



**Analysis using International and National Poverty Lines as a proxy for
a Living Income benchmark**

Dimitrios Minos

King's College London
Department of Political Economy

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Abbreviations

CPI	Consumer Price Index
FAO	Food and Agricultural Organisation
IPL	International Poverty Line
LSMS	Living Standard Measurement Studies
MKW	Malawi Kwacha
NPL	National Poverty Line
NSO	National Statistical Office
OECD	Organisation for Economic Co-operation and Development
PPP	Purchasing Power Parity
UN	United Nations
US\$	United States Dollars
WHO	World Health Organisation

SUMMARY

This report analyses the suitability of National and International Poverty Lines as approximations for a “decent standard of living” as defined by the Anker methodology. Standard poverty measurement defines living standards at subsistence level. These are regarded by many researchers and practitioners as very low. It is therefore essential to define a “decent standard of living”. The Anker methodology has proven very useful and popular in that regard. However, due to its data requirements it may be rather costly for interested stakeholders to perform independent analysis. This report explores the feasibility of using existing benchmarks and inflating them in an appropriate manner to approximate for a “decent standard of living”. The results suggest that using the World Bank’s International Poverty Line (1.90 US\$) may not be appropriate for a number of reasons. National Poverty Lines on the other hand are readily available by statistical offices along with the tools required to adjust them and they usually provide a more accurate picture of living standards in a particular region or country. The adjustments should aim at rendering them directly comparable to the Anker methodology. The idea is to implement the Anker methodology for a sufficiently high number of regions or countries and then perform a comparison with the local poverty line. Gathering enough data points and analysing them would then allow estimations of the margin one could add on top of the poverty line to approximate a “decent standard of living”. Interested stakeholders could then simply use a fast track method and add the mark-up on top of the local poverty line of the region of interest and thusly accurately approximate a “decent standard of living” for a household in a particular region.

1. Introduction

Ending poverty is one of the Sustainable Development Goals issued by the United Nations. Much of the discussion in the international community has revolved around this goal and several organizations have worked towards meeting it. However, many scholars have argued that “ending poverty” may not be enough since living standards as defined by poverty lines are quite low. The main argument is that people all over the world should be entitled to at least a “decent standard of living”. The question then is what constitutes a “decent standard of living” and how it can be estimated.

The newly developed Anker methodology is intended to estimate the cost of a “decent standard of living” for a household in any country or region around the world and can even be broken down to sector level (Anker and Anker (2017)). It calculates the estimation based on the costs of a nutritious diet, decent housing, other essential non-food expenses and a markup for unforeseen expenses such as funerals. Data are provided at a local level to give an accurate picture of prices, preferences, consumption patterns and living standards at a local level. Thus, it is becoming increasingly popular for setting “Living Income” and “Living Wage” benchmarks.

These estimations are becoming highly relevant for organisations that strive to ensure that workers are paid a fair wage that allows them to live “decently” off their earned income and also intend to impose Voluntary Sustainability Standards along value chains. However, the estimation remains rather data intensive as living standards and the associated costs vary across countries and regions and this can be costly for any interested stakeholders. This naturally raises the question whether any existing benchmarks such as National Poverty Lines (NPLs) and the International Poverty Lines (IPLs) can be used as an approximation. Given the fact that the estimation is meant to be used for defining a “decent standard of living” based on which workers around the world might receive a “Living Wage” and farmers obtain a “Living Income”, it is essential that the procedure is as accurate as possible. The purpose of this study is to give a brief overview of existing benchmarks and some first insights on their suitability for approximating a “decent standard of living”.

The analysis is structured as follows. First, a brief overview of the Anker methodology is presented in section 2. This is followed by an analysis of National and International Poverty Lines and their methodologies in sections 3 and 4. Section 5 provides suggestions on how one could adjust national poverty lines to render them comparable to “Living Income” estimates. The case study of Malawi is used to better illustrate this in section 6. Finally, suggestions for further analysis are followed by concluding remarks.

2. Anker Methodology

Recently, the newly developed Anker methodology has drawn quite some attention in the International Development community as a sophisticated and less data intensive method of

estimating a “decent standard of living”. It seems that several stakeholders are quite keen on utilizing the method in order to promote higher living standards and fairer wages for workers around the world. Indeed, the methodology improves upon existing methodologies and the estimations yield higher benchmarks compared to conventional poverty lines.

