

Arab Development Challenges
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**The ADCR 2011: Towards More
Sensible Poverty Measurement**

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Gihan AbouTaleb
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*Empowered lives.
Resilient nations.*



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Acronyms and Abbreviations

AC	Arab Countries
CIS	Commonwealth of Independent States
DR	Developing Region
EAP	East Asia and Pacific
ECA	Europe and Central Asia
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GFS	Global Finance Statistics
HIES	Household Income Expenditure and Consumption Survey
ILO	International Labour Organization
IMF	International Monetary Fund
LAC	Latin America and Caribbean
LDC	Least Developed Countries
LIC	Low Income Countries
MDGs	Millennium Development Goals
MIC	Middle Income Countries
NPL	National Poverty line
OPT	Occupied Palestinian Territories
PCE	Per capita consumption expenditures
PL	Poverty Line
PPP	Purchasing power parity
RPL	Regression based poverty line
SAS	South Asia
SSA	Sub-Saharan Africa
UAE	United Arab Emirates
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WDI	World development Indicators
WHO	World Health Organization

Introduction¹

From a money-metric perspective, poverty is a crystal-clear concept. A household is considered to be poor (poverty is typically estimated for households, not for individuals) if the total income or expenditure of its members lies below a specific threshold (often referred to as the poverty line) which reflects the cost of meeting the family's basic food and non-food needs. Poverty can be thus be defined in terms of the monetary value required to attain a particular level of welfare. In a way, these money proxies for some of the broader dimensions of poverty— for example, with sufficient financial resources, households and individuals can conceivably purchase better health care and better education for their children. However, they cannot easily improve their own education or job opportunities or access good and sufficient public services if they are not there to begin with. Therefore, while the 'money metric' indicator of poverty is a powerful tool to understand the scope of deprivation, it should, at the very least, be supplemented by other indicators of well-being discussed in Abu-Ismaïl et. al. (2011).²

Theoretically, the food poverty line is the principal anchor for money-metric poverty measurements. Following the 'basic needs approach'; food poverty lines in developing countries are set as the cost a normative 'basic needs' bundle of goods which is typically chosen to reach a predetermined caloric requirement with a composition that is consistent with the consumption behavior of the poor. This bundle is then evaluated using prices prevailing in each of the country's regions and at each date. The cost of the bundle is known as the food poverty line. The food poverty line is augmented by an allowance for expenditure on essential non-food goods. Following Engel's law, the non-food allowance can be estimated in two ways; (i) by regressing the food share against total expenditures and identifying the non-food share in the expenditure distribution of households whose expenditure on food is equivalent to the food poverty line; or (ii) by identifying the share of non-food expenditure for households whose total expenditure is equivalent to the food poverty line.

The former approach yields an "upper" bound of the poverty line, while the latter yields a "lower" bound, since it defines the total poverty line in terms of those households who had to displace food consumption to allow for non-food expenditures, deemed to be a minimum indispensable level of non-food requirements.

A poverty line can also be held constant over time and across countries as has been the practice in the specialized literature dealing with global poverty comparisons conducted by the World Bank and UN (e.g. the famous one and two dollars a day per person PPP poverty lines). As argued in this paper, if, for a variety of reasons, PPPs do not equate purchasing power, a more sensible approach for international comparisons would allow the poverty line to be related to changes in the standard of living.³

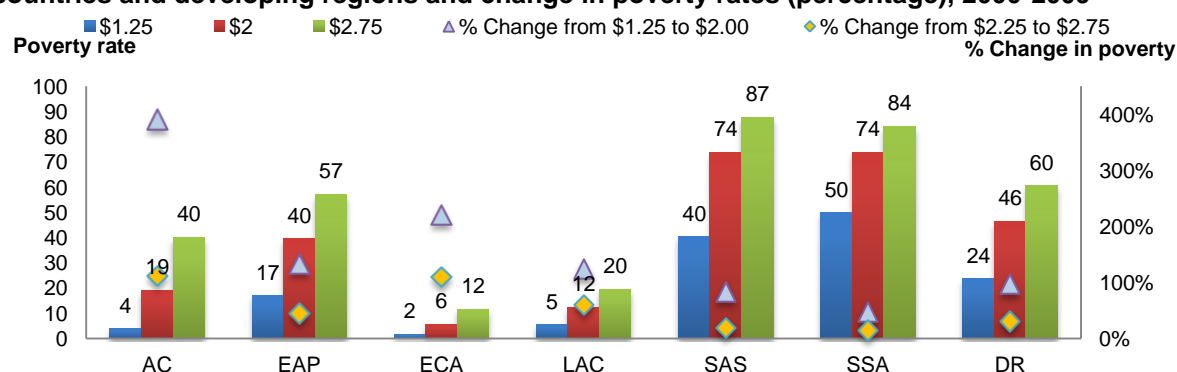
It can be inferred from this typology of poverty lines that poverty measurement lends itself to a wide range of definitions and measurement methodologies. These conceptual and measurement differences yield, in turn, a spectrum of results. Data weaknesses and limitations in the Arab region also present an often insurmountable obstacle to poverty and inequality assessments. Hence, it should not come by as a surprise that there is little agreement, even among Arab poverty experts, on the most basic questions such as: how many poor people are there in the region today? Have Arab countries been successful in reducing poverty? Relative to other developing regions, where does the region stand on the poverty, inequality and growth of per capita expenditure? What are the characteristics of the Arab poor population? Which policies, programsinterventions are most effective in reducing extreme poverty? Are there successful poverty reduction experiences that can be easily emulated?

No doubt, these questions are difficult to address, let alone in a single paper. Still, we attempt to cover, to the extent possible, the first three questions with some analytical and empirical depth relying on the most famous measure of poverty, namely the head-count ratio (which is the ratio of those with consumption expenditure below a specified poverty line to total population and is also known as the poverty rate). The relevant stylized facts we aim to examine for the Arab region in this paper are thus (i) the spread of money-metric poverty and its evolution over time compared to other developing regions and (ii) the degree of inequality in the distribution of consumption expenditure, also in comparison with developing regions.

The first section reviews the conventional story-line on poverty as purported by the \$1.25 poverty line. It also shows that the Arab region's poverty rate increases at a more rapid pace than any other region for all poverty lines above the \$1.25. In the following section we resort to national poverty lines, which do indeed plot a more sensible picture for the Arab region as a whole -with the exception of Tunisia and Morocco- but there is a serious comparability problem with other developing regions since some countries with large demographic weight, such as China, also underestimate their national poverty lines considerably. Section three solves this problem by allowing the poverty line to vary with expenditure. Hence, using national poverty lines and per capita expenditure derived from household surveys we estimate the appropriate poverty line for international comparisons for fifty nine developing countries based on a significant number of survey results (over 350 surveys) and report the poverty rates based on these 'new' poverty lines. The following section makes use of the same dataset to examine the growth-inequality nexus in the Arab region, also relative to other developing regions. Finally, we end with a few concluding remarks.

The Arab Poverty Story Based on Fixed Poverty Lines

Figure 1: Proportion of people living on less than \$ 1.25, \$ 2 and \$ 2.75 a day in the Arab countries and developing regions and change in poverty rates (percentage), 2000-2009



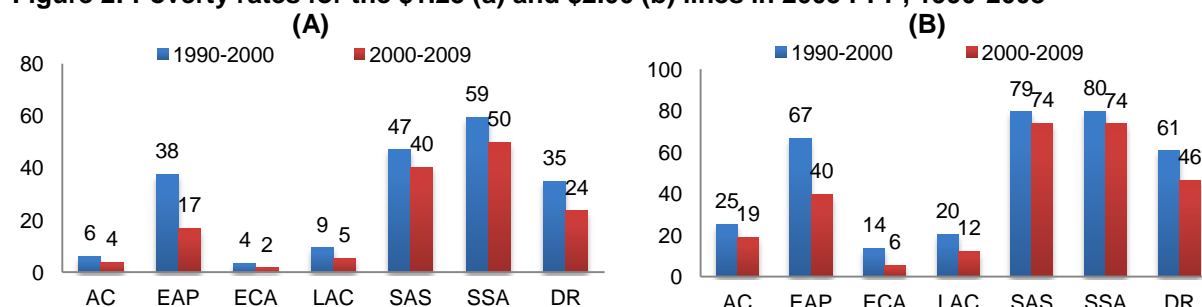
Source: Authors calculation and estimates based on World Bank POVCAL datasets (in 2005 PPP), UNDP Poverty Assessment Reports and HIES unit record data.

Note: Arab countries included are Egypt (1991 and 2009), Syria (1997 and 2007), Jordan (1997 and 2006), Tunisia (1990 and 2000), Morocco (1991 and 2007), Yemen (1998 and 2005), Djibouti (1996 and 2002) and Mauritania (1996 and 2000).

In cross-country comparisons, extreme poverty is regularly measured against the international \$1.25 poverty line (in 2005 PPP). Using this commonly accepted poverty threshold, Figure 1 shows poverty is remarkably less widespread in the Arab region (less than 5 per cent in 2005-2009) compared to other developing regions. However, the magnitude of poverty and the ranking of the Arab region changes considerably with higher poverty lines. Thus, in 2008, based on the \$1.25 line, the region has almost the same headcount poverty rate of the far richer Latin America& Caribbean region, yet based on the

\$2.75 line its poverty rate is double of that of Latin America& the Caribbean. Similarly, Figure 1 shows that with the \$2.00 and \$2.75 poverty lines, the gap between the headcount poverty for the Arab region and the global average narrows more rapidly than in any other region. As a result, as we increase the value of the poverty line from \$1.25 to \$2.00 to \$2.75, poverty rates increase by a considerably higher margin in the Arab region, compared to any other developing region.

Figure 2: Poverty rates for the \$1.25 (a) and \$2.00 (b) lines in 2005 PPP, 1990-2008



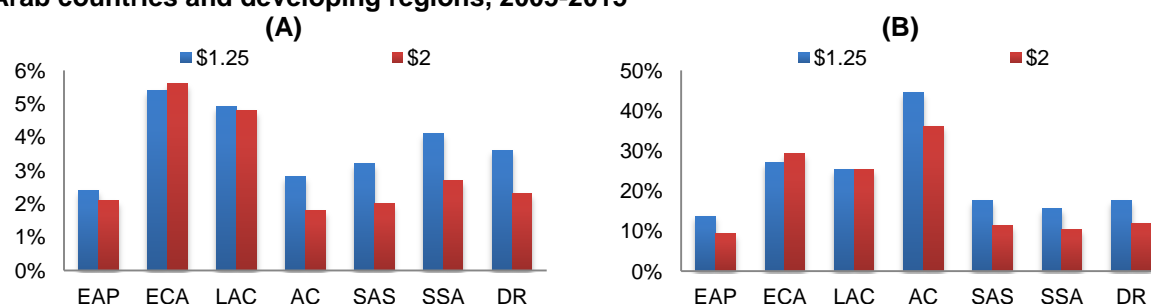
Source: World Bank POVCAL datasets (in 2005 PPP) and UNDP estimates derived from HIES unit record data.

Note: Arab countries included are same as Figure 1

Poverty trends for the \$1.25 and \$2.00 lines are shown in Figures 2.A and B, respectively. Both graphs indicate the bulk of the progress world-wide was achieved by East Asia& the Pacific. This is understandable given the relatively high economic growth of China since 1990. For the eight Arab countries in the sample, poverty rates according to the \$1.25 declined by 2% which implies the region is on track to halve extreme poverty by 2015. However, poverty reduction according to the \$2.00 was far more subdued for developing regions including the Arab region, but also with the notable exception of East Asia& the Pacific.

One conclusion which can be easily derived from Figures 1 and 2 is that poverty-as measured by the international poverty lines- is very shallow in the Arab region (i.e. a significant proportion of the population is clustered between the \$1.25 and \$2.75 lines). Hence, any small shock to disposable income or income distribution can produce a significant impact on poverty in this region. This is also confirmed by the 2010 Global Monitoring Report by the World Bank and the IMF which projects that the Arab region, whilst thus far being the lowest affected by the global financial crisis (Figure 3.A), may suffer more than any other region if growth falters (Figure 3.B). It is also confirmed by other regional poverty studies which report high poverty-growth elasticity for most Arab countries.⁴

Figure 3: Poverty reduction forecasts under \$1.25 and \$2.00 poverty lines (% change from pre-crisis to post-crisis trends (A) and % change from pre-crisis to low growth scenario (B)) for Arab countries and developing regions, 2005-2015

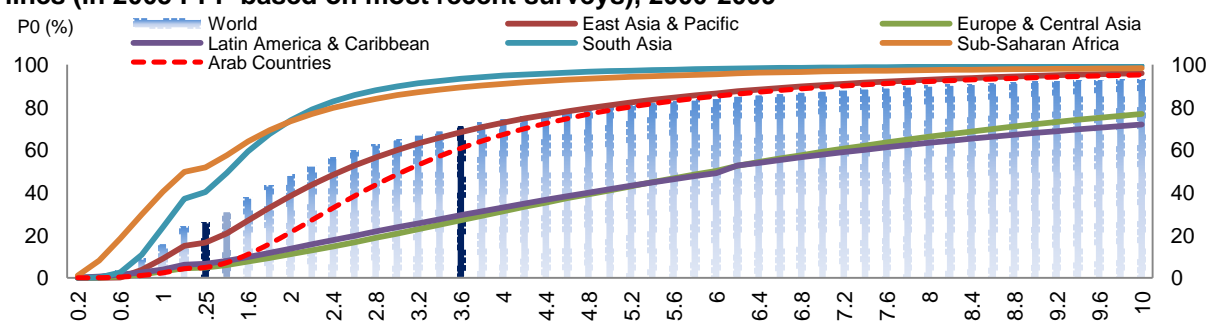


Source: UNDP estimates based on data in the Global Monitoring Report (IMF and WB, 2010).

Notes: The pre-crisis trend gives the forecast path assuming historical growth performance achieved during 2000–2007. The impact of the crisis on the MDGs can thus be measured by comparing the post-crisis trend with this one. The post-crisis trend assumes a relatively rapid economic recovery in 2010, with strong growth continuing into the future. The low-growth scenario assumes little or no growth for about five years then a slow recovery.

A second conclusion which emerges from the figures is that the choice of a poverty line, while clearly affecting poverty rates in all regions, has higher reverberations on poverty rates in the Arab region. This is quite clear in Figure 4 which plots poverty incidence curves over a range of poverty lines (ranging from 0.2 to 10\$ PPP). At any value which is lower than 1.25, the Arab region displays a very low poverty incidence (at par with Europe & Central Asia and lower than Latin America & the Caribbean). However, poverty rates for the Arab region jump sharply at higher poverty lines so that, at a poverty line of approximately three dollars a day, the region's poverty rate is far closer to that of the average for all developing regions. Interestingly, this is not the case for other regions. South Asia and Sub-Saharan Africa are consistently poorer than other regions, East Asia & the Pacific is consistently within close range of the global average and Latin America & the Caribbean and Europe & Central Asia are consistently below other regions.

Figure 4: Poverty rates for Arab countries and developing regions across a range of poverty lines (in 2005 PPP based on most recent surveys), 2000-2009

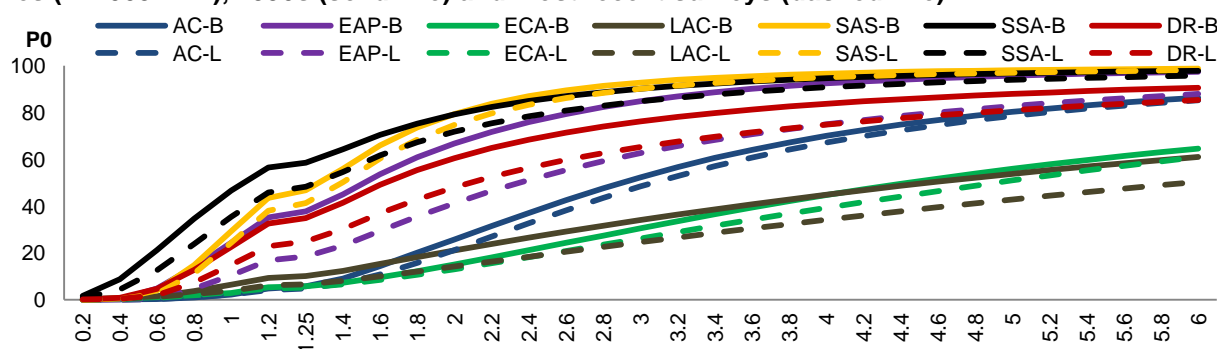


Source: ibid

Note: Arab countries included are Comoros, Djibouti, Egypt, Jordan, Mauritania, Morocco, Tunisia and Yemen

Figure 5 shows the poverty-rate-sweep over time. Clearly there is a shift downwards for all developing regions indicating lower poverty rate at any given poverty line. Consistent with the poverty rates based on fixed poverty lines, the largest reduction was witnessed in East Asia (mainly composed of China) followed by Latin America & the Caribbean. Other developing regions witnessed less considerable shifts in their poverty rates. It is also interesting to note that the gap between the solid line (poverty rate based on the survey closest to 1990) and the dashed line (poverty rate based on the most recent survey) is not constant. Since the distance between both lines shows the extent of poverty reduction for any given (or fixed) poverty line, it is easy to conclude that the extent of poverty reduction at the global and regional level is also highly contingent on the choice of an appropriate poverty line.

Figure 5: Poverty rates for Arab countries and developing regions across a range of poverty lines (in 2005 PPP), 1990s (solid line) and most recent surveys (dashed line)



Source: Authors estimates based on World Bank online datasets (POVCAL) and UNDP-led poverty assessment reports for Arab countries.

Note: Arab countries are same as Figure 4 except for Comoros

National Poverty Lines: A more Plausible Story for Arab countries but not without Comparability Problems

The main question however is not which of these fixed poverty lines is more relevant for Arab countries, but rather whether fixing a poverty line across countries will lead to a meaningful comparison. The fixed international lines which are used for producing global aggregates of poverty are supposed to test, in principle, for the ability to purchase a basket of commodities that is roughly similar across the world. But such a universal line is generally not without major perils.⁵ The poverty line should be adjusted for different locations (such as urban and rural areas) within the country, if prices or access to goods and services differs. It should also be adjusted to capture the 'economies of scale' within households as non-food items can be shared among household members. More importantly perhaps, it should also account for the differing 'basic needs' requirements of different household members – young versus old, male versus female. All these factors are omitted when a fixed poverty line is applied.

National poverty assessments avoid many of these problems by applying a 'household-specific' methodology to estimate poverty. Thus the first and most crucial step in estimating national poverty lines entails using data from Household Income Expenditure and Consumption Surveys (HIES) and elsewhere (often nutritional surveys by the WHO) to construct a food poverty line so that it meets the particular household's minimum nutritional requirements, depending on the household members' ages, gender composition and location. The estimated poverty lines should also account for regional differences in relative prices, expenditure patterns, activity levels, as well as the size and age composition of poor households. This leads to a variation in poverty lines depending upon household location and composition.

However, while the cost of the minimum food bundle is derived from estimated physiological needs, there is no equivalent methodology for determining the minimum non-food bundle. The non-food allowance for each household can be estimated in two ways; (i) regressing the food share against total expenditures and identifying the non-food share in the expenditure distribution of households in which expenditure on food is equivalent to the food poverty line; or (ii) by identifying the share of non-food expenditure for households in which total expenditure is equivalent to the food poverty line. The former approach yields an 'upper' boundary of the poverty line (or upper poverty line), while the latter yields a 'lower' boundary or the 'lower poverty line' (LPL), since it defines the total poverty line in terms of those households which had to displace food consumption to allow for non-food expenditures, considered to be a minimum indispensable level of non-food requirements. The poverty rate derived from applying the LPL will yield what we refer to in this report as extreme poverty. Obviously, this approach which takes into account location, age and gender composition, as well as economies of scale food shares yields a more superior measure of poverty.

For Arab countries, the resulting poverty rates from applying national poverty lines are summarized in Table 1. The table shows that the overall poverty rate for the region stood at 18.1 per cent during the last decade. This rate is only slightly lower than the corresponding rate for 1990s (20.3 per cent). Hence, there appears to have been little poverty reduction since 1990 (the average annual change in poverty over the period from 1990s to 2000s was only 1.5 per cent for the region as a whole). As expected given the substantial difference in per capita consumption levels, poverty rates for LDCs are nearly twice the average for the region. However, poverty in the Mashreq is nearly twice that in the Maghreb. This is of course mainly due to the significantly higher rate of poverty in Egypt.

Table 1: Poverty rates based on national lower poverty lines and average annual change in poverty rates for Arab countries and sub-regions, 1990-1999 and 2000-2009

Country	Survey year	Poverty rate ¹	Number of poor	Survey year	Poverty rate	Number of poor	Annual change in poverty rate
Lebanon	1997 ²	10.0%	0.4	2005	8.0%	0.3	-2.8%
Egypt	1990	24.1%	15.3	2008	21.6%	16.6	-0.6%
Jordan	1990	15.0%	0.6	2007	13.0%	0.7	-0.8%
Syria	1997	14.3%	2.1	2007	12.3%	2.3	-1.5%
OPT	1998	23.0%	0.6	2008	34.5%	1.2	4.1%
Mashreq		21.5%	18.9		19.4%	21.2	-0.7%
Algeria	1994	14.1%	4.1	2000	12.1%	4.0	-2.5%
Morocco	1990	13.1%	3.5	2007	9.0%	2.7	-2.2%
Tunisia	1990	7.0%	0.7	2005	3.8%	0.4	-4.0%
Maghreb		12.7%	8.3		9.7%	7.1	-2.6%
Mauritania	1996	50.0%	1.1	2004	46.7%	1.4	-0.8%
Yemen	1998	40.0%	6.2	2006	34.8%	7.3	-1.7%
Djibouti	1996	34.5%	0.2	2002	42.2%	0.3	3.4%
Comoros	1995	47.0%	0.2	2004	37.0%	0.2	-2.6%
LDCs		41.2%	7.7		36.4%	9.3	-1.5%
Arab countries		20.3%	34.9		18.1%	37.5	-1.5%

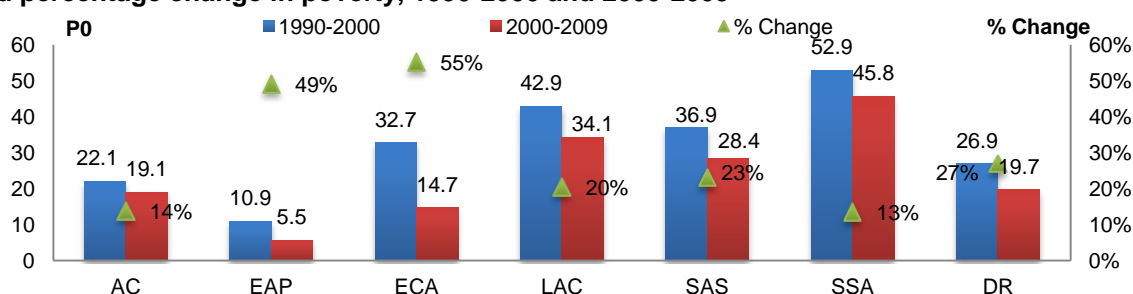
Source: Authors' estimates based on World Bank country briefs; World Bank WDI online database; UNDP poverty assessment reports; and National Statistical Offices.

Notes:

- (1) For all countries, the cost of basic needs approach to the estimation of food poverty lines is used, where the food baskets reflects the consumption pattern of the poor. The estimation of the non-food component by Engel curves gave rise to the poverty lines.
- (2) Authors' estimate based on 1997 income survey

One important question arises: to what extent are these national poverty rates comparable? Although all these studies were conducted by the World Bank or UNDP using similar surveying techniques and an almost identical poverty assessment methodology (particularly for UNDP-led assessments in Yemen, Syria and Lebanon and for the World Bank led assessment in Egypt, hence for over 60% of the total population of the Arab countries in the table), there are still many inconsistencies.⁶ These arise not only from inconsistencies in the quality of data collection across countries but also from differences in the methodology used to construct food baskets (hence food poverty lines) and the treatment of imputed rent and durables.⁷ Such inconsistencies should be taken into account when interpreting the results of Table 1 and indeed the remainder of this section since even if poverty assessments for most developing countries are constructed using the cost of basic needs approach (and the vast majority of these are indeed either led or technically supervised by the World Bank), the basis for establishing national poverty lines could still differ substantially across countries and more so across regions. Hence, we cannot rule out the presence of significant measurement errors in any comparison based on national poverty lines.

Figure 6: Headcount poverty rates (P0) based on national poverty lines for developing regions and percentage change in poverty, 1990-2000 and 2000-2009



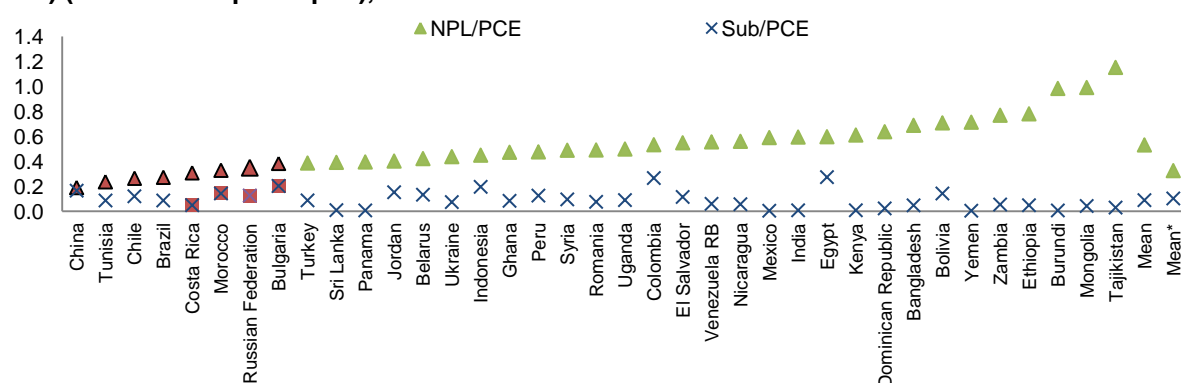
Source: Authors estimates based on national poverty rates reported in the World Bank Development Indicators Database and UNDP led poverty assessment reports for Arab countries for 61 developing countries.

Note: Arab countries included are same as figure 1

These comparability problems are quite apparent in Figure 6 which plots global and regional poverty rates based on national poverty lines of 61 surveys for developing countries which are spread over two periods: from 1990 to 1999 and from 2000 to 2009. One striking observation is that national poverty rates for the East Asia& Pacific region is far below what one would expect. Since China⁸ holds the most significant share of the population of East Asia& Pacific, it is safe to conclude on the basis of this picture that its national poverty line is likely to have a significant downward bias compared to other developing countries. Indeed this is also the view of the most recent poverty assessment report conducted by the World Bank which suggests the Chinese official poverty line is low relative to both international measurement standards and rising incomes within China.⁹ In the same study, the World Bank proposes an alternative poverty line (close to the \$1.25 line), which it claims is more consistent with international standards. Applying this line causes China's poverty rate to jump to 36% in 1990s and 13.1% in the mid-2000s. But does it make sense that the poverty line for China, after having experienced significant economic growth and continuous rises in per capita expenditure, is still equivalent to that of the World's poorest countries? This is a central question which we aim to address in the following section.

Other than political reasons, what are the other possible factors that would explain why countries like China may have lower than expected value for their national poverty line? One important reason is that the cost of basic needs may actually be significantly lower due to the impact of existing public policy interventions, including most importantly food subsidies and health and education subsidies, which lower the cost of attaining basic food and non-food needs. However, the cross-country relationship between total subsidies and poverty line for this sample of countries (in 2005 PPP per capita) is very weak as shown in Figure 7. Countries with excessively low ratio of national poverty line to mean consumption (less than 0.4) are shown not to have higher subsidy ratios. It is worthy to note three Arab countries (Morocco, Tunisia and Jordan) belong to this category. This implies that the level of subsidies in these countries is not large enough to justify the extremely low value of their national poverty lines relative to their average per capita expenditure.

Figure 7: Ratio of national poverty lines and total subsidies to mean consumption expenditure (PCE) (in 2005 PPP per capita), 2000-2008



Source: Authors estimates based on national poverty rates reported in the World Bank Development Indicators Database and UNDP-led poverty assessment reports for Arab countries and World Bank WDI and IMF GFS for subsidies.

Notes:

- (1) Total Subsidies (calculated in per capita PPP 2005) include social benefits, public grants and subsidies to public and private enterprises).
- (2) Mean indicates the mean TS/PCE for the full sample whereas Mean* indicates the mean TS/PCE for countries which have a PL/PCE ratio of less than 0.4.

Conversely, national poverty rates for Latin America& the Caribbean and Eastern Europe appear to be incommensurately high when compared to the level of expenditure in these regions. Of course, part of this may be explained by the higher than average inequality in

distribution of expenditure in some of these countries, but it is not at all an adequate explanation given the close range of poverty rates between Latin America& the Caribbean and other developing regions such as South Asia, where human development and deprivation is significantly higher as illustrated in Abu-Ismaïl et. al.(2011).¹⁰ Yet whereas it is understandable that developing country national poverty experts may sometimes have a political incentive to reduce poverty lines, the case for a higher poverty line is more perplexing. However, it can easily be argued, as in the case of all UNDP-led poverty assessment reports in the Arab region, that the upper poverty line is the more accurate threshold for measuring poverty. Indeed, the high expenditure ratio of the national poverty lines for the richer developing countries of Latin America& the Caribbean and Europe& Central Asia suggest they are applying the upper poverty line threshold, which allows for a more generous portion of non-food component of the national poverty line. From a policy perspective, this can also be justified if there is an attempt to design poverty reduction programs that would target all the poor population and not only the extremely poor.

To conclude, by international standards, it would seem that most Arab countries with the exception of Tunisia and Morocco get their poverty lines 'right'. By this we mean that the methodology used to derive national poverty lines generally adheres to lower poverty lines described earlier. The same, it would be safe to assume, applies to other developing regions. There are a few countries which set the bar too low (China, Brazil and Nepal) or too high (Mexico, Venezuela and Dominican Republic) but most countries will adopt broadly comparable methodologies in estimating their national poverty lines. The trouble is that some of the 'outliers' are developing countries with considerable demographic weight. This deals a severe blow to the objectivity of any global comparison based on national poverty lines as it will lead to a strong bias in regional and global poverty lines and hence regional and global poverty rates.

Developing Countries May Be Poorer than Commonly Thought and Less Successful in their Fight against Poverty

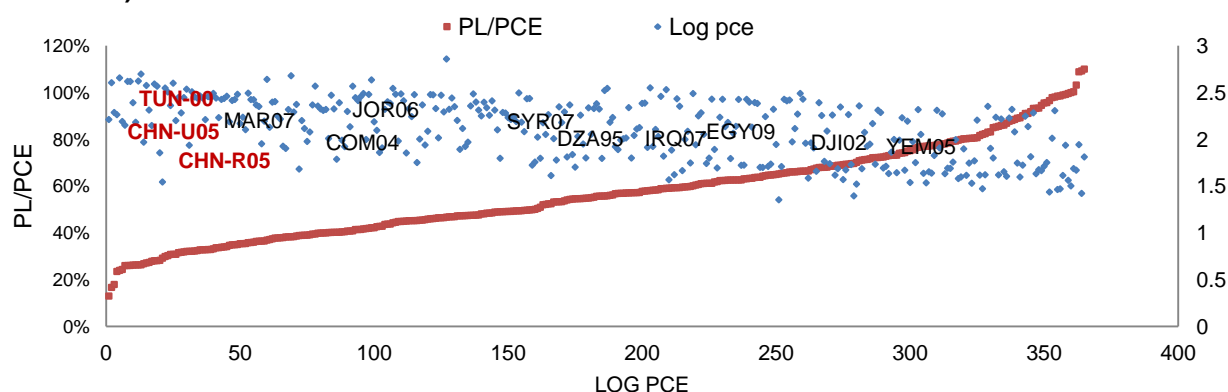
Despite their many problems, the World Bank used the national poverty lines of the poorest countries as a basis for establishing its \$1.25 poverty line. The Bank then relies on the PPPs to equate the cost of the same bundle of goods and services which can be purchased by \$1.25 in the World's poorest countries. However, this argument can be strongly contested for a variety of reasons. First, comparisons of countries at different levels of development pose a potential problem because of differences in the relative importance of consumption of nonmarket goods. Moreover, PPP exchange rates, such as those from the International Comparison Program or the Penn World Tables, although take into account the local prices of goods and services that are not traded internationally, were designed for comparing aggregates from national accounts, not for making international poverty comparisons. PPPs are also based on prices of goods and services that may not be representative of the consumption baskets of the poor, so they may not fully reflect the relative price level faced by the very poor consumers. As a result, there is no certainty that an international poverty line when applied will measure the same degree of deprivation across countries.

In this section, we suggest an alternative method for constructing more relevant international poverty lines. At the outset, it is important to note that we accept the World Bank's basic idea of relying on national poverty lines to construct a globally comparable poverty measure. However, we reject the assumption that this measure should be a fixed one, or that it should be based on the national poverty lines of the poorest countries. Rather, we argue that international poverty lines should be based on a priori and the already well-established

stylized facts regarding the relationship between national poverty lines and the average per capita expenditure (in 2005 PPP). Fortunately, the recent spur in the number of country surveys available on the World Bank website allows us to examine the cross-country relationship between those indicators across a large number of household surveys (372) and developing countries (107).

The relationship is examined in Figure 8. The upper-located cluster of blue points in the figure measures per capita consumption expenditure (based on household survey data). The red cluster measures the ratio of national poverty lines to this average consumption and the figure ranks developing countries according to this ratio (from the lowest ratio for China Urban of 0.13 to the highest ratio for Haiti of 1.1). The figure tells a simple story. As indicated by the downward slope of the upper regression line, poorer countries tend to have a higher ratio. This is intuitively clear since the share of household expenditure on basic needs in poorer countries tends to be high relative to the average income and hence it consumes the bulk of expenditure for a majority of the population. On the other hand, as countries become richer, the share of meeting basic needs tends to decline relative to average expenditure. This is also consistent with the well-known Engel's Law which states that the share of expenditure on food and basic necessities declines as income rises even if the absolute value of this expenditure increases as income rises.

Figure 8: Ratio of national poverty line (PL) to mean consumption expenditure (PCE) in 2005 PPP per capita and PCE, 1990-1999 and 2000-2009 for 370 household surveys (107 developing countries)



Source: Authors estimates based on national poverty rates reported in the World Bank Development Indicators Database and UNDP-led poverty assessment reports for Arab countries.

No doubt any fixed poverty line will also obey Engel's Law. This is necessarily true as any rise in expenditure will yield a lower ratio to any fixed poverty line. However, a fixed poverty line will have no commensurability with the national poverty lines, except for a minor group of countries. For example, the \$1.25 may actually be too high even for the poorest of the poorest African countries such as Burundi, which recorded an average per capita expenditure of less than one dollar per day. Conversely, the ratio of the \$1.25 poverty line to average per capita expenditure in Brazil will be approximately 0.1, which is less than half of the ratio of its national poverty line to per capita consumption. Thus, it would make more sense to anchor international poverty lines to average per capita expenditure, rather than to a fixed and pre-specified value.

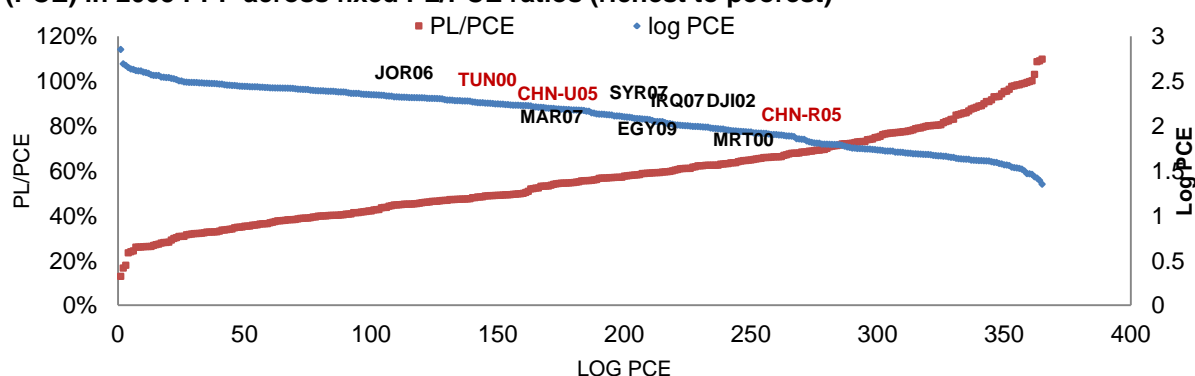
To give a concrete example, consider the case of China and Tunisia. As discussed earlier, both countries have very low national poverty lines relative to their per capita expenditure. This is easily discernible from their clustering along with mainly higher income countries in Figure 8. One can easily conclude that both countries should be moved westward towards the group of middle income countries. But the question is by how far? In other words, what would be a justifiable ratio that is more consistent with their per capita expenditure and how

should it be derived? Answering this question is at the heart of reaching a more sensible methodology for global poverty comparisons.

The simple and most intuitively appealing option, one might think, is to re-rank developing countries in such a way so as to let the PL/PCE ratio decline as countries become richer. In other words, we can de facto accept the validity of the dotted red line in Figure 8 as the trajectory of the evolution of this ratio as countries become more affluent (i.e. that the PL/PCE ratio will have an upper limit of approximately 1.1 for the poorest countries and it will decline in a non-linear fashion to reach approximately 0.13 for the richest countries).

Figure 9 plots the now neatly rearranged countries where over-shooters of the PL/PCE ratio relative to their expenditure (for example, Ukraine and Venezuela) were re-located to the left of the horizontal axis at a position which is more commensurate to their level of per capita expenditure (relative to their position in Figure 8) while countries that underestimated their ratios were positioned at the opposite end of the figure. This re-ranking will then yield a new set of PL/PCE ratios which we can use to derive a new set of poverty lines that are still based on national poverty lines, but more consistent with stylized facts regarding the share of cost of basic needs in expenditure and expenditure per capita.

Figure 9: Rearranging countries according to their mean per capita consumption expenditure (PCE) in 2005 PPP across fixed PL/PCE ratios (richest to poorest)



Source: ibid

While this method for correcting major deviations in national poverty lines is intuitively appealing, it lacks in statistical rigor. Fortunately, with the data at hand, it is possible to arrive at more accurate and globally comparable poverty lines using a simple cross-country regression between mean expenditure per capita and the value of the national poverty line. This will yield results with significantly higher confidence interval.¹¹

Table 2 reports the results based on this regression for 59 developing countries for which we have two surveys (1990-1999 and 2000-2009). These countries had a total population of 3.9 and 4.4 billion in the 1990s and 2000s, respectively (approximately two-thirds of the World's population). The table also compares our (population weighted) estimated poverty lines with the national poverty lines for these developing countries which are grouped according to level of per capita expenditure.¹² The poorest group contains countries which have a per capita expenditure of \$60 per month or below. The most affluent group contains countries which have a per capita expenditure of \$200 per month or above.

The main story emerging from the table is one that is consistent with earlier described stylized facts. The poorest category of developing countries will typically have national poverty lines that are approximately two thirds the value of average per capita expenditure while for the richest countries the ratio declines to one third. However, the decline is not monotonic in the sense that it does not always move in the same direction as expenditure

per capita. This is clear from the (population weighted) value of the national poverty line for the lower middle expenditure per capita group that has a value higher than the lowest expenditure per capita group. Likewise, in the 2000s, the national poverty line for the group of countries in the upper middle expenditure bracket is lower than that for countries in the middle expenditure bracket. The same inconsistency applies to the respective ratios of the national poverty line to the per capita expenditure. These distortions are quite expected however due to the presence of rural China in the low expenditure group and urban China in the lower middle group during the 1990s. With the phenomenal growth in per capita expenditure witnessed during the past two decades, both rural and urban China graduated to higher expenditure groups during the subsequent period.

Table 2: National poverty lines and authors' estimated (RPL) poverty lines (2005 PPP per capita per day) for developing countries by expenditure groups, 1990-2000 and 2000-2009

	PCE per capita per month	NPL per day	RPL per day	NPL/PCE	RPL/PCE
Low Income Countries (average per capita expenditure below 60 dollars per month)					
1990-1999	47	0.9	1.13	0.59	0.73
2000-2009	49	1.1	1.15	0.65	0.71
Lower Middle Income Countries (average per capita expenditure from 60 to 100 dollars per month)					
1990-1999	77.7	1.1	1.5	0.44	0.58
2000-2009	70.2	0.9	1.4	0.4	0.6
Middle Income Countries (average per capita expenditure from 100 to 150 dollars per month)					
1990-1999	114	2.3	2	0.6	0.52
2000-2009	109.6	1.8	1.9	0.49	0.52
Upper Middle Income Countries (average per capita expenditure from 150 to 200 dollars per month)					
1990-1999	165.8	3	2.7	0.55	0.5
2000-2009	163.2	0.9	2.7	0.17	0.5
High Income Countries (average per capita expenditure above 200 dollars per month)					
1990-1999	239.2	3.8	3.7	0.48	0.47
2000-2009	308.2	4	4.1	0.39	0.41

Source: ibid

Note: Arab countries included are same as figure 1

Despite the distorting impact of China, the table shows national poverty lines generally rise with expenditure while the PL/PCE ratio follows an opposite trend. Thus, the average national poverty line for a low income country is expected to be \$1.1. For middle- and high-income countries the corresponding line is \$1.76 and \$4, respectively. As they are meant to correct these problems, our estimated poverty lines and PL/PCE ratios follow a predictable trajectory whereby the decline in the latter is closely related to the rise in expenditure and the former are not too different from national poverty lines, except for the country groups where China is present.

Table 3 repeats the same exercise using the regional classification. As one would expect, our estimated poverty lines and PL/PCE ratios are found to be least consistent with the national poverty lines in East Asia.& Pacific Our poverty lines are also slightly higher for South Asia, the Arab region and, in the 2000s, Eastern Europe. The results for Arab countries are expected given the already mentioned significantly underestimated national poverty lines of Tunisia and Morocco (\$2.9 versus \$1.4 and \$2.8 versus \$1.7, respectively). The opposite is true for the Arab LDCs whose national poverty lines are slightly over-estimated compared to what one might expect given their real PCE per capita. However, the national poverty line for Egypt, the largest country in the sample, is close to that predicted by the regression results (Figure 10). For Latin America& the Caribbean, Sub-Saharan Africa

and Eastern Europe in the 1990s, our estimates are also within close range of the national poverty lines.

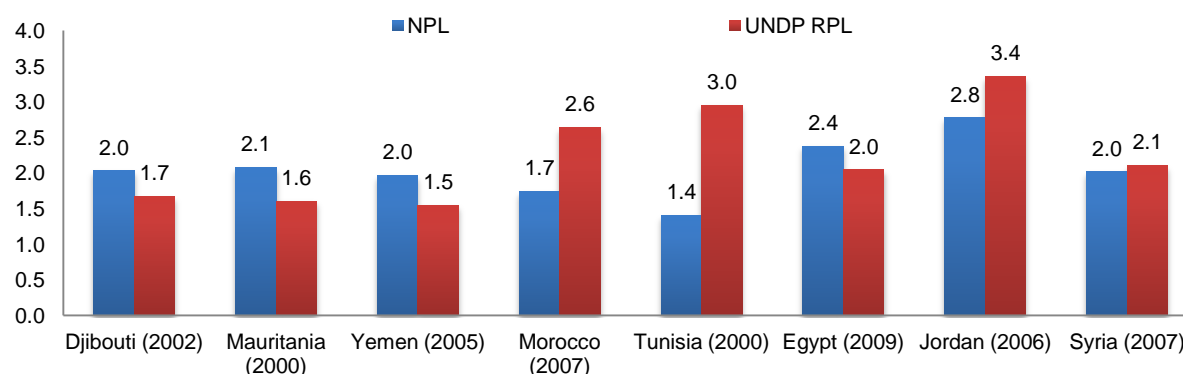
Table 3: National poverty lines and authors' estimated regression based poverty lines (RPL) (2005 PPP per capita per day) for developing regions, 1990-2000 and 2000-2009

	PCE per capita per month	NPL per day	RPL per day	NPL/PCE	RPL/PCE
Sub-Saharan Africa (11)					
1990-1999	48	1.2	1.1	0.73	0.72
2000-2009	58.8	1.3	1.3	0.65	0.66
South Asia (6)					
1990-1999	48.9	1.1	1.2	0.69	0.71
2000-2009	55.2	1.1	1.2	0.59	0.67
East Asia& Pacific (9)					
1990-1999	59.6	0.8	1.3	0.4	0.65
2000-2009	102.4	0.8	1.8	0.24	0.54
Arab countries (8)					
1990-1999	117.9	1.9	2	0.49	0.52
2000-2009	130	2.1	2.2	0.5	0.51
Europe& Central Asia (9)					
1990-1999	167	3.2	2.7	0.59	0.5
2000-2009	257.2	3.3	3.8	0.39	0.45
Latin America& Caribbean (16)					
1990-1999	254.3	3.9	3.9	0.47	0.46
2000-2009	323.2	4.3	4.2	0.41	0.39
Developing region (59)					
1990-1999	87.1	1.5	1.6	0.52	0.57
2000-2009	121.1	1.5	2	0.39	0.5

Source: ibid

Note: Arab countries included are same as figure 1

Figure 10: National poverty lines and authors' estimated poverty lines (2005 PPP per capita per day) for Arab countries, 2000-2009



Source: ibid

As a result of these regional results, our estimated poverty line for developing regions as a whole is quite higher than both the \$1.25 World Bank Poverty Line and the global average for national poverty lines (\$1.6-2.0 versus \$1.5 per day, respectively). The principal conclusion to draw from this exercise is that the \$1.25 is far too low as a benchmark for global poverty measurement since even if we decided to use a fixed global poverty line to monitor extreme poverty -and in any case there are strong reasons why we should not do so- the two dollars per day line would be more consistent with the national poverty lines of all developing regions.

We now turn to the poverty rates based on applying these estimated poverty lines. Table 4 summarizes these results and -for ease of comparison- earlier reported rates based on the fixed World Bank poverty lines. The table sends an unambiguous message. Having

achieved only half the rate of progress under the common \$1.25 poverty line, Developing countries may be significantly poorer than conventionally thought with hundreds of millions more people living under conditions of extreme money-metric poverty. More alarmingly, the World may be far less successful in its fight against poverty.

Table 4: Poverty Rates in 2000-2009 and percentage change in headcount poverty rates based on \$1.25 and authors' estimated poverty lines (RPL) for developing regions, 1990-1999 and 2000-2009

Region	Estimates Based on World Bank Poverty Lines						Authors' Estimates			
	\$1.25	Rank	\$2	Rank	\$2.75	Rank	NPL	Rank	RPL	Rank
Headcount Poverty Rate (%) in 2000-2009 and rank										
Arab countries	3.9	2	19	3	40	3	19.1	3	21.5	2
East Asia& Pacific	16.9	4	39.5	4	57.1	4	5.6	1	28.1	3
Europe& Central Asia	1.7	1	5.6	1	11.7	1	14.7	2	20.3	1
Latin America& Caribbean	5.5	3	12.3	2	19.6	2	34.1	5	32.4	4
South Asia	40.3	5	73.9	6	87.5	6	28.4	4	37	5
Sub-Saharan Africa	49.8	6	73.6	5	84.1	5	45.8	6	47.3	6
Developing region	23.6		46.4		60.5		19.7		31.8	
Poverty Change (%) from 1990-1999										
Arab countries	-35.7	4	-24.3	4	-12.4	4	-14.4	5	-8	5
East Asia& Pacific	-55.1	1	-40.8	2	-30	3	-49.1	2	-21.8	2
Europe& Central Asia	-50.5	2	-59.1	1	-56.1	1	-55.2	1	-11.1	4
Latin America& Caribbean	-41.6	3	-39.5	3	-35.1	2	-20.4	4	-22.7	1
South Asia	-14.3	6	-7.1	6	-3.8	6	-23.1	3	-6.1	6
Sub-Saharan Africa	-16.3	5	-7.7	5	-5.1	5	-13.5	6	-12.5	3
Developing region	-32.3		-23.4		-17.9		-26.9		-14.4	

Source: Authors estimates based on poverty lines reported in Table 3.

Note: Arab countries included are same as figure 1

The Arab Region, whilst significantly poorer than suggested by the conventional \$1.25 poverty line, has the least poverty incidence world-wide along with Eastern Europe. It is also interesting to observe that, at 21.5%, our estimated poverty rate for the region is within close range to the average poverty rate based on the national poverty lines. East Asia& Pacific ranks third at 28.1% followed by Latin America& the Caribbean, South Asia and Sub-Saharan Africa at 32.4%, 37% and 47.3%, respectively. In terms of success at poverty reduction, however, the region lags behind all developing regions except South Asia. Latin America& the Caribbean and East Asia& Pacific take the lead role in global poverty reduction.

The Arab Growth-Inequality Puzzle

Issues concerning levels of inequality, changes in inequality their determinants remain at the heart of the development agenda both in the theoretical debate and policy discussions. First, it is readily apparent that many development episodes have been associated with increasing inequality. Second, empirical studies have shown that rapid growth generally reduces poverty but at the same time, it often contributes to the rise in income inequality. Third, in contrast to the dominant trickle-down development approach of the 1950s and 1960s, in which inequality was believed to favour growth and development, the new thinking views inequality as hurting development, implying that it is important to curtail inequality in order to achieve inclusive growth and development.

In their comprehensive study on Arab inequality, Bibi and Nabli (2010) note these issues are as relevant in the Arab region as they are elsewhere. Reducing inequality is first of all seen as instrumental for achieving other objectives. For instance, it is well established that for a given average growth rate on income per capita in a country during any given period, the

rate at which poverty is reduced would be higher if the initial level of income inequality were lower. In other words, the lower the level of inequality in income, the greater is the impact of economic growth in terms of poverty reduction.

Second, equity or equality may itself be an objective in its own right and is considered as one of the dimensions of social welfare. Societies may be more or less tolerant of inequality and may value "equity" on its own right as a separate social objective. This concern may arise, for instance, in countries which achieve very high economic growth, large reductions in income poverty but with increases in inequality (in the Arab region, some GCC countries may belong to this category). This may be due not only to the fact that poverty reduction may have been greater if inequality did not increase, but because of the increase in inequality itself and is often related to issues of distribution across groups or regions.

The third reason, which has gained more prominence recently, is that inequality may play a major role in how political economy factors play out in a given country to determine policies and institutions, thereby impacting significantly on the growth and development path of the country. In the recent literature on the political economy of growth and institutional change, the distribution of income, as well as that of political power, plays a critical role in the determination of how both economic and political institutions are shaped and may change or persist over time. These institutions, in turn, determine the success or failure of a country to achieve higher economic growth and better development outcomes.

Indeed, inequity and inequality have always been central to the political economy in the Arab region and it can be argued that the move during the 1950s and early 1960s toward state-led and in some cases even socialist models of development can be explained by the high and even increasing inequality during the preceding period since the end of the 19th century. The "new social contract", which emerged during this period, had reducing inequality as one central ingredient. This was a major factor explaining the dramatic decline in poverty and significant improvement in human development indicators during the 1960s and until the early 1980s (hence the outstanding performance on the human development front noted by the 2010 global Human Development Report). To achieve this, Arab governments adopted redistributive policies, which were notable by their scope, significance and persistence even in the face of difficult economic conditions.¹³

Others, including the World Bank, have argued that this same preference for equity has also been responsible for the slow progress toward more private-led, market- and outward oriented economies and the continued presence of many features of the old model of state-led development. The actual or perceived increase in inequality, which accompanies these reforms creates resistance and often leads governments to backtrack or at least slow the pace of reform. This, the authors suggest, has generally prevented the emergence of a new social contract, with countries "stuck" between an old model, which became ineffective and a new one which cannot be fully embraced.

Against this backdrop, it is surprising to see how little attention the issue of inequality (and poverty) has received in research given its critical role in the economic development of the Arab region. The wealth of research on inequality in the context of developing countries and the controversies about the links between growth and inequality, or between globalization and inequality, have found limited echoes in the research on the Arab region. It is perhaps because of the limited access to micro-data from household surveys and the political sensitivity surrounding the issues of poverty and inequality. And that explains why Arab governments in particular have not been keen to see this activity develop and may as noted by Bibi and Nabli "have even prevented collection of authentic data and research".

Despite these data problems, Bibi and Nabli conclude the Arab region shows moderate levels of inequality in terms of household expenditures compared to other regions of the world. At the same time they argue overall regional inequality appears to be relatively stable, or changes are not statistically significant over the last 20-30 years for which comparable data are available. The inequality patterns in their study also show significant variation across countries, with countries such as Morocco and Tunisia showing relatively high inequality while others such as Yemen, Egypt or Syria showing moderate to low inequality. Data presented in Table 5 and figure 11 broadly confirm their conclusion. The former, which compiles the values of the Gini coefficients for fourteen Arab countries based on various sources, indicates that only a slight change in the distribution of expenditure was detected for the majority of the Arab region over the past two decades (the GDP-weighted Gini coefficient for the region declined from 35.2 to 34.7). In addition, with few exceptions, inequality within countries is generally sluggish over time.

Table 5: Inequality in expenditure for Arab countries (Gini coefficient), various surveys, 1990-2009

Middle income/low inequality			Low income/high inequality		
Syria	1997	34.0	Djibouti	1996	36.8
	2004	35.8		2002	40.0
	2007	32.0	Comoros	2004	64.3
Egypt	1991	32.0	Low income/medium inequality		
	2005	32.1	Yemen	1996	33.4
	2009	30.1		2006	37.7
Middle income/medium inequality			Mauritania	1995	37.3
Jordan	1992	43.4		2000	39
	1997	36.4	High income/medium inequality		
	2002	38.9	UAE	2007	38.8
	2006	37.7	Kuwait	1999	36.0
Lebanon	2004	36.0	High income/high inequality		
Algeria	1998	40.0	Oman	2000	39.9
	1995	35.3			
Middle income/high inequality					
Tunisia	1995	41.7			
	2000	40.8			
Morocco	1991	39.2			
	1998	39.5			
	2007	40.9			
Arab countries	1990s	35.2			
	2000s	34.7			

Sources: Gini indices using data from the World Bank website and UNDP and World Bank Poverty Assessment reports except Gini indices for United Arab Emirates, which is from Bibi and El-Lahga (2009) and Kuwait and Oman which are from Ali (2004).

Notes: Gini coefficients for the Arab Region exclude GCC countries and are weighted by GDP shares. This method of aggregation is different than used in Bibi and Nabli (2010), which is based on Milanovic's calculations using World Income Distribution datasets and is more accurate. Still, our results and trends closely approximate their reported estimates.

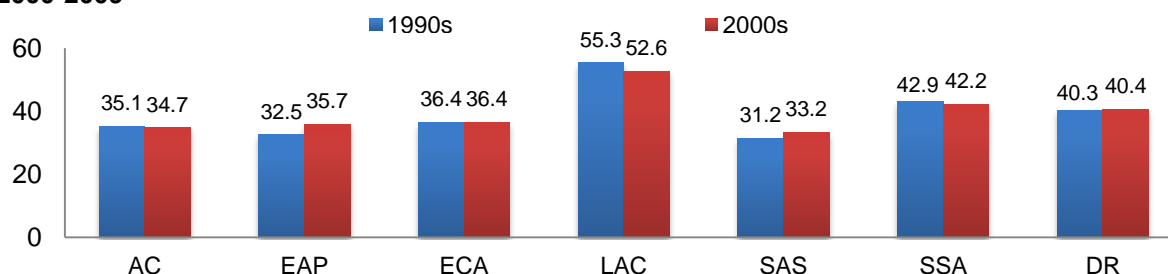
Among MICs, Tunisia and Morocco retain the highest levels of inequality while the Gini indices for Syria and Egypt are fairly low and Jordan, Algeria and Lebanon lie somewhere in between. Among the LICs, Yemen shows medium to low levels of inequality while Mauritania is medium to high. For the GCCs, surprisingly, Kuwait had a relatively low Gini (36) in 1999. UAE was only slightly higher at 38.8 in 2007, while Oman recorded the highest Gini at 39.9 in 2000. Figure 11 also suggests that the Arab region hold moderately low levels of inequality compared to other developing regions based on countries in our sample (the GDP weighted average of the Gini coefficients of developing regions is approximately 0.4).

Table 6: Inequality in Expenditures (Gini Coefficient& change in Poverty Rate) for Arab countries

Country	Period	Gini	ΔPR (%)
Djibouti	1996-2002	36.8	3.3
Mauritania	1996-2000	37.3	-2.1
Yemen	1998-2005	33.4	-2.0
Morocco	1991-2007	39.2	-2.3
Tunisia	1990-2000	40.2	-4.6
Egypt	1991-2009	32.0	-0.6
Jordan	1997-2006	36.4	-5.3
Syria	1997-2007	34.0	-1.5
LDCs		34.0	-11.9
Maghreb		39.4	-31.8
Mashreq		32.8	-11.9
Arab countries		35.1	-14.5

Source: Authors estimates based on World Bank online datasets (POVCAL)

Figure 11: Inequality in expenditure for developing regions (Gini coefficient), 1990-1999 and 2000-2009



Source: Authors estimates based on national poverty rates reported in the World Bank Development Indicators Database and UNDP-led poverty assessment reports for Arab countries.

Notes: (1) Regional Gini coefficients are weighted by total expenditure.

(2) Arab countries included are same as figure 1

There is, however, something quite discomfoting about these empirical results. Given the glaring manifestations of rising inequality in expenditure and concentration of wealth in many Arab countries since the 1990s and particularly in countries which have undertaken liberal economic reforms, it would have been expected to see a much more significant rise in inequality. This would also be more consistent with development stylized facts as well as with the more visible present day reality in many Arab countries where slum dwellings have proliferated alongside new enclaves of gated communities for the rich as well as other symptoms of 'conspicuous consumption'. The present day realities are evidence of rising social exclusion and inequality in wealth and expenditure, which is difficult to square with the story of stagnating inequality.

There are many solutions to this riddle but one plausible explanation is that the expenditure of the (actual) highest percentiles, which is difficult to capture by household surveys, witnessed significantly higher than average growth. If so, it is conceivable that reported inequality measures are underestimated. Although this hypothesis is difficult to prove, one useful indicator to examine the order of magnitude of the excluded expenditure of the very rich is the difference between household expenditure reported by surveys and national accounts. If the gap is large and increasing, it presents one possible explanation for this divergence.

The results in Table 7 confirm that the data on household expenditure from national accounts is higher than the estimates from household surveys for all countries with the exception of Djibouti and Morocco in 1990s. This is particularly the case for Egypt, where the ratio of the latter to the former was 0.39 in 2009 and for Tunisia (0.66) in 2000. As shown in figure 12.A, the ratio has decreased for Egypt, Tunisia, Syria, Morocco and Djibouti while it

has increased for Mauritania, Jordan and Yemen. The decline in Tunisia and Morocco is quite steep, which suggests the possibility of a significant rise in inequality in both countries. In Egypt, where the ratio is lowest, there has also been a declining trend. It is important to note that these ratios are quite low even by developing country standards. As shown in Table 8, the HCE to HCE* for the Arab region is the second lowest among developing regions at 0.53 and only marginally above South Asia (the average for Developing regions is 0.63).

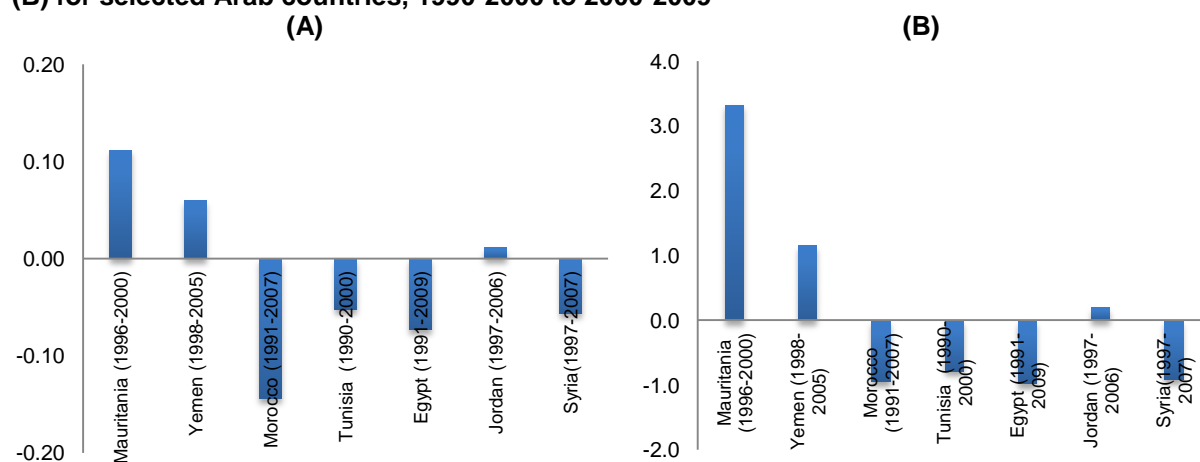
Table 7: Per capita Household Consumption Expenditure (HCE) derived from household surveys and national income accounts (HCE*) (in 2005 PPP) and their annual percentage change for Arab countries, 1990-2000 and 2000-2009

Country	HCE 1990s	HCE 2000s	HCE* 1990s	HCE* 2000s	HCE/HCE* 1990s	HCE/HCE* 2000s	Δ Gini (%)	Δ HCE (%)	Δ HCE* (%)	Δ HCE*/ Δ HCE (%)
Djibouti	150.5	93.5	90.6	119.5	1.66	0.78	0.01	-0.076	0.05	-0.62
Mauritania	78.7	88.3	98.8	97.3	0.80	0.91	0.01	0.029	0.00	-0.13
Yemen	82.6	84.0	128.5	110.1	0.64	0.76	0.02	0.002	-0.02	-8.89
Morocco	155.4	161.4	150.1	181.1	1.04	0.89	0.00	0.002	0.01	4.99
Tunisia	151.3	182.4	213.6	278.0	0.71	0.66	0.00	0.019	0.03	1.41
Egypt	100.9	121.1	219.2	312.8	0.46	0.39	0.00	0.010	0.02	1.96
Jordan	151.6	210.1	231.3	315.2	0.66	0.67	0.00	0.037	0.03	0.95
Syria	129.8	125.5	200.3	212.3	0.65	0.59	-0.01	-0.003	0.01	-1.73

Source: Authors estimates based on World Bank online datasets (POVCAL) and UNDP-led poverty assessment reports for Arab countries.

Our comprehensive analysis of the household expenditure surveys in the previous section suggests that poverty fell moderately over the period even though inequality stagnated. The fall in poverty thus seems to have been driven by growth of per capita real expenditure of 11.0 per cent for the period between 1990s and 2000s. Yet, per capita GDP growth over the same period derived from national accounts was almost triple at 30 per cent. The national accounts story thus suggests that household real expenditure grew at approximately 2 per cent per annum whereas, as indicated in figure 12.B, household surveys show a conspicuously lower annual growth in real expenditure per capita. This story, however, holds only for Arab MICs as LDCs have witnessed an opposite trend with growth rates from surveys surpassing those from national accounts. The discrepancy between growth rates is quite high compared to other regions. This can be deduced from the last column in Table 8 which shows the Arab region has the second highest discrepancy after South Asia.

Figure 12: Difference between ratio of HCE to HCE* (A) and between their annual growth rates (B) for selected Arab countries, 1990-2000 to 2000-2009



Source: ibid

Two observations are worthy to note regarding this discrepancy. First, it is by no means obvious that estimates of household consumption derived from the national accounts are more robust than household survey-based estimates. The former is obtained as a 'residual';

the latter is directly computed from survey responses and geared towards measuring living standards at the household level.¹⁴ It is entirely possible, as explained earlier, that the national accounts in the Arab MICs have been unable to adequately reflect economic transactions mediated through the upper income group. In cases, where the national accounts underestimate expenditure compared to surveys, such as in Arab LDCs, it is likely that they are unable to capture activities undertaken by the large informal sector. Second, the seeming paradox of progress in human development and moderate reduction in poverty without growth – or best rather sluggish growth - lies at the core of the debate on development results in the Arab region as well as the future challenges that they face.

Table 8: Per capita Household Consumption Expenditure from surveys (HCE) and national accounts (HCE*) (2005 PPP) and their total percentage change for developing regions, 1990-2000 and 2000-2009

Region	HCE 1990s	HCE 2000s	HCE* 1990s	HCE* 2000s	HCE/HCE* 1990s	HCE/HCE* 2000s	Δ Gini (%)	Δ HCE (%)	Δ HCE* (%)	Δ HCE*/ Δ HCE (%)
AC	117.9	130.0	189.4	247.1	0.62	0.53	-0.01	0.102	0.30	2.99
EAP	59.5	102.4	88.2	141.8	0.67	0.72	0.10	0.719	0.61	0.84
ECA	167.0	257.2	280.7	440.6	0.59	0.58	0.00	0.540	0.57	1.05
LAC	254.3	323.2	415.0	505.2	0.61	0.64	-0.05	0.271	0.22	0.80
SAS	48.9	55.2	77.4	110.0	0.63	0.50	0.06	0.130	0.42	3.25
SSA	48.0	58.8	52.4	61.3	0.91	0.96	-0.02	0.226	0.17	0.75
DR	87.1	121.0	137.0	192.7	0.64	0.63	0.00	0.390	0.41	1.04

Source: ibid

Note: Arab countries included are same as figure 1

Concluding Remarks

These analyses suggest that harvesting any conclusive evidence on poverty levels and trends in the Arab region and developing regions would require a complete overhaul to existing surveying techniques and assessment methodologies. Arguably, it would also require a stronger role for the UN in supporting the harmonization of household surveys and standardization of poverty monitoring methodologies. The serious impediments posed by data limitations and survey related and methodological discrepancies as well as the inherent problems with the PPPs thus warrant some interpretive caution of our results and conclusions.¹⁵

These constraints are particularly serious for the Arab region. While some measure of poverty and inequality are available in a number of countries, data are completely nonexistent and or unavailable for a significant part of the region and access to primary data when possible tends to lag behind. In addition, the quality of data collection is not consistent across countries. Hence, as Bibi and Nabli (2010) conclude, the available knowledge in the region is not adequate to contribute in a meaningful way to the policy discussions at the regional-level.

Resorting to international comparisons based on existing parameters as a means to fill this gap is equally problematic since the World Bank's extreme poverty line makes little sense as a measure of extreme poverty in the Arab region. This is clearly demonstrated by gap between national poverty lines and their resultant headcount poverty rates and those derived from the former. As national poverty lines were derived from poverty assessment reports that apply the standard World Bank poverty methodology for measuring the cost of basic needs, this serves as evidence that this line does not measure the same level of deprivation across countries. We also show that the World Bank \$1.25 poverty line makes no sense to the rest of the developing world if it grossly misrepresents the poverty reduction achieved by countries such as China with large demographic weight.

But while it is rather easy to point out the flaws in the Bank's measurement paradigm, it is far more difficult to offer a viable alternative. Still, we can easily claim that the method we propose as an alternative, retaining the same fundamental principles which the World Bank applied to establish its \$1.25 poverty line, is also a better basis for global poverty comparisons. Our central assumption is that the PPPs are more akin to a common currency, rather than a common measure of purchasing power (hence the cost of the same bundle of goods and services will generally be higher in richer countries in nominal PPP terms). Hence, more accurate poverty lines for the purpose of global comparison can be derived from the cross-country relation between the values of average expenditure and national poverty lines. The end result is a set of internationally comparable poverty lines that are more consistent with national poverty lines and still obey Engels Law (which is the major drawback in national poverty lines).

However, we are aware that this is a strong assumption, which may not always apply across time and space. Some countries, such as China, may have a lower than usual cost of living due to state subsidies (although evidence generally shows this is not a sufficient explanation for the significant bias in poverty lines of these countries). Other countries may have *ceteris paribus*, a higher cost of living due to monopolies, labour shortages or other scarcity and conflict related factors. These are undoubtedly valid arguments but we believe these are exceptional rather than general cases. Hence, taking appropriately defined national poverty lines as the yardstick, the error margin resulting from our methodology will be significantly less than that which results from the adoption of the \$1.25 as a benchmark for global poverty measurement. The case for the Arab region clearly substantiates this hypothesis.

Taking all this into account, we can readily identify five stylized facts that pertain to poverty and inequality in the Arab region.

First, regardless of the methodology used to compute the poverty line, Arab countries generally have a low rate of poverty compared to their level of per capita expenditure. As such the region can be classified in the same category as Eastern Europe, a region with significantly higher per capita expenditure. This is in striking contradiction with the stylized facts on human poverty identified in Abu-Ismaïl et. al. (2011).¹⁶

Second, as a result of the shallowness of poverty, the region is far more vulnerable to suffer from even the slightest rise in poverty lines. As the gap in poverty rates between Arab countries and other developing regions is quite narrow for poverty lines above the \$1.25, this implies that minor economic shocks could have far reaching negative implications on the region's favourable rankings. This implies that the poverty measures reviewed here are underestimated since many of the surveys predate the FFF crises. Moreover, the on-going social and political unrest is expected to have produced a heavy toll on extreme poverty rates in the region, in particular Yemen, Egypt and Syria which host a significant proportion of the Arab poor.

Third, poverty lines (and hence poverty rates) for some Arab countries, particularly Tunis and Morocco, appear to be grossly underestimated relative to their level of expenditure per capita. When our estimated poverty lines are applied, poverty rates in both countries are significantly higher than reported based on their national poverty lines. Conversely, Yemen's national poverty line would appear to be slightly overvalued relative to its per capita expenditure.

Fourth, setting aside the results for the \$1.25, poverty reduction in the Arab region since 1990 has been quite disappointing not only relative to the objective of halving extreme poverty by 2015, but also relative to other developing regions.

Fifth, the region shows moderately low inequality in expenditure compared to other

developing regions, but it is likely that the extent of inequality is much higher and that it has increased since the 1990s.

Endnotes

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² See Background paper “Arab Human Development and Deprivation: Phenomenal Progress or Mixed Results?” by Abu-Ismaïl et al. 2011.

³ For the vast literature on the calculation of the poverty line see, for example, Ravallion, Chen and Sangraula 2008

⁴ See for example, El Laithy and Abu-Ismaïl. 2009

⁵ See for example Reddy and Minoiu 2007 and Reddy 2009

⁶ See poverty assessment reports by El Laithy (2005 and 2009 for Egypt) and El Laithy and Abu-Ismaïl (2006, 2007, 2008 2009 for Syria, Yemen, Lebanon Syria, respectively)

⁷ For a recent and extensive account of these problems see Bibi and Nabli 2010

⁸ See appendix for the calculation of China,

⁹ World Bank 2009.

¹⁰ See Background paper “Arab Human Development and Deprivation: Phenomenal Progress or Mixed Results?” by Abu-Ismaïl et al. 2011.

¹¹ See Annex Table 2 for regression results and other technical details.

¹² See Annex Table 1 for detailed country-level estimates

¹³ Bibi and Nabli 2010

¹⁴ There is a good deal of debate on whether national accounts-based estimates of private consumption are more reliable than survey-based estimates. See Deaton, A 2002 for a persuasive attempt to resolve this debate. The author argues that the proposition that the national accounts consumption data are superior to survey-based estimates represents a presumption rather than a proven hypothesis. Nevertheless, Deaton contends that it is important to reconcile conspicuous discrepancies between the national accounts consumption data and survey-based estimates provided such reconciliation is feasible.

¹⁵ We also have serious reservations on the methodology of estimating applied (both by the World Bank and UNDP) in estimating the national poverty lines which does not factor in the need to have a minimum degree of nutritional balance in the diets of the poor. For example, if, as arguably the case of many countries in the region recently, as a result of a food price shock, the poor substitute meat, dairy products and fruits and vegetables for subsidized bread, then we are essentially costing very different food baskets.

¹⁶ See Background paper “Arab Human Development and Deprivation: Phenomenal Progress or Mixed Results?” by Abu-Ismaïl et al. 2011.

Technical Note

Data sources

The data used in this paper is based on World Development Indicators database (WDI) published annually by the World Bank, National Accounts (UNSD) and POVCAL (Table 1) For some Arab states, the poverty rates based on national poverty lines (NPL) were extracted from the Arab MDG report (Table 2).

Table 1: Data Sources by variables

World Development Indicators	<ul style="list-style-type: none"> Poverty headcount ratio at national poverty line (% of population) GDP, PPP (constant 2005 international \$) GDP per capita, PPP (constant 2005 international \$) Population, Total PPP, conversion factor, (private consumption) LