Measuring Equity in Mozambique using the *Inquérito Sobre Orçamento Familiar* 2014/15

1. Selecting the Observations

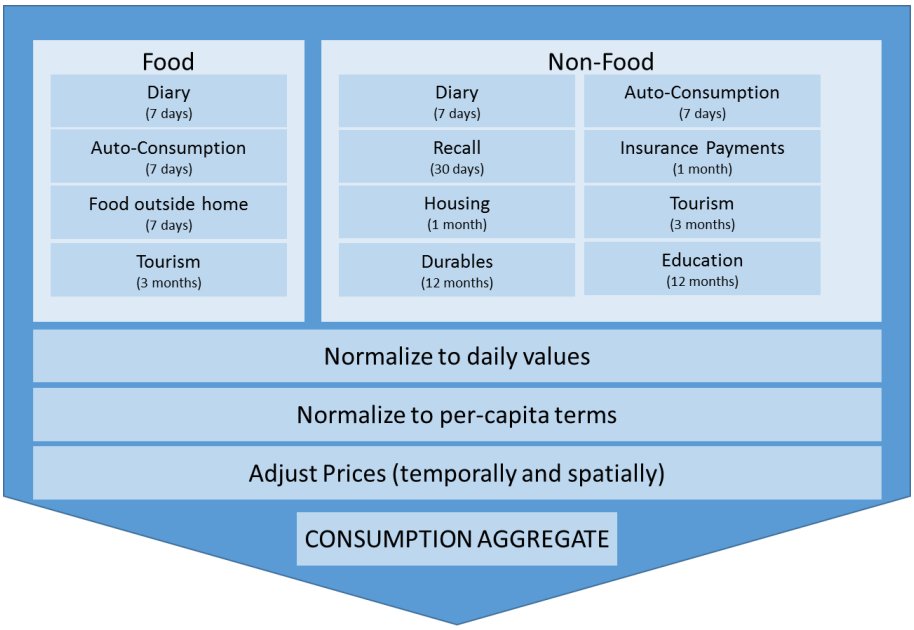
The Mozambique Household Budget Survey 2014/15 (*Inquérito Sobre Orçamento Familiar* – referred to in the following as IOF 2014/15) was intended as a non-rotating four by four panel system, where each household would have been interviewed 4 times during the 12 months' survey cycle, and during all four weeks in a month. In practice, due to budget shortcomings, the survey was carried on only during the I (AUG-SEP-OCT), II (NOV-DEC-JAN) and IV (MAY-JUN-JUL) quarters (from now on, Q1, Q2, Q4).

For the purpose of building a consumption aggregate, and later for welfare analysis, the survey is treated as a cross-section, regardless the intended panel design. Moreover, 686 observations collected in Q4 are not included in the analysis, since no information other than household identifiers and geographical location was collected.

2. Building the Consumption Aggregate

Building the consumption aggregate entails analyzing information recorded in different section of the questionnaire, found in separate data files and referring to different recall period. The following Figure 1 summarizes the components of the consumption aggregate in the IOF 2014/15, and the main steps to create the consumption aggregate.

Figure 1. Synopsis of components and steps for building the Consumption Aggregate



2.1. Food Consumption

Information on food consumption are found in the diary of purchases and auto-consumption, in the employment section, where individual consumption of food outside home is recorded, in the module collecting information on travels, and in the recall section (catering services). The food component of the consumption aggregate, after some cleaning of the data (mainly adjusting miscoding), does not present particular challenges.

In the diary and auto consumption modules, in particular, we do not classify as food items belonging to coicop code "01114901" which refers to "grinding services", and we consider as food all alcoholic beverages (which belong to the coicop category "02"). In the diary module it is asked for how many days the purchase is expected to last. In order to be sure that we are taking into account only the food consumed over the period of a week, we normalized to one week the food intended to last more than 7 days. Given $y_{h,i}^{d}$ the value of item i purchased the day d of the seven-day diary by household h, and $n_{h,i}^{d}$ the number of days that item is supposed to last for, the weekly consumed value we consider in the consumption aggregate is the following:

$$y_{h,i} = 7 * \frac{\sum_{d=1}^{7} y_{h,i}^{d}}{\sum_{d=1}^{7} n_{h,i}^{d}}$$

The individual expenditure section of the questionnaire collects information on the food and beverages purchased outside home for individual consumption of household members (sandwiches, meals purchased at bars or restaurants, alcoholic and non-alcoholic beverages).

2.2. Non-food Consumption

Information on non-food consumption is found in the diary of purchases and auto-consumption, in the recall module, and in the sections of the questionnaire concerning durables, housing, education and travels. Both housing and durables modules were supposed to be collected only in Q1. Therefore, information collected in Q2 and Q4 is disregarded, and values from Q1 are ~~imputed~~ overwritten ~~to~~ for the corresponding households in Q2 and Q4, and inflated using the CPI reported later in Table 5. Notice that purchase of durable goods is recorded not only in the section of the questionnaire dedicated to durable, but also in the Recall section. Since the Recall section of the questionnaire has been administered in all three quarters, it is threated separately from information on durables collected in the durable-dedicated module.

Treatment of all non-food consumption other than housing and durables is straightforward, as it is just the sum of all expenses for non-food goods, ranging from tobacco to clothing, utilities, expenses related to health, transport, leisure and culture, education, insurance services, and other general goods and services.

2.2.1. Housing

Housing is in theory more complicated, as it is not the purchase value of the dwelling that we want to capture in the consumption aggregate, but the value of the service that the household enjoys by living in the dwelling. Although we can reasonably assume that the flow of services enjoyed by living in a dwelling is correctly approximated by the monthly payment to the landlord for tenants, there is nothing similar for home-owners and individuals living in dwellings given for free by family members or employers. Following standard practice in many household budget surveys and LSMS alike, the IOF 2014/15 collects information on rent for tenants and subjective rent for homeowners and people living for free. Since the distribution of self-assessed rent seems to follow a similar path than the distribution of predicted rent from a hedonic model using dwelling characteristics as covariates (at least for urban households), we decided to use the subjective rent as proxy for the value of services from dwelling for homeowners and individuals living for free (we refer the reader to the Data Assessment for IOF 2014/15 for further details).

1.1.1. Durables

Durable goods are also relevant components of the welfare aggregate and are defined as consumer products that (i) withstand wear and tear or decay and (ii) can be used over a relatively long period without being depleted or consumed. As with housing, an appropriate measure of their consumption is the *value of services* that the household receives from all durables goods in its possession over the relevant time period, and not the purchased price of that item. This is equivalent to the annual cost of holding the stock of each durable, which depends on prices at the beginning and end of year, interest rates (opportunity cost) and the rate of depreciation. Let S_{td}^{h} be the number of durables d owned by household h, v_{t}^{d} the price of durable d at the time of purchase, and let n_t and π_t

be, respectively, the nominal interest rate and the inflation rate and δ_d the depreciation rate of item δ_d. Then, the total value of services from durables for each household ~~h~~ (TD^{h}) can be defined as:

$$TD^{h} = \sum_{d=1}^{D} S_{td}^{h} v_{td}(n_t - \pi_t + \delta_d)$$

The depreciation rate is often inferred by the data itself when the survey collects information on the vintage of owned durables, together with their current and purchased value. In the case of the IOF 2014/15, unfortunately, the only information we have on durables is the number of owned durables per type, and the number and purchase value of durables purchased in the last 12 months or 30 days according to whether information on the durable was collected, respectively, in the durable section or in the recall section of the questionnaire.

We therefore need to find a way to impute a current value to owned durables, and to then estimate the use cost of durables to include it in the consumption aggregates.

For the first wave of the IOF survey (in 1997), a small market value survey was conducted in the capital city to collect information on the market prices of used durable goods in *good condition*, and their lifespans were estimated based on informal consultations with several members of staff at the Department of Population and Social Development. Since these estimates reflects only Maputo City, and they are obsolete, pre-dating the current survey by almost 20 years, we decided to pursue a different strategy. For each durable good, we compute the median value of a corresponding newly purchased good by province, and we assume that an owned good has the current value of a corresponding one-year-old item. The following Table 1 summarizes the mean value across provinces for each durable good found in the survey.

Table 1. Mean of provincial median value of durable goods

Item Description	MT
Air conditioners, domestic	12,766.90
Beds and bunk beds	3,179.70
Bicycle	2,500.30
Chairs	253.2
Charcoal and/or firewood stoves	300.6
Coal Iron	302.3
Computers	11,435.80
Electric cookers	797.4
Filming and/or photo machine	3,619.60
Fixed line telephone box	671.3
Freezer	8,080.50
Gas cookers	4,394.90
Generator	2,764.60
Glacier	11,739.90
Irons electric ironing clothes	517.7
Laptop	11,724.50
Microwave oven	3,456.20
Mixed cookers	8,949.70
Mobile Phones	735.6
Motorcycles	19,989.90
New motor vehicles	252,301.20
Printers	6,000.00
Radio	519.2
Shower/tub combination	677.3
Solar panel	1,336.40
Sound equipment	2,414.90
Tables	927.3
Televisions	3,081.80
Used motor vehicles	194,044.30
Wagons for donkey/ox	2,500.00
Washing machines	12,000.00
Watches	215.8

As for the depreciation rate, we adopt the values summarized in the following Table 2, taken from the BEA Depreciation Estimates, Durable goods owned by consumers.

Table 2. Depreciation rate by COICOP classification of durable goods

Description	COICOP code	Depreciation Rate
Furniture, including mattresses and bedsprings	051	0.066666667
Household appliances	053 (except 053203, 053208)	0.01
Irons electric ironing clothes	053203, 053208	0.02
Glassware, tableware, and household utensils*	054	0.165
Other durable household equipment*	055	0.165
Car/Trucks (used)	071 (except 071110)	0.1
Car/Truck (new)	071110	0.066666667
Fixed line telephone box	082001	0.1
Mobile Phones	082004	0.2
Video and audio products, including musical instruments	091	0.2
Recreational vehicles	092	0.1
Jewelry and watches	123	0.2
Therapeutic appliances and equipment	061	0.1

Source: Bank staff conversation with MEF.

Given $\bar{v}^n_{tdp}$ the median price of a new durable good d in province p at time t, and δ_d the associated depreciation rate, therefore, the value associated to a used durable good d for all households living in province p at time t, v^u_{htdp}, is defined as:

$$v^u_{htdp} = \bar{v}^n_{tdp}(1 - \delta_d)$$

The annual inflation rate in 2014 was 7.4 per cent and in 2015 6.3 percent (Mozambique Central Bank, Annual Report, p.61) while the interest rate on treasury bonds varied between 9.875 percent and 10.75 over the same period (http://www.bvm.co.mz/index.php/mercado/obrigacoes). We take the average value for both inflation rate, and nominal interest rate, obtaining $\pi_t = 6.85$ and $n_t = 10.31$.

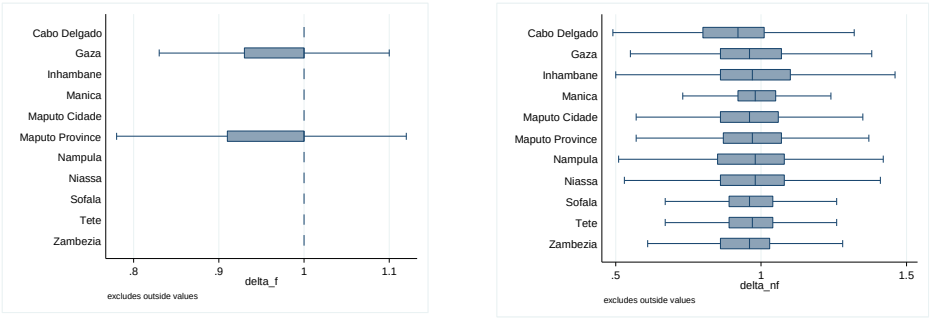
Therefore, the value of both purchased and owned durables goods to be included in the consumption aggregate is defined as follows (where $v_{td} = v^n_{td}$ for newly purchased durable items and $v_{td} = v^u_{tdp}$ for used items):

$$TD^h = \sum_{d=1}^{D} S^h_{td} v_{tdt}(0.1031 - 0.685 + \delta_d)$$

2. Comparing the nominal consumption aggregate with MEF's official one

As shown in Figure 2, our estimates match almost perfectly MEF's estimates for the food component of the consumption aggregate (except for Gaza and Maputo Province), while we on average slightly underestimate the non-food component. Given the many assumptions behind computing the values to include in the consumption aggregate with respect to durables and housing, and not knowing the details of the MEF methodology, this does not surprise us. Moreover, we were able to surely identify the reasons of the differences between MEF and WB food consumption aggregate: the underestimation of WB food consumption aggregate is due to the fact that MEF includes income received in food to the consumption aggregate; the overestimation of WB food consumption aggregate is due to the fact that MEF does not consider as food meals and beverages reported in the tourism section of the questionnaire. Differences in the non-food component of the consumption aggregate are listed in Table 3. Overall, the differences between our consumption aggregate and MEF's do not seem to big, as shown in the following Figure 4, Figure 5 and Figure 6.

Figure 2. Differences between WB and MEF food and non-food components of the consumption aggregate (delta=WB/MEF)



Note: The figures (and the followings of this kind) are box and whiskers plots. Each box ranges from the 25th percentile to the 75th percentile. The vertical line in the middle of a box represents the median. The Lines, often called whiskers, are drawn to span all data points within 1.5 IQR of the nearer quartile. That is, one whisker extends to include all data points within 1.5 IQR of the upper quartile and stops at the largest such value, while the other whisker extends to include all data within 1.5 IQR of the lower quartile and stops at the smallest such value. Dots at each side of the whiskers represent outliers (see Cox, 2009 for more details and discussion about this type of graphs).

Figure 3. Differences between WB and MEF consumption aggregate (delta=WB/MEF)

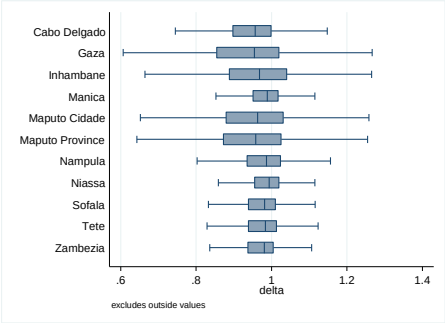
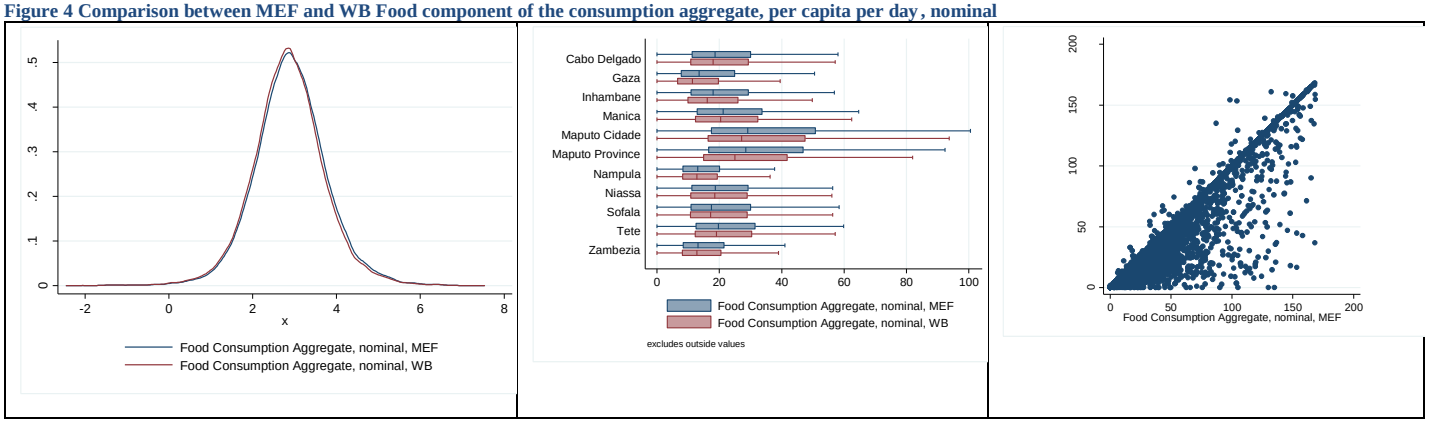


Figure 4 Comparison between MEF and WB Food component of the consumption aggregate, per capita per day, nominal



Note: outside the 45 degree line are 6,218 observations (5 percent of the households in the sample). In particular, 1,046 are found in Maputo Province; 743 in Gaza, and less in other provinces (down to a minimum of 171 observations in Niassa)

Figure 5 Comparison between MEF and WB Non-Food component of the consumption aggregate, per capita per day, nominal