The Anker methodology defines a “decent standard of living” by taking four main components into account (Anker and Anker (2017)). These are a *nutritious diet*, a component for *housing*, a share for *other essential expenses* and a mark-up for *unforeseen events*.

A *nutritious diet* is estimated based on local preferences and prices for a household in a particular region. The focus is on World Health Organisation (WHO) and Food and Agricultural Organisation (FAO) recommendations as to what can be defined as “nutritious”. While most methodologies base their food component on the amount of calories required, the Anker methodology takes it even further and includes micronutrients, local preferences and availability of items in local markets.

The second component is *housing*. Most methodologies include it as part of a non-food component by assigning a cost to an average dwelling of individuals close to the poverty line. The Anker methodology treats housing as a separate component and argues that the average dwelling does not necessarily meet the standards of a “decent living”. The standard is set using recommendations from the UN-Habitat, as well as qualitative information provided locally as to what constitutes acceptable and healthy housing facilities. The price assigned represents the rental value of an acceptable dwelling or the “user cost” if the owner occupies it himself.

A *non-food component for other essential expenses* excluding housing is added on the basis of local expenditure patterns. This includes expenses for essential needs such as health and education, as well as clothing, transport, energy, communications, leisure and other religious or festive events. The methodology involves an analysis of secondary household expenditure data to determine the share of non-food non-housing expenses for certain percentiles of the income distribution. The percentiles in question are the ones around where the “decent standard of living” benchmark is suspected to be. If for example one has set a prior that the benchmark will be at around 5\$ per day, they would have to look at the share of non-food expenditures of households around that benchmark. The calculation then is rather simple and is estimated by taking the ratio of non-food (excl. housing) expenditures to food expenditures

(as provided by the household dataset) and multiplying it by the cost of the model diet. Some post-estimation checks using qualitative data can ensure that the estimated component adequately covers the local cost of decent education and health services.

Finally, a mark-up is added as expenses for *unforeseen events*. This is usually around 5-10%, but can vary across regions, mainly because of cultural differences (e.g. weddings, dowries and funerals).

The main purpose of this exercise is to define a “decent and acceptable standard of living” as the local population would define it, which is priced at a local level. The estimated cost is then divided by a reference family size that is locally defined by the average household size, local fertility and child mortality rates. Moreover, it is adjusted by an estimation of the number of workers per family, as it is assumed that more than one individual is gainfully employed and contributes to the family income.

Naturally, the Anker methodology relies on some strong assumptions, but requires far less data than a standard poverty methodology, which requires detailed household surveys. Furthermore, it is meant to be more representative at a local level rather than a national average.

3. National Poverty Lines

National Poverty Lines are widely used to monitor poverty and identify affected population groups (see for example NSO Malawi (2013) for Malawi and Priebe (2014) for a brief description of measurement in Indonesia). The main purpose is to answer the question “How many poor live in the country and how to identify who they are?”. There are two main types of NPLs, relative and absolute poverty. Absolute poverty lines are most commonly used in the developing world and try to define the minimum monetary requirement at subsistence level. However, even for such a simple premise there are many theoretical considerations one needs to take into account and the relevant literature has tried to address these over the past decades (KfW (2012)). This analysis will mainly focus on the “Cost-of-Basic-Needs” methodology, which is based on household expenditure data and is widely used by many statistical offices across the developing world. The “Cost-of-Basic-Needs” methodology itself has some issues, many of which are being addressed by the Anker methodology. Other methodologies have been suggested over the past decade as well, but the “Cost-of-Basic-Needs” methodology has

gained the confidence of many researchers and statistical offices, despite its drawbacks. Moreover, it bears certain similarities to the Anker methodology, which implies a certain level of comparability.

The “Cost-of-Basic-Needs” methodology originates from Rowntree in the 19th century (Ravallion (1992)) and was further developed by Ravallion (1998) and Deaton and Zaidi (2002) and is implemented by the World Bank to analyse poverty using the Living Standard Measurement Studies (LSMS). The methodology is designed to capture the well-being of households through consumption. To express consumption in monetary terms, data on expenditures are collected. These are analysed to construct the so-called consumption aggregate of households. The consumption aggregate is then compared against a poverty line which is defined as a subsistence level of consumption. Consumption and the resulting poverty line are both implied to include a food and non-food component. This methodology is most commonly used by statistical offices around the world for poverty measurement and can be applied to most household surveys. Moreover, the NPLs, that were used to estimate the IPL, largely rely on similar methodologies.

