IFPRI Key Facts Series: Inequality[1]	July 2022

This part of a series of Key Facts Sheets that IFPRI is producing based on the third (2010/11), fourth (2016/17) and fifth (2019/20) Integrated Household Surveys (IHS). The purpose of the series is to present data relevant to key policy issues on agriculture, food systems, and development topics in Malawi. Other Key Facts Sheets are available on our website at massp.ifpri.info.

Highlights

- *Across a wide range of inequality measures, survey data measure lower levels of inequality in 2019/20 compared to a decade earlier in 2010/11.*
- *The latest survey data put Malawi's Gini Coefficient at 0.38. The 20% richest households consume about half of the country's total consumption. The poorest 20% account for only 6% of total consumption.*
- *Differences between districts or regions are not the primary contributors to inequality. Differences across households within the same region or district contribute much more to total inequality.*
- *Similarly, there is significant inequality among households with heads of similar education levels and among those with similar occupations. These within-group differences contribute more to inequality than the across-group differences.*
- *In all the periods under analysis, urban households consumed around twice the consumption of their rural counterparts*

Background to the Integrated Household Surveys (IHS)

This analysis draws from the third, fourth and fifth Integrated Household Surveys (IHS3, IHS4 and IHS5), conducted by the Malawi National Statistical Office (NSO). The IHS3 was conducted between March 2010 and March 2011, covering a total of 12,271 households, IHS4 was conducted between April 2016 and April 2017, covering 12,447 households while IHS5 was conducted between April 2019 and April 2020, covering 11,434 households. All surveys used four questionnaires: (1) household, (2) agriculture, (3) fisheries, and (4) community. Once appropriately weighted, the IHS surveys are representative of national, district, and urban/rural levels. The analysis uses the survey sampling weights provided by the NSO, hence all values presented in this Key Facts series are representative of the population of Malawi. All monetary values in this Key Facts Sheet are adjusted for regional price differences and for inflation to prices from April 2019.

Consumption inequality

Inequality is the difference in economic welfare between population groups and can be represented as the distribution of various indicators of economic welfare (such as expenditures, consumption, income, assets, land, etc.) among individuals or households in a population. Following methodology used by the NSO and the World Bank, this Key Facts Sheet considers inequality between households in terms of aggregate consumption expenditure, i.e., the monetary value of household consumption. Aggregate consumption expenditure combines the value of food and non-food items consumed by a household, as well as expenditures on durable goods and rent over a period of one year. It is important to note that consumed quantities (rather than produced or purchased quantities) are considered. Although no monetary indicator can capture all aspects of wellbeing, consumption is central to satisfying many basic human needs, and thus constitutes a central component of any measure of living standards. The IHS collects consumption data for entire households rather than individually for each household member. This Key Facts Sheet therefore describes inequality between households and cannot inform in inequalities that exist within households. However, it does account for household size by reporting consumption in per capita terms. It also takes household size into account when dividing the population in percentiles.

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Changes in consumption inequality

Inequality can be graphically represented in the form of a Lorenz curve, which plots the proportion of total per capita consumption by any given proportion of households in the population. A straight diagonal (45°) line would represent perfect equality, where, for example, the bottom 10 percent of the population consume 10 percent of all goods and services, the bottom half consume 50 percent of all goods and services, and so on. The further the Lorenz curve bends away from the 45° line of equality, the higher the inequality in consumption in the population. In Figure 1 we see that the 2010/11 curve lies underneath the one for 2019/20. In fact, the two curves never cross, allowing us to speak of a situation of Lorenz dominance and assuring us that for a wide range of different inequality measures overall consumption inequality decreased between 2010/11 and 2019/20.