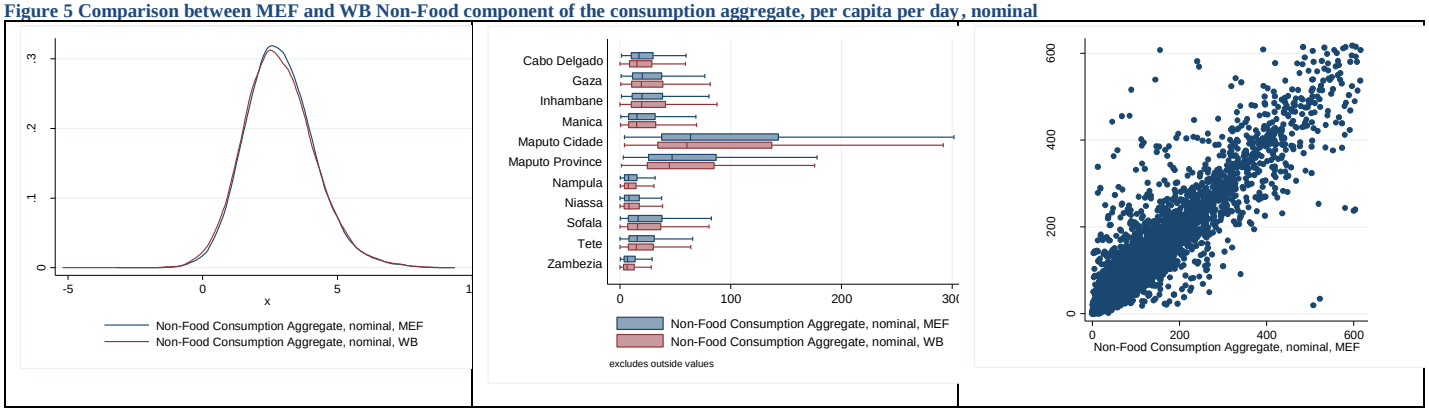


Figure 6 Comparison between MEF and WB consumption aggregate, per_ capita per day, nominal

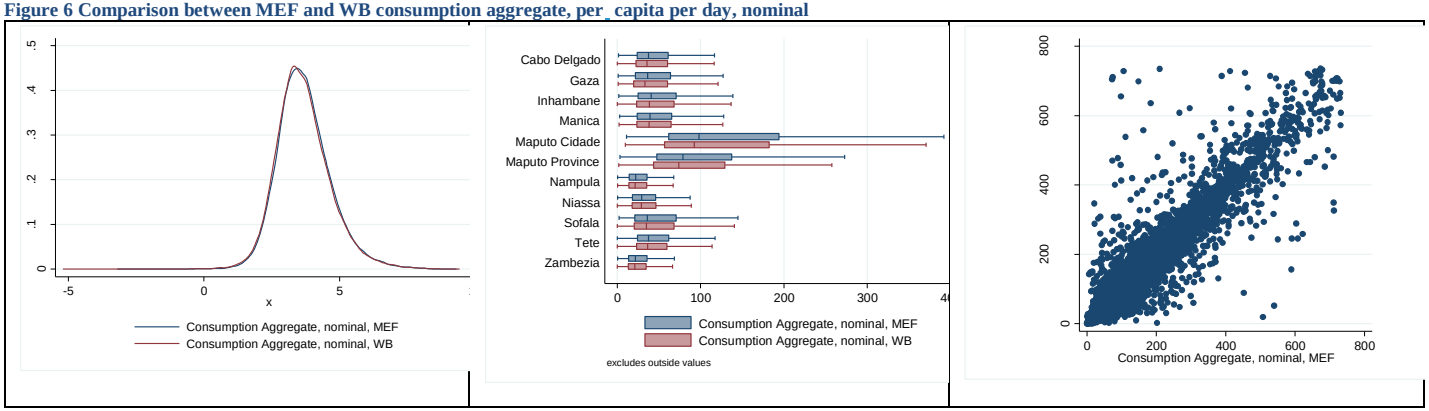


Table 3. Differences between MEF and WB consumption aggregate

Component of the Consumption Aggregate	MEF	WB
Food Consumption	Food received as a payment in-kind is included in the food component of the consumption aggregate.	Food received as payment in-kind is NOT included in the consumption aggregate. The consumption aggregate is intended to capture the overall consumption of the household. Food received as payment may be sold or exchanged, not necessarily consumed. In other words, it is considered a source of income, not consumption. This explains a small difference in the food component of the consumption aggregate, mainly concentrated in Maputo Province and Gaza, where workers employed in South Africa mostly live. Notice that even if food received in kind was indeed consumed by the households, we would expect to find it reported in the Auto consumption section of the dataset. Hence, we would have risked double-counting by including it in the consumption aggregate. These are 1,162 observations (of which, 503 are found in Maputo Province).
	Food included in the tourism section of the questionnaire are not included among the food component of the consumption aggregate	Food included in the tourism section of the questionnaire is included in the food component of the consumption aggregate, since it belongs to the food category. This choice does not have any impact on the overall consumption aggregate, but it explains why the WB food consumption aggregate is higher for some observations (mainly in Maputo Province and Gaza).
Durables	Durable items reported in the monthly recall section of the questionnaire are included in the consumption aggregate using the payment approach.	Durable items reported in the monthly recall section of the questionnaire are included in the consumption aggregate using the use value approach, together with the items included in the durable section of the questionnaire. Therefore, the component of the consumption aggregate coming from this section of the questionnaire is smaller for the WB consumption aggregate
	Only information collected in Q1 is used and imputed to the same household in other quarters, without adjustment for inflation.	Information collected in Q1 is ~~imputed~~ overwritten ~~to~~ for the same household in other quarters, adjusting the value with the national CPI. This yields a higher value of this component for the WB consumption aggregate. Information on durables found in Q2 and Q4 is included for those households who were not interviewed in Q1.
	The total value of items owned by the households is imputed as half of the mean national value.	The total value of items owned by the households is imputed as the median value at provincial level (at national level only residually for those items owned only by an exiguous number of households in the province)
	The real interest rate to estimate the use value of durables is set to 2 percent.	The real interest rate for the use value estimation is 3.46 percent, derived as the difference between the prevalent average nominal interest rate on State Treasury Bonds in the period of the survey (10.31 percent) and the average inflation rate for the same period (6.85 percent).