3.1. Consumption Aggregate

Food component

Household expenditure data can reveal the amounts spent on food items in a given period of time. Respondents in surveys are asked to recall how much they spent on a number of food items over a certain period. These recall periods are usually 1 week for frequently bought items or items that are not easily stored like fresh vegetables and meat and about 4 weeks for infrequent items such as flour or sugar. Most datasets also estimate a value for own-produced food items and items received as a gift or in-kind payment. The pricing is usually based on local prices if available.

Non-food component

Expenditure modules of surveys usually include an extensive range of non-food items households spend money on. These typically include expenses for education, health, energy, services, communications, transport, entertainment and regular religious or festive events. In many cases expenses on infrequent items such as weddings or dowries are excluded. The same applies to repayment of mortgages and debts as well as payments for remittances, as they do not directly contribute to consumption, but flow out to household members abroad. For the non-food component the recall periods are somewhat larger and extend from 1 month for somewhat frequent expenses

such as toiletries or health expenses and can expand to one year for very infrequent expenses such as a vacation or a wedding.

Housing

Valuation of housing can be rather difficult when looking at expenditure data. The usual approach is to record the monthly rent households are paying. However, these are only a minority in developing countries, especially in rural parts. In some cases, a hypothetical question on the amount they would be paying is included. If not, a hypothetical value can be imputed using regression analysis. The dwelling's characteristics, such as size, roof and floor material, sanitation facilities, access to water and electricity and the region are used to assign a value to the dwelling. The average imputed value of dwellings occupied by households that are assumed to be close and around the poverty line is then added to the poverty line.

Durable goods

Durable goods are also treated differently, as they are usually large purchases that can distort monthly expenditure data and the household gains in welfare for long periods of time. Typical examples are household appliances and motorised vehicles. These expenses are usually subtracted from total expenditure and a value is assigned based on the presence of such goods, their initial purchase price and their age for discount purposes (if available).

Household composition

One key feature of this approach is that it adjusts household expenditure according to the composition of the household. The usual approach is to look at per capita consumption, which would imply dividing total household expenditure by the number of household members. However, this approach has been refined by accounting for the number of children and economies of scale as well. The main assumption is that children tend to consume less than adults. Therefore, adjustments are made for the number of children residing in a household. A second assumption is that larger households can benefit from economies of scale. The total household consumption is then adjusted to reflect the so-called Adult Equivalence (AE). This results in the household expenditure being divided by the following expression:

$$AE = (A + \alpha K)^\theta$$

Where A is the number of adults, α is the consumption share of a child relative to an adult, K is the number of children and θ corrects for economies of scale. These are set a priori and are quite standard in the literature.

Price differences

Cost of living may be subject to both seasonal and regional fluctuations. The literature proposes the use of deflators such as the Paasche Index and the Laspeyres Index to account for that and many statistical offices implement this methodology (see Deaton and Zaidi (2002)).

3.2. Poverty Line

Food poverty line

This methodology assumes a minimum amount of calories required per person based on WHO and FAO recommendations. It mostly depends on the country in question, but it is usually set at around 2400 kcal per person per day, as it is the case for Malawi (NSO Malawi (2013)). In some cases, the benchmark varies for males and females and can also be adjusted upwards for predominantly agricultural economies, where a higher energy level is required to maintain labour productivity.

The composition of the food basket is determined by expenditure data. It is assumed that individuals close to the poverty line have similar consumption patterns that reflect subsistence needs and to some extent preferences. Interquantile analysis of expenditure data (including own-production and in-kind payments) reveals which food items are commonly consumed. The food shares are then used as weights and the food basket is valued using the respective food prices.

Non-food poverty line

It is standard practice in poverty measurement to consider non-food expenses. The non-food component is usually simply added on top of the food component using a similar interquantile analysis. It is assumed that households close to and around the poverty line will spend a share of their available income on health, education, toiletries, clothing, services, leisure, transport, communications and regular religious or festive events in a consistent manner. Some statistical offices include housing expenditures and expenditures on durable components in this module, whereas others treat them separately. For the purposes of this analysis and to ensure comparability to the Anker methodology, they will be viewed separately. The key take-away is that housing and durables

are in some sense included in the poverty line. Moreover, the resulting poverty lines have been adjusted for price differences and adult equivalence (see for instance NSO Malawi (2005)).