Figure 1. Consumption inequality
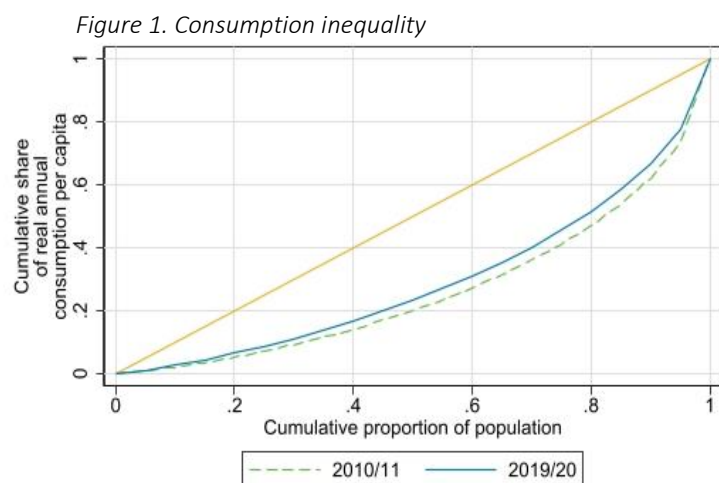
Still, the differences between those at the top and those at the bottom of the consumption distribution remain stark. Table 1 shows that in 2010/11, the poorest fifth (20 percent) of the population consumed 5.2 percent of all goods and services, while the richest 20 percent consumed over 10 times more (52.9 percent). By 2019/20, the share of goods and services consumed by the poorest fifth of the population grew to 6.4 percent, while that going to the richest 20 percent declined to 48.5 percent.

The reduction in consumption inequality is also evident in non-visual measures such as the Gini coefficient, which is based on the Lorenz curve. It is defined as the ratio of the area between the line of equality and the Lorenz curve to the total area below the line of equality, and ranges from 0 and 1. A Gini coefficient of 0 indicates perfect equality, where everybody consumes the same amount of goods and services. A coefficient of 1, on the other hand, would indicate perfect inequality, where everything would be consumed by only one household. In practice, the Gini coefficient tends to range between 0.25 and 0.65. In Malawi, the Gini coefficient was 0.45 in 2010/11, 0.37 in 2016/17, and 0.38 in 2019/20 (see Table 3).

Table 1. Share of total consumption consumed by top and bottom 5%, 10% and 20% of households.

	Bottom 5%	Bottom 10%	Bottom 20%	Top 20%	Top 10%	Top 5%
2010/11	0.8	2.1	5.2	52.9	37. 8	26.7
2016/17	1.2	2.9	7.0	46.7	32.0	21.9
2019/20	1.1	2.6	6.4	48. 5	33.2	22.3

Unequal growth

Table 2 shows median consumption per capita was MK147,663 in 2010/11, grew to MK204,940 in 2016/17, and then declined to MK187,535 in 2019/20 (adjusted for inflation). Thus, median consumption grew by 27 percent between 2010/11 and 2019/20, but declined between 2016/17 and 2019/20 by 8 percent. Figure 2 shows that this growth in consumption was far from uniform. Between 2010/11 and 2019/20 consumption increased in households at nearly all levels of expenditure, from the poorest to the richest. In absolute terms, the poorest quarter experienced growth in median consumption of less than K31,000, while better-off households (except for the top 3%) experienced larger increases than this. However, the relative increase was largest (over 40 percent) for the poorest 13 percent of households, who started from the smallest initial consumption. For better-off the households, the relative increase was smaller, and in the case of the top 3 percent of households, consumption even decreased. It is important to note, though, that survey data typically tend to miss the very top income earners in the country.

The relatively higher increase in total annual consumption per capita for poorer households resulted in the share of total consumption going to each household in the three poorest quintiles of households to increase, while those going to the wealthiest quintiles decreased, explaining the reduction in overall consumption inequality during the decade.

Change in consumption did not only vary with initial levels of consumption, but also across geographical areas. In absolute terms, the median consumption increased between 2010/11 and 2019/20 by MK28,490 for households in urban areas, and by MK38,322 for those in rural areas on average. However, there was a decrease in the same statistic between 2016/17 and 2019/20 for both urban and rural households (by MK21,584 and MK12,526, respectively). As table 2 shows, a typical urban household's consumption was over twice as much as that of a typical rural household in 2010/11, but as inequality decreased, an urban household consumed less than twice the consumption in a rural household in 2016/17 and 2019/20 (1.95 times more in 2016/17 and 1.97 more in 2010/20). The relative increase in consumption was also larger in rural (29 percent) compared to urban (9 percent) areas. Consumption growth was similarly varied between Malawi's three administrative regions as Table 2 also shows. The Northern region had the lowest

median consumption per capita in 2010/11 (K135,485) compared to the other regions. However, a 56 percent increase between this time and 2016/17, and a further 17 percent increase between 2016/17 and 2019/20, has ensured that the median consumption is highest in this region by 2019/20. The highest consumption in 2010/11 and 2016/17 was in the central region, but by 2019/20, a 21 percent decline in consumption meant the region had the lowest consumption in the country in this period.