	For those items not included in the available table with depreciation rates, a depreciation ratio of 0.1 is imputed (from 1997 survey)	For those items not include in the available table with depreciation rates, we took the depreciation rates from https://www.bea.gov/national/pdf/BEA_depreciation_rates.pdf
	The formula applied to transform value of durables into use value is: $$TD^h = \sum_{d=1}^{D} S_{td}^h v_{td} \frac{r+\delta_d}{1-\delta_d}$$ where r indicates the real interest rate and δ_d the depreciation rate of item d (Arndt and Tarp, 2016, p.322)	The formula applied to transform the value of durables into use value is: $$TD^h = \sum_{d=1}^{D} S_{td}^h v_{td}(n-\pi+\delta_d)$$ where n indicates the real interest rate, π the inflation rate and δ_d the depreciation rate of item d. (Deaton and Zaidi, 2002). For a detailed explanation of the formula, see also Amendola and Vecchi, 2014).
Housing	The consumption aggregate includes the self-assessed rental values of the dwelling as it is found in the survey (in previous years, an hedonic model was estimated). The (weighted) mean of the values found in the different quarters is imputed to each household.	The consumption aggregate includes the self-assessed rental values of the dwelling as it is found in the survey. Information collected in Q1 is imputed to the same household in other quarters, adjusting the value with the national CPI. Information on housing found in Q2 and Q4 is included for those households who were not interviewed in Q1.
Non-Food Component	Payments in-kind received by households (transportation, housing, other) are included in the consumption aggregate	In-kind payments are NOT included in the consumption aggregate as they are considered a source of income, and not consumption

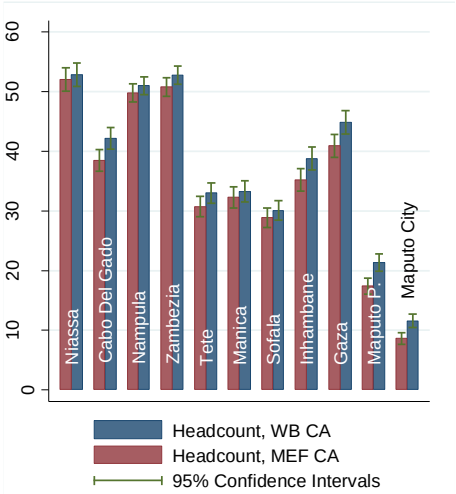
3. Comparing poverty levels with MEF official estimates

To ensure the maximum comparability between our estimates and those computed by MEF, we compute poverty using the official poverty lines, deflating the nominal consumption aggregate at the same rate found in the official data (taking the ratio between the official nominal consumption aggregate and the official temporally deflated consumption aggregate). Therefore, differences in poverty rates reported in Table 4 and Figure 7 are to be imputed solely to the different hypothesis followed in building the consumption aggregate, as summarized above in Table 3. In few provinces such differences are outside the 95% confidence intervals (namely, Cabo Delgado, Inhambane, Gaza, Maputo Province and City).

Table 4. Headcount Poverty Rates, WB and MEF consumption aggregate.

	WB Consumption Aggregate	MEF Consumption Aggregate
Niassa	60.67	60.54
Cabo Delgado	48.10	44.59
Nampula	57.67	57.02
Zambezia	57.75	56.23
Tete	33.36	31.50
Manica	41.29	40.88
Sofala	44.71	44.15
Inhambane	52.73	48.51
Gaza	55.77	51.16
Maputo Province	23.74	18.79
Maputo City	14.92	11.65
Overall	47.84	45.92

Figure 7. Headcount Poverty Rates, WB and MEF consumption aggregate.



3.1. Price Adjustments

Expenditure is utility consistent, and therefore a good indicator for individuals' welfare, only if a set of hypothesis is satisfied. One of the hypotheses is that individuals must face identical prices. This is often not the case. Prices usually vary both over time and across space: for instance, the same good can cost more in urban as opposed to rural areas, or more at the end of the year than the beginning of the year. In order to have meaningful utility comparisons, prices need to be adjusted to take into account these differences, as explained in the following.

3.1.1. Temporal Price Adjustment

Since the survey has been conducted over a period of a year, it is advisable to deflate prices in order to get a comparable welfare aggregate across observations collected at different points in time. Table 5 summarizes the monthly national consumer price indices (CPI) corresponding to the three quarters of survey months.

Table 5. Consumer Price Index

		Monthly	Quarter Average
Q1	Aug-14	113.1	113.0
	Sep-14	112.9	
	Oct-14	113.1	
Q2	Nov-14	113.5	114.7
	Dec-14	114.3	
	Jan-15	116.4	
Q4	May-15	115.9	115.5
	Jun-15	115.3	
	Jul-15	115.4	

Source: INE (2015) Statistical Yearbook 2015 – Mozambique

We take the quarter average of monthly CPI and we elect Q4 as reference period. Therefore, we obtain a temporally adjusted welfare aggregate, $\widetilde{w}$, by inflating the nominal welfare aggregate in each quarter in order to reflect Q4 prices:

$$\widetilde{w}(q_i) = w(q_i)\frac{CPI(q_4)}{CPI(q_i)}$$

3.1.2. Spatial Price Adjustment

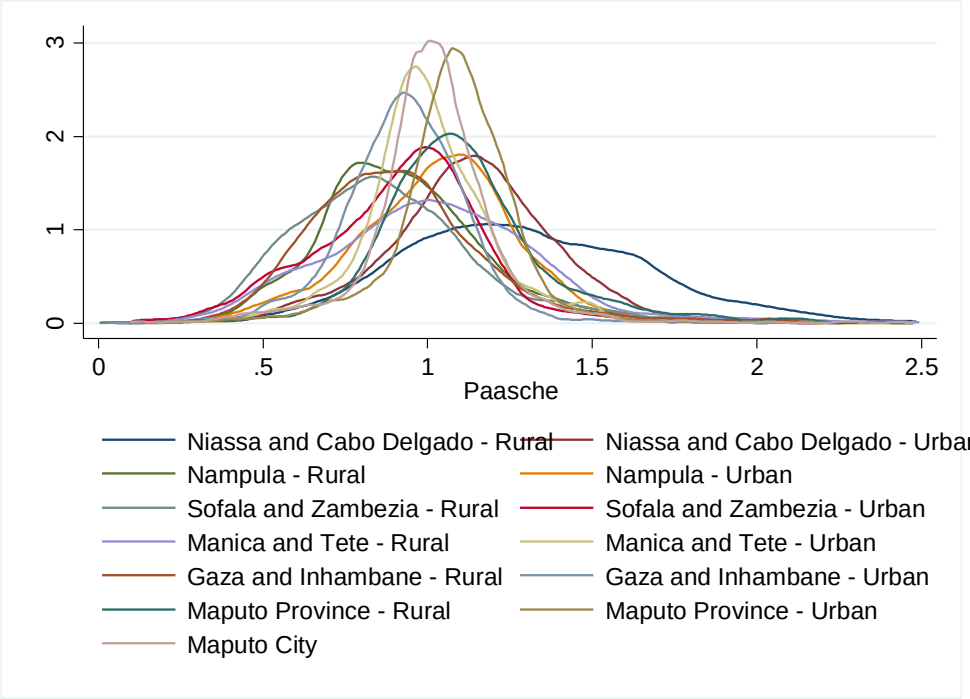
We need moreover to make sure that the same level of expenditure corresponds to the same living standard. In order to make meaningful comparisons across households living in different regions and facing different prices, we therefore need to deflate welfare aggregates spatially.

For this purpose, we build a Paasche index on food prices for each household h, P_h (Deaton and Zaidi, 2002 recommend the index to be built at household level). Given $k = 1,2, \dots, K$ food items consumed in each household h, P_{Rk} the reference price referred to item k and w_{hk} the budget share of item k for household h, the index is computed as follows:

$$P_h = \left(\sum_{k=1}^{K} w_{hk}\frac{P_{Rk}}{P_{hk}}\right)^{-1}$$

Price indices are often built using unit values only for food items. Nevertheless, thanks to the richness of the non-food recall section of the questionnaire, building the Paasche price index using also non-durables may be attempted. This is not done for now.

Figure 8. Distribution of Paasche index by *Homogeneous Spatial Domains*, overall population



It is interesting to understand how the spatial price differences captured by the Paashe index compare with the spatial price differences recorded in the official poverty lines, which are computed on 13 different regions considered homogeneous in terms of prices and consumption patterns. Since our index captures only differences in food consumption, we will compare it with the food component of the poverty line.

Table 6 shows the spatial price indices comparing the results induced from the MEF official poverty line and the median Paasche index by region, using the median Maputo City index in each sample (Overall Population/Bottom 60/Poor) as numerary.

Table 6. Price indices, induced from MEF official poverty lines, and median Paasche index

	Food Poverty Line	Paasche Index		
		Overall Population	Bottom 60	Poor
Niassa and Cabo Delgado - Rural	88.88	125.63	128.60	127.95
Niassa and Cabo Delgado - Urban	91.19	112.05	109.73	107.70
Nampula - Rural	59.15	89.14	88.90	88.47
Nampula - Urban	74.16	102.72	99.65	97.94
Sofala and Zambezia - Rural	59.98	83.23	83.59	82.58
Sofala and Zambezia - Urban	74.39	92.94	89.06	87.03
Manica and Tete - Rural	72.09	100.14	102.48	102.95
Manica and Tete - Urban	91.35	97.20	97.01	95.79
Gaza and Inhambane - Rural	74.00	87.13	89.70	89.87
Gaza and Inhambane - Urban	83.33	91.99	90.43	89.93

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Maputo Province - Rural	97.22	107.00	110.01	108.80
Maputo Province - Urban	106.59	107.07	111.97	109.32
Maputo City	100.00	100.00	100.00	100.00

Note: The Bottom 60 is defined upon households whose daily per capita consumption aggregate, temporarily and spatially adjusted, is equal or below 60% of the distribution; the poor is defined upon those whose consumption aggregate is below the national poverty line (WB) at 26.08 metical/day/capita.

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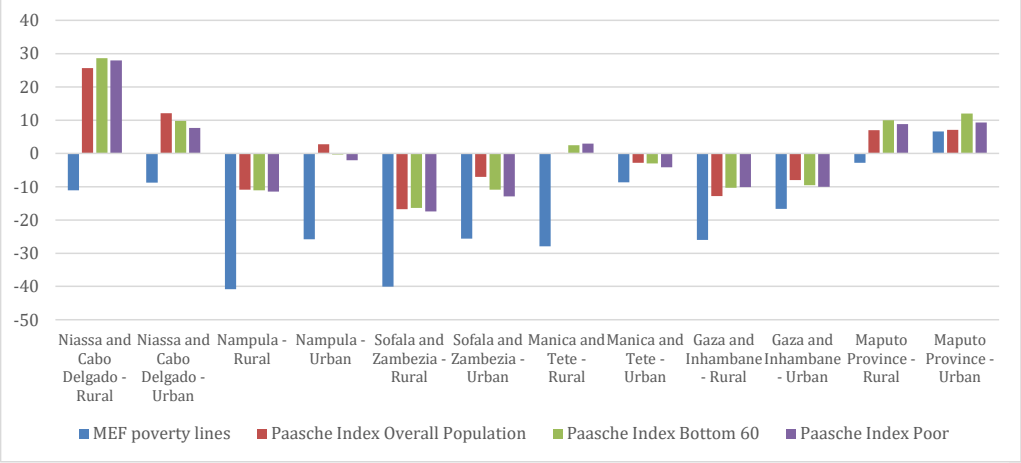
As summarized in Figure 9, in most regions except for Niassa - Cabo Delgado and Maputo Province, the price differences induced by the official poverty lines are much larger than what we find by computing the Paasche index from food consumption, regardless the definition of the underlined population in particular for Nampula, Sofala and Zambezia, rural Tete and Manica (see also Alfani et al., 2012 for similar findings on IOF 2008/09). Notice also that the median Paasche index computed by region and type of settlement shows price differences among regions considered homogeneous in the poverty line (in particular, Niassa and Cabo Delgado; Sofala and Zambezia, and to a lesser extent Manica and Tete).