Adjusting the poverty line for yearly price changes

Frequently changing methodology or the composition of the food basket can render the results across rounds incomparable. Moreover, with prices changing over time, poverty lines need to be updated as well. In many cases statistical offices use the Consumer Price Index (CPI) and its components to update the individual components of the poverty line (see for instance NSO Malawi (2013)). CPIs are calculated regularly and are usually split between food and non-food items. It is also common practice to estimate CPIs for urban and rural areas separately. Moreover, CPIs for different regions within a country may also be available.

CPIs have the advantage that they are expressed in domestic currency so that these adjustments do not really need any further adjustment using Purchasing Power Parities (PPP) that can in turn lead to more complications (see section below).

National Poverty Lines and “decent standard of living”

It becomes evident that a “decent standard of living” relies on very similar premises as the NPLs. They share similar foundations and components. Methodological differences aside, both try to reflect a “standard of living” in a particular country or region as accurately as possible. The standards for poverty are obviously lower and cannot really be described as “decent”. Nevertheless, both concepts share many similarities, especially when it comes to the individual components. Therefore, it may be feasible to use NPLs to approximate for a “decent standard of living” benchmark.

4. International Poverty Line

IPLs were constructed by the World Bank in 1990 with the purpose of answering the question “How many poor live in the world?”. This question is more complicated than it appears, and numerous assumptions and strong simplifications need to be in place in order to answer it (Deaton et al. (2006), Gentilini and Sumner (2012), KfW (2012), Klasen et al. (2015)). NPLs of 15 of the poorest countries¹ were translated into US dollars using PPPs. For the most part, the methodology for each of these 15

¹ Malawi, Mali, Ethiopia, Sierra Leone, Niger, Uganda, Gambia, Rwanda, Guinea-Bissau, Tanzania, Tajikistan, Mozambique, Chad, Nepal and Ghana

poverty lines is similar to the one described above. Food and non-food components define the subsistence level in each country and constitute a poverty line. The average of these 15 NPLs expressed in US\$ PPP defines the IPL. The IPL can then be translated back into local currency using PPP exchange rates.

In one of the most recent adjustments the IPL was calculated at 1.25\$ per person per day using 2005 PPP US\$. Since then it has been adjusted upwards to reflect price increases. The latest revision using 2011 PPPs sets the IPL at 1.90 US\$ per person per day. This one is also referred to as the “Extreme Poverty Line” (OECD (2013)).

