 5.8 percentage points lower than the previous estimate of poverty which was 29.9 percent.

The new estimate of the poverty rate has been revised downward more in urban areas than in rural areas, (Table 1). This is true in both absolute and relative terms. The urban-rural differences in poverty rate reflect the revised urban-rural differences in per adult equivalent consumption, with the national poverty line being used to measure poverty in both urban and rural areas. This differential impact by area has resulted in a higher estimate of concentration of the poor in rural areas: the rural population is now estimated to account for 68 percent of Fiji’s poor (Figure 6A).

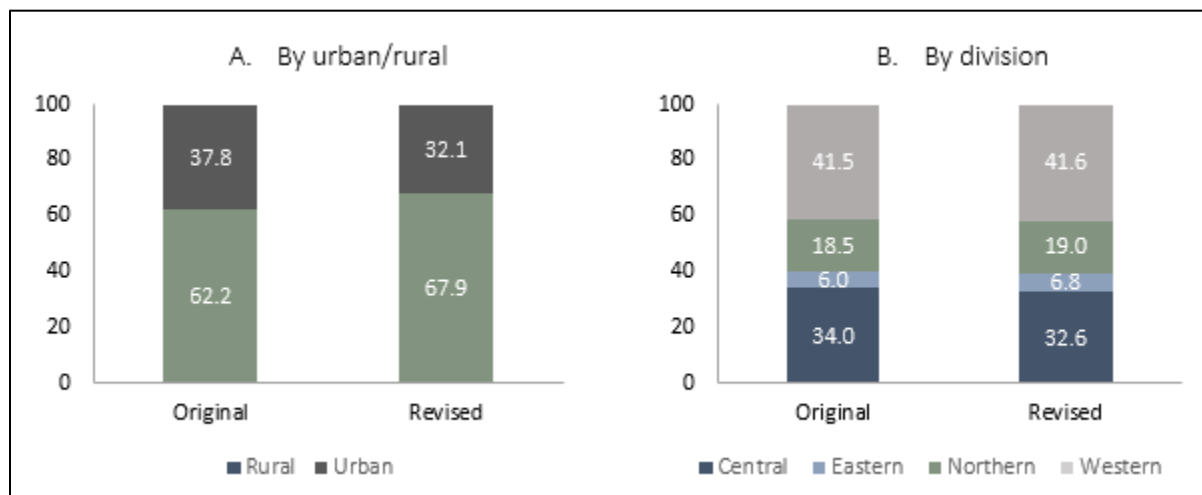
Geographical ranks by poverty remain unchanged, however the Central Division has the largest relative drop in the poverty headcount estimate, primarily due to its urban areas. While the Western and Northern Divisions had the highest percentage point downward revision in poverty estimates, the Central Division saw the largest relative downward revision (Table 1³). With the revision, the share of the poor residing in the Central Division is estimated to be lower (Figure 6B), with poverty more concentrated in the outer islands than previously estimated (i.e., the Northern and Eastern Divisions). The large urban population share in the Central Division as well as a greater downward revision in poverty estimate in urban areas means that a sizable part of the Division's downward revision in poverty can be attributed to its urban areas. Poverty rates in rural areas of the main island remain closer to those of the outer islands than to those of urban areas of the main island, indicating unequal development between urban and rural areas within the main island.

Table 1. Revised poverty headcount rates

	Poverty headcount			
	Original rate	Revised rate	Difference in rate (p.p.)	Difference in headcount (%)
National	29.9	24.1	-5.8	-19.4
Rural	41.5	36.5	-5.0	-11.9
Urban	20.4	14.0	-6.5	-31.6
Geographical Division				
Central	24.3	18.8	-5.5	-22.8
Western	32.4	26.2	-6.2	-19.1
Northern	35.2	29.0	-6.2	-17.5
Eastern	42.7	39.2	-3.4	-8.1
Geographical Areas				
Urban Central	17.9	11.9	-6.0	-33.4
Urban Western	23.3	16.2	-7.1	-30.5
Urban Northern	22.0	15.6	-6.4	-29.1
Urban Eastern	44.2	34.3	-9.9	-22.4
Rural Northern	40.2	34.1	-6.1	-15.1
Rural Western	42.7	37.6	-5.1	-11.9
Rural Central	40.6	36.2	-4.4	-10.7
Rural Eastern	42.5	39.8	-2.7	-6.4

³ Relative drop refers to the percentage difference in the headcount rate (final column in Table 1)

Figure 6. Share of poor by location



Source: Fiji 2019-20 HIES

Beyond geographic location, the profile of the poor is similar to the original estimates, with poor households more likely to have lower education, be informal workers, self-employed or in subsistence farming and working in agriculture. The poverty rate has been revised downward for households with less-than-primary-educated heads (6 percentage points), but in relative terms, households with tertiary-educated heads have seen a greater downward revision (35 vs. 17 percent). Households with heads who are not working, wage workers, or employers also see greater absolute and relative downward revisions in poverty compared to households with heads who are self-employed or engage in subsistence farming. Non-agriculture households, for whom the affected non-food items make up a significant share of total consumption (12 percent), also had the highest downward revisions in poverty in both absolute and relative terms.

Comparability of poverty and consumption in 2019-20 to previous years

Fiji's 2019-20 poverty estimates cannot be compared directly to 2013-14 or earlier estimates due to changes in methodology to reflect updated international best practices. Among various changes, poverty estimates in 2019-20 are based on consumption, while those from previous years have been based on income. In addition, the 2019-20 HIES has relied on Computer-Assisted Personal Interviews (CAPI), in a move away from paper-based surveys. As mentioned above, the national poverty line was also recalculated in 2019-20 using consumption and the CBN methodology. Due to these changes, the 2019-20 estimates of consumption and poverty are not directly comparable to those from previous years.