Table 2. Median household consumption by geographical area

Location	2010/11		2016/17		2019/20	
	Consumption (MK)	Population Share	Consumption (MK)	Population Share	Consumption (MK)	Population Share
Malawi	147,663	100%	204,940	100%	187,535	100%
Urban	309,387	16%	359,461	19%	337,877	16%
Rural	133,203	84%	184,051	81%	171,525	84%
North	135,485	13%	211,645	9%	248,295	13%
Central	160,852	41%	214,862	44%	170,542	42%
South	141,230	47%	193,553	47%	188,128	45%

Figure 2. Consumption growth by consumption percentile, 2010/11 to 2019/20.
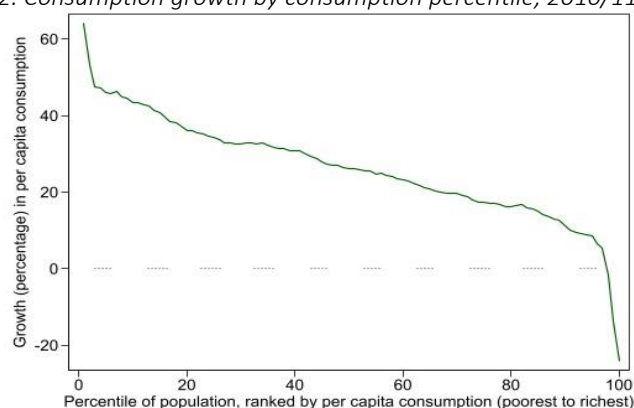
Geographic patterns in inequality

Just like different geographic areas of the country experience varying levels of consumption and growth, they also show different levels of consumption inequality within them. Table 3 shows that for the period under analysis, urban areas were more unequal than rural ones, but the difference has been decreasing over time. In 2010/11 the Southern Region had a markedly higher level of inequality, but only small regional differences remained by 2019/20. In terms of differences between inequality levels within individual districts, in 2010/11, Nkhatabay and Neno had the lowest within-district inequality with a Gini coefficient of 0.32, and highest was Blantyre with a Gini coefficient of 0.50. By 2019/20, Nkhatabay still had the lowest inequality with a Gini coefficient of 0.27, while Mzuzu was the most unequal with a Gini coefficient of 0.40.

Table 3. Gini coefficient, by geographic area

	2010/11	2016/17	2019/20
Malawi	0.45	0.37	0.38
Urban	0.49	0.39	0.39
Rural	0.38	0.31	0.33
North	0.39	0.34	0.35
Central	0.43	0.35	0.38
South	0.49	0.40	0.37

Despite these relatively large disparities between geographical areas, differences between households within individual areas accounted for most of the inequality in Malawi. Table 4 contains geographical decompositions of the Theil L index, which is similar to the Gini coefficient in that it takes on values of 0 (perfect equality) and above, but it does not have an upper limit of 1 (so non-zero values of the Theil L are not directly comparable to the Gini coefficient). Importantly, unlike the Gini coefficient, the Theil L index can be decomposed to show to what extent inequality is driven by differences between population groups, or by differences between individuals or households within those groups. Table 4 shows that differences between rural and urban areas accounted for only 24 percent of total inequality in 2010/11, 25 percent in 2016/17 and 19 percent in 2016/17. Meanwhile, differences between regions accounted for less than 2 percent of total inequality in the period under analysis, whereas differences between districts accounted for 28 percent in 2010/11, 47 percent in 2016/17 and 23 percent in 2019/20.