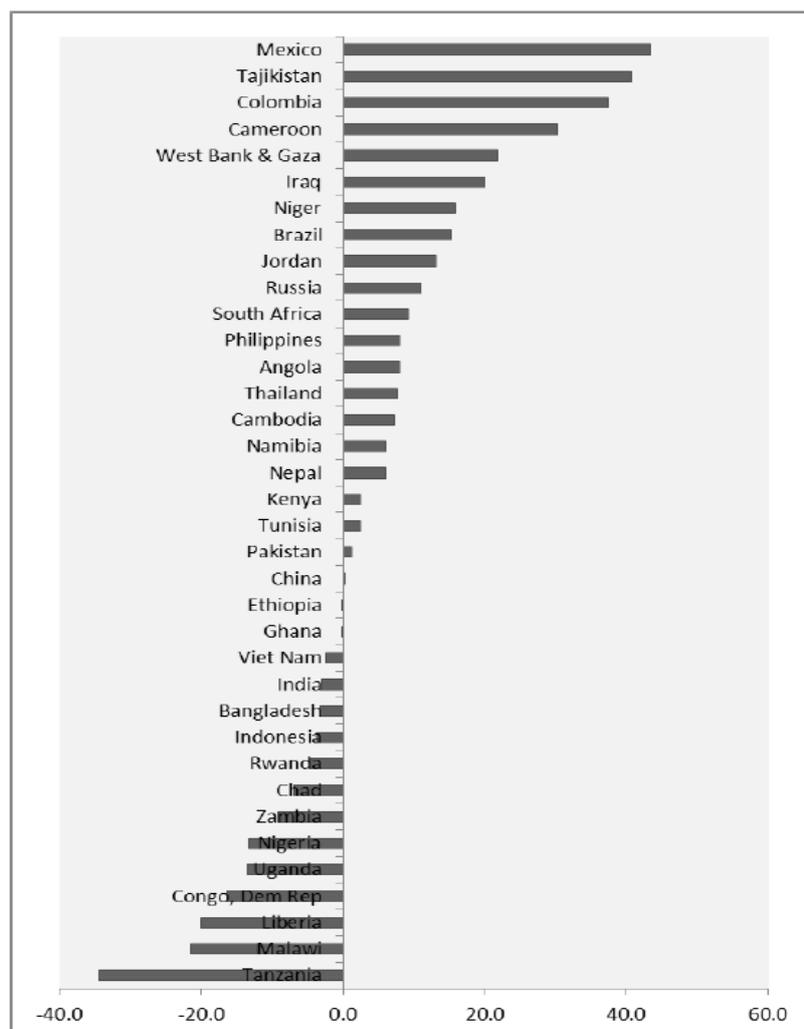
This approach is based on the main assumption that poverty is similarly defined across the globe and that at low levels of consumption variability decreases. This approach has been thoroughly criticised in the literature (KfW (2012), OECD (2013)). This leads to some inaccuracies as living standards vary a lot across countries and especially at a local level. The sample of countries used to define the IPL relies heavily on countries located in Sub-Saharan Africa and does only include Nepal and Tajikistan to represent countries in other regions. This caused the World Bank to introduce two additional poverty lines at 3.20 US\$ and 5.50 US\$ per person per day representing the average poverty line for low- and middle- income countries respectively, following the recommendation of Jolliffe and Prydz (2016)². These are meant to better reflect consumption patterns in countries or regions with higher price levels and/or different consumption patterns (e.g. emerging economies or urban areas (Lucci et al. (2016))).

Several critics of the IPL (see for instance OECD (2013)) argue that the original 15 poverty lines that were used to construct the IPL may have a severe regional bias. The argument is that the consumption patterns reflected in these 15 NPLs are not necessarily representative of consumption patterns everywhere, especially since the majority of the 15 countries is located in Sub-Saharan Africa. The availability of items consumed at subsistence level differs across countries and regions. For example, staple foods widely consumed in Sub-Saharan Africa, may not be available or consumed in South Asia. Moreover, even if consumption patterns of the poor all over the globe were the same at the time when the IPL was first constructed, it is unlikely that the same holds true nowadays, as prices of these baskets and items changed drastically and in a different manner in each country. Secondly, with increasing incomes and economic growth, consumption patterns and preferences have changed as well, even for the lowest income countries. The recent adjustments only updated the prices without changing the composition of the original baskets (OECD (2013)). It is therefore likely that the IPL is not accurately reflecting standards of living in every country and potentially not even within countries.

² <http://blogs.worldbank.org/developmenttalk/richer-array-international-poverty-lines?CID=POV TT Poverty EN EXT>

A simple exercise can reveal the huge discrepancies of the ILP by calculating the share of people below the poverty line using an NPL and the IPL. Gentilini and Sumner (2012) simply subtracted these shares (IPL poverty headcount minus NPL poverty headcount) and came to the conclusion that the differences are very high and without a clear pattern (see Figure 1). Mexico for instance estimates absolute poverty at a national level that is more than 40 percentage points higher compared to what the IPL suggests for the country. In Tanzania, on the other hand, the IPL estimates poverty to be more than 30 percentage points higher than what the NPL suggests. The authors note that this can result into more than 40 million people appearing richer in Mexico according to the IPL, whereas more than 40 million people in India may appear poorer. Their estimates are based on the 2005 PPP revision of the IPL.