Figure 9. Spatial price indices, percentage points difference with respect to Maputo City.



3.2. Final Consumption Aggregate

The final consumption aggregate used in the analysis is obtained by temporally and spatially deflating the nominal consumption aggregate described above. In particular, being $\tilde{w}_h$ the temporally-deflated welfare aggregate for household h, and P_h the Paasche price index for the same household, the final welfare aggregate, $\bar{w}_h$, is:

$$\bar{w}_h = \frac{\tilde{w}_h}{P_h}$$

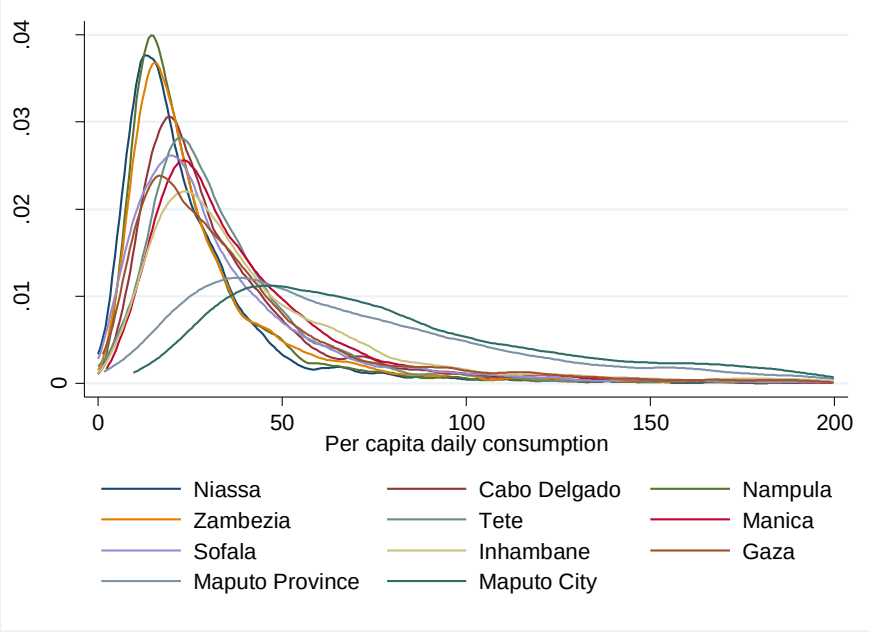
The median per capita daily total household consumption after temporal and spatial price adjustments is summarized in the following Table 7.

Table 7. Median per capita daily total household consumption, temporally and spatially deflated

	Rural	Urban
Cabo Delgado	26.18	25.09

Gaza	27.79	39.20
Inhambane	30.16	51.62
Manica	28.64	47.14
Maputo City		80.43
Maputo Province	41.65	74.21
Nampula	19.58	21.87
Niassa	18.44	21.65
Sofala	22.10	38.18
Tete	28.18	39.00
Zambezia	20.71	25.95

Figure 10. Distribution of final consumption aggregate, by province



3.3. Poverty lines

The poverty lines are defined using the daily per capita consumption aggregate after temporal and spatial adjustments.

To define food poverty line, first we define a reference group, whose consumption aggregates are in 3.5th – 6th deciles of the distribution. Then we find the food basket in the reference group, compute the expenditure and calorie intake of each food item for each household. Next we obtain the total expenditure of food and calorie intake by each household, and calculate the average price per calorie. The following

step is to obtain the mean price/calorie and mean calorie intake across households[1]. Then the food poverty line is the product of the two:

$$PL_{food} = \bar{p}_{Kcal} * \overline{Kcal}$$

where PL_{food} is the food poverty line, $\bar{p}_{Kcal}$ is the mean price/calorie (in metical) and $\overline{Kcal}$ is the mean calorie intake.

To define the overall poverty line, we find a group of households in the reference group whose food expenditure is equal or close to the food poverty line[2]. Then we find the median non-food share of these households ($\tilde{S}_{non-food}$), and define the overall poverty line (PL) as:

$$PL = \frac{PL_{food}}{1 - \tilde{S}_{non-food}}$$

Next, the non-food poverty line is:

$$PL_{non-food} = PL - PL_{food}$$

The following table summarizes the calorie requirement (the mean calorie intake of the reference group) we are assuming and the poverty lines:

Table 8. A Summary of calorie requirement and poverty lines

Calorie requirement	1460.09 Kcal
Food poverty line	18.84 Metical
Non-food poverty line	7.01 Metical
Overall poverty line	25.85 Metical

We can compare with the poverty lines estimated by MEF:

Table 9. A Summary of poverty lines, MEF

Provinces	Food poverty line	Non-food poverty line	Overall poverty line
Niassa & Cabo Delgado Rural	22.4	7.3	29.6
Niassa & Cabo Delgado Urban	23.0	10.6	33.6
Nampula Rural	14.9	4.8	19.7
Nampula Urban	18.7	8.0	26.7
Zambezia & Sofala Rural	15.1	4.5	19.7
Zambezia & Sofala Urban	18.7	8.2	26.9
Tete & Manica Rural	18.2	6.3	24.5
Tete & Manica Urban	23.0	10.9	34.0
Inhambane & Gaza Rural	18.6	9.6	28.2
Inhambane & Gaza Urban	21.0	11.7	32.7
Maputo Province Rural	24.5	13.1	37.6

[1] The sample to compute the mean price/calorie and mean calorie intake excludes those households whose daily per capita calorie intake is in the highest 1% (>= 16956.22 Kcal). We treat those observations as outliers.
[2] More specifically, the food expenditure of these households is between 0.9-1.1 times of the food poverty line.

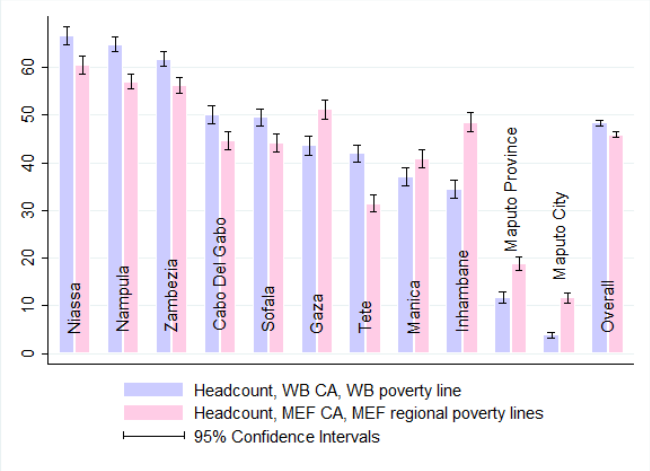
Maputo Province Urban	26.9	14.8	41.7
Maputo City	25.2	15.0	40.2

The following table summarize the poverty headcount rate (%) implied by poverty lines computed by WB and by MEF:

Table 10. Poverty rates implied by WB and MEF poverty lines

Province	Share of population in the reference group (%)	WB			MEF		
		Mean	Standard Error	95% Interval	Mean	Standard Error	95% Interval
Nampula	20.68	64.86	(0.74)	[63.42;66.30]	57.02	(0.76)	[55.52;58.51]
Zambezia	19.78	61.80	(0.78)	[60.27;63.33]	56.24	(0.80)	[54.68;57.80]
Tete	11.97	41.93	(0.93)	[40.11;43.76]	31.50	(0.88)	[29.78;33.22]
Cabo Delgado	8.69	50.03	(0.97)	[48.13;51.94]	44.59	(0.97)	[42.70;46.49]
Sofala	8.60	49.56	(0.92)	[47.76;51.37]	44.15	(0.91)	[42.36;45.94]
Manica	8.57	37.15	(0.95)	[35.28;39.02]	40.86	(0.97)	[38.96;42.76]
Niassa	6.56	66.70	(0.95)	[64.83;68.57]	60.54	(0.99)	[58.61;62.48]
Inhambane	5.90	34.52	(0.96)	[32.64;36.39]	48.51	(1.00)	[46.54;50.48]
Gaza	5.11	43.62	(1.01)	[41.64;45.60]	51.16	(1.02)	[49.16;53.16]
Maputo Province	2.96	11.80	(0.59)	[10.66;12.95]	18.79	(0.71)	[17.40;20.18]
Maputo City	1.19	3.83	(0.35)	[3.15;4.51]	11.66	(0.58)	[10.52;12.80]
Total	100	48.37	(0.28)	[47.92;48.83]	45.92	(0.28)	[45.46;46.37]

Figure 11. Poverty headcount rate, WB and MEF

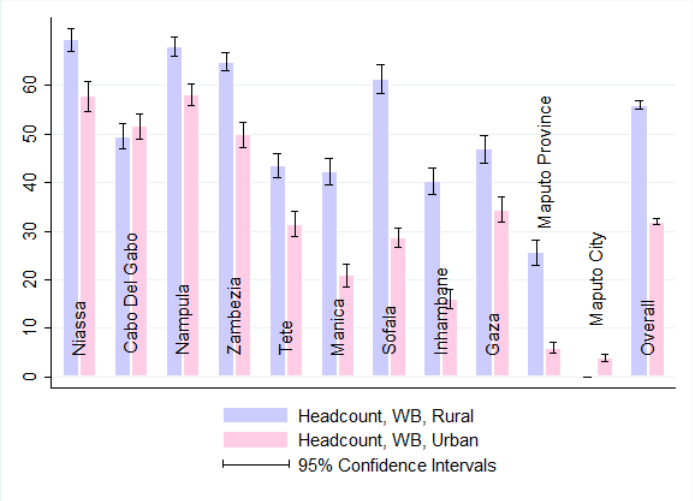


The following table summarize the poverty headcount rate (%) urban/rural implied by WB poverty line:

Table 11. Poverty rates implied by WB, rural and urban areas

Province	Rural			Urban		
	Mean	Standard Error	95% Interval	Mean	Standard Error	95% Interval
Nampula	68.06	(0.96)	[66.17;69.94]	58.08	(1.15)	[55.83;60.33]
Zambezia	64.92	(0.97)	[63.02;66.83]	49.88	(1.31)	[47.31;52.44]
Tete	43.57	(1.27)	[41.09;46.05]	31.47	(1.30)	[28.91;34.03]
Cabo Delgado	49.54	(1.37)	[46.85;52.23]	51.58	(1.38)	[48.87;54.28]
Sofala	61.36	(1.55)	[58.31;64.41]	28.68	(1.02)	[26.68;30.67]
Manica	42.24	(1.37)	[39.55;44.92]	20.84	(1.14)	[18.60;23.08]
Niassa	69.41	(1.21)	[67.04;71.77]	57.78	(1.57)	[54.70;60.86]
Inhambane	40.36	(1.41)	[37.58;43.13]	15.99	(1.03)	[13.97;18.00]
Gaza	46.85	(1.49)	[43.93;49.78]	34.36	(1.32)	[31.76;36.96]
Maputo Province	25.58	(1.31)	[23.01;28.15]	5.92	(0.54)	[4.86;6.97]
Maputo City	-	-	-	3.83	(0.35)	[3.15;4.51]
Total	55.98	(0.41)	[55.31;56.65]	31.97	(0.35)	[31.40;32.55]

Figure 12. Poverty headcount rate WB, rural and urban



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