*Table 4. Decomposition of Theil L index by geographic location, education, and occupation of household head*

	2010/11		2016/17		2019/20	
	Theil's L	Contribution	Theil's L	Contribution	Theil's L	Contribution
Within Malawi	0.372	100%	0.255	100%	0.282	100%
Within rural/urban areas	0.284	76%	0.191	75%	0.229	81%
Between rural and urban areas	0.089	24%	0.064	25%	0.053	19%
Within regions	0.37	99%	0.255	100%	0.277	98%
Between regions	0.002	1%	0.000	0%	0.005	2%
Within districts	0.267	72%	0.187	53%	0.217	77%
Between districts	0.105	28%	0.168	47%	0.065	23%
Within education groups	0.252	68%	0.170	67%	0.199	71%
Between education groups	0.120	32%	0.085	33%	0.083	29%
Within occupation groups	0.298	80%	0.194	76%	0.232	82%
Between occupation groups	0.074	20%	0.061	24%	0.051	18%

In other words, differences between individual households within urban areas, as well as those between individual households within rural areas, were much larger than the difference between the typical urban household and the typical rural household. Similarly, it is differences between households residing within the same districts that accounts for most consumption inequality rather than differences between districts – thus, there are rich and poor households in each district, but differences between districts are not very large. In all periods under analysis, differences in consumption inequality between regions are extremely small when compared to differences within regions.

Demographic Patterns in Inequality

Households can be categorized not only by their geographic location, but also by their socioeconomic characteristics. Patterns in consumption inequality can then be analyzed using categories of these characteristics instead of geographic areas. For example, in all periods being analyzed, consumption generally increased with increasing education of the household head, for all education levels and was highest for those employed for wages (Figure 3). As table 4 above also shows, education of the household-head accounted for almost a third of total consumption inequality in 2019/20. Thus, differences between households with similarly educated heads were over two times as important as differences between groups of households categorized by their heads' education level in explaining consumption inequality. The contribution of education of the household head to overall consumption inequality also decreased between 2010/11 and 2019/20 from 32 percent to 29 percent (Table 4).

Figure 3. Consumption by education (left panel) and main occupation of household head (right panel)
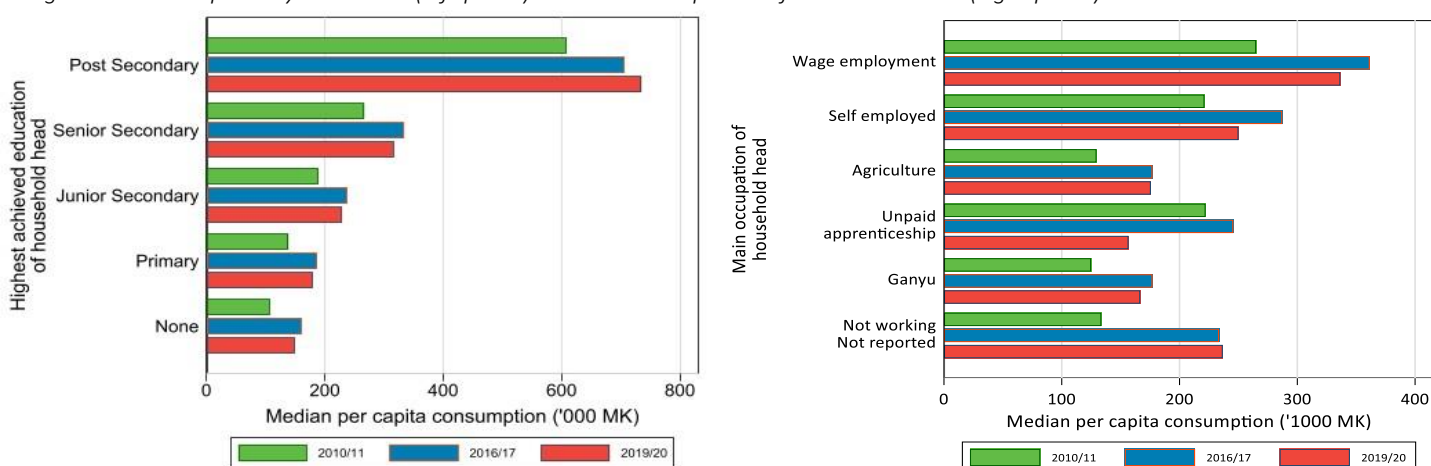
We can also categorize households by the gender, age, or ethnicity of their heads. Doing so we find that the between-group differences contributed less than 7 percent of total inequality in per capita household consumption.