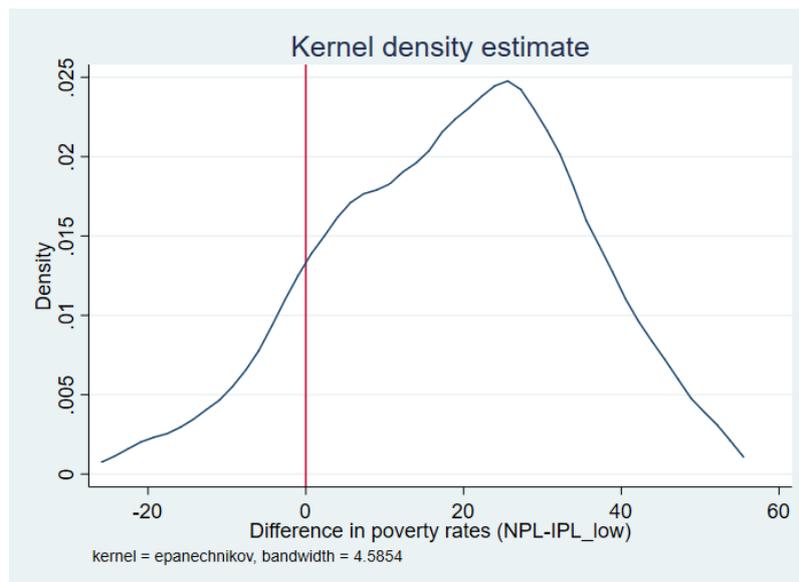
Figure 1. Difference in percentage points between national and international poverty estimates (2005 US\$ PPP)



Source: Gentilini and Sumner (2012)

The same exercise can be performed with the latest data. The World Bank provides estimates of poverty headcounts for a number of countries using the latest IPL in 2011 PPPs, as well as NPLs. Simply taking their difference reveals large differences and inconsistent patterns. A simple Kernel density estimate of the differences between estimations derived from the NPLs and the 1.90 US\$ IPL shows that the IPL suggests much lower poverty for most countries as the distribution is largely to the right (see Figure 2). Ideally, they would both estimate the same number of poor in each country, with a difference being close to 0. This does not seem to be the case as can be seen in the figure below. The range is very large as it extends from -20 percentage points to more than 50 percentage points. This potentially affects millions of people that are defined as poor using NPLs but are not counted as poor using the IPL.

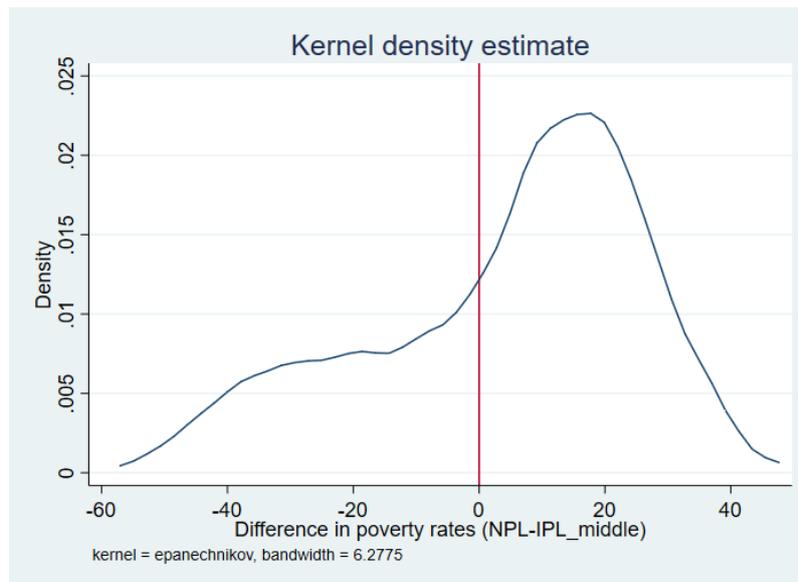
Figure 2. Density estimate of the difference in percentage points between national and international poverty estimates across countries using the 1.90 US\$ (2011 PPP)



Source: Own calculation. World Bank data

The 3.20 US\$ IPL reveals a somewhat similar picture. The Kernel density can be seen below (Figure 3). Although most countries are still placed on the right, the left tail of the distribution extends further. The range is still between -50 and +40 percentage points.

Figure 3. Density estimate of the difference in percentage points between national and international poverty estimates across countries using the 3.20 US\$ (2011 PPP)



Source: Own calculation. World Bank data

The wide range and the inconsistent shape implies that NPLs and any of the IPLs estimate two very different things. This is one of the main reasons why NPLs might be better suited for approximating a “Living Income” benchmark as they are more likely to accurately reflect the consumption patterns of the poorer households in a specific country or region.

These discrepancies can also be observed within regions. The difference in estimated poverty rates in Latin America for instance can range from +3.7 percentage points in Brazil to +50.2 percentage points in Mexico, when using the 1.90 US\$ IPL. The range is similar when using the 3.20 US\$ IPL, as the difference in the extremes lies at -1.3 p.p. in Brazil and at 41.4 p.p. in Mexico.

A similarly inconsistent picture is observed in Sub-Saharan Africa, where NPLs estimate less poverty by as much as 21.3 percentage points in Rwanda compared to the 1.90 US\$ IPL. On the flipside NPLs estimate higher poverty by as much as 19.8 percentage points in Cote d’Ivoire and 45.2 percentage points in South Africa. It becomes evident that even within regions the range is very large and could potentially affect millions of people.

Purchasing Power Parities

Other researchers focused more on the practice of using PPPs to adjust for the purchasing power of currencies in order to render them comparable across countries. As Deaton (2006) notes, PPPs serve the purpose of transforming local currency in international dollars in a way that reflects the purchasing power at a local level. The main assumption is that tradeable goods have roughly the same value

around the world. This is the basis for calculating exchange rates. However, this does not take the price of services into account. As services are mostly a result of individual labour, their value varies wildly across the globe, even though the quality of the service is roughly the same. When it comes to poverty lines, using the exchange rate would make the poor appear poorer. The calculation of PPPs is therefore based on a bundle of goods and services used by the local population. However, this approach results in a consumption bundle reflecting the behaviour of the richer (KfW (2012)). The reason for this is that many of the services taken into account are not necessarily used by the poorer households. PPPs that are used for the adjustment of the poverty lines have therefore been criticised as plutocratic reflecting consumption patterns well above the poverty line. Therefore, their appropriateness in translating poverty lines is questioned.

Other International Poverty Lines

As the IPL is not necessarily reflective of consumption patterns in every region, several adjustments have been suggested, such as the Asian Poverty Line, which was developed by the Asian Development Bank and simply follows the World Bank methodology for a number of Asian economies. The purpose was to set a benchmark, which is appropriately reflecting consumption patterns and price levels in Asian economies. The Asian Poverty Line was defined in 2005, but it has not been updated since.

Suitability of the IPL

The purpose of the IPL is to give a rough estimation of the number of poor in the world. Accuracy is not necessarily a priority at a local level. The differences in poverty headcounts using the NPLs and the IPL reveal as much. Moreover, the PPPs do not necessarily reflect consumption patterns of the poor in a country and even less at the local level. Consequently, the patterns become very inconsistent. For the most part, the IPL underestimates poverty by setting the bar too low. This is especially true for emerging economies and urban areas that face higher price levels. Stakeholders that wish to approximate a benchmark for a “decent standard of living” may be misled by using the IPL. Setting a benchmark that is low could result into a “Living Income” way below the national poverty threshold. This may contradict the purpose and the desire of interested stakeholders.

5. Adjusting NPLs for comparability

If NPLs are used to approximate the “cost of a decent standard of living”, some adjustments will be required. It is essential that both concepts are comparable and tailored to the researcher’s needs.

Adjusting for prices

The NPL will need to be adjusted for inflation and regional price differences. The CPIs provided by statistical offices can be used for this purpose. One can use the CPI of the year the poverty line is calculated and update it to the period in question. Ideally, urban/rural and/or regional CPIs are available to tailor the NPL to the region in question. Moreover, if the NPL is split into food and non-food components, these can be updated with the respective CPI.

Adjusting for unit of measurement

Usually, NPLs are defined either as expenditure per capita or using adult equivalence and/or economies of scale. If the latter applies, the statistical office usually provides the information on the scales used. If that is the case, one can simply reverse this calculation to define the standard of living either at the individual or the household level. Most statistical reports also list the average and median household size in certain regions if the information is required.

Adjusting for components

In most cases, the statistical offices provide detailed information on the methodology used for defining a poverty line. This can help researchers to ensure that the components used are similar to those used for any other “standard of living”. To ensure comparability, one can add or remove components accordingly. For example, one can remove a “durable goods” component from the NPL. Moreover, one can add expenses for health and/or education that will have an equal share as in the “decent standard of living” approach.

6. Case study: Malawi

The case of Malawi can be used to illustrate the required adjustments, as the National Statistical Office (NSO) provides all required information. Moreover, the NSO uses the “Cost-of-Basic-Needs” approach

to estimate the NPL and updates it regularly using the CPI. Furthermore, “Living Income” benchmarks based on the Anker methodology have also been estimated and can be used.

A “decent standard of living” can be reached for the smallholder tea sector in Malawi if 607.4 MKW (Malawi Kwacha) are available per person per day (Anker and Anker (2016), Chiwaula et al. (2017), Krain et al. (2017)). The same study estimates that the 1.90\$ IPL translates into 364.91 MKW per person per day. These estimates are based on July 2016 prices.

The NSO of Malawi in its methodology for poverty analysis updated the 2010 NPL to 2013 prices (NSO Malawi (2005) and NSO Malawi (2013)). A total of 85,852 MKW per person per year define the poverty line. At 365.25 days, this corresponds to 235.05 MKW per person per day. The poverty line is split into a food and a non-food component that represents “an allowance for non-food needs”. Unfortunately, no information is provided for the size of the durable goods component, so that it cannot be subtracted from the poverty line. The poverty line itself is already defined per person, so no further adjustment is required in that regard.

As the benchmark is calculated for smallholder tea farmers, the rural CPI provided by the NSO can be used to update the poverty line to July 2016 prices. Moreover, the poverty line is split into a food and a non-food component. These can be updated separately. However, in this case the food and the non-food component for Malawi enter the poverty line roughly in equal shares when entering the rural CPI (the food component is about 62% of the total; NSO Malawi website). Therefore, one can simply use the rural CPI for the necessary adjustments. CPIs in Malawi were lastly revised in 2012. The CPI for 2013 is 124.7 whereas the one for July 2016 is 213.9. This implies that the poverty line for rural areas in Malawi expressed in July 2016 prices should be adjusted to 403.2 MKW per person per day. This is somewhat higher than the 1.90\$ IPL adjustment of 364.91 MKW, but still lower than the “Living Income” benchmark. This results in the “Living Income” benchmark being roughly 50% higher than the adjusted and comparable NPL.

7. Where do we go from here?

A fast track method that uses the IPL seems to be imprecise and unsuitable for this purpose. Ideally, one would simply have to take a NPL to which only a mark-up needs to be added in order to approximate a “Living Income” benchmark. The case study of Malawi illustrates how this could be done.

However, these fast track methods are still somewhat unreliable for approximating “Living Income” benchmarks. It is crucial to gather as many comparable data points as possible to come up with a fast

track method that is both accurate and easily implemented in every country or region a stakeholder may be interested in. This would require gathering data and implementing the Anker methodology in a significant number of regions and economic sectors in order to estimate a sufficiently high number of “Living Income” benchmarks around the world and to adjust NPLs for the same regions accordingly. It is expected that the Anker methodology will yield results that are consistently higher than the respective local poverty lines. The idea is then to compare these estimates for a “decent standard of living” with the local poverty lines to observe emerging patterns. A sufficient number of such data points would be required for a meaningful statistical analysis in order to be able to detect patterns and whether consistent differences can be observed between the estimated benchmark and the adjusted comparable NPLs. The absolute minimum of such data points as a rule-of-thumb common in estimating sample sizes would be 30. The more are gathered the more precise and powerful statistical tools can be used. The purpose would be to conduct sensitivity analysis in order to determine whether any estimated benchmark is consistently higher than the adjusted NPL and whether their difference follows a consistent pattern, so that one would simply need to add it as a mark-up on an NPL to approximate for a “decent standard of living” benchmark.

It is possible that the pattern that emerges is inconsistent and the margins vary too much across regions. In that case one could consider to employ regression analysis to estimate the mark-up or the benchmark. This would require a sufficient number of data points. The NPL can be used as a covariate along with regional dummies and an urban/rural dummy that ought to capture the inconsistency in the pattern. The estimated coefficients could then be used to impute or approximate a “Living Income” benchmark.

This type of analysis would yield a much more reliable fast track method that would allow interested stakeholders to easily estimate “Living Income” benchmarks for the region in which they are interested. They would simply have to take the NPLs and add X% to it in the local currency. The key is, however, to estimate benchmarks using the Anker methodology for as many regions as possible, in order to obtain precise and reliable estimates that would be sufficiently high to ensure that individuals around the world would be able to afford a “decent standard of living” for themselves and their families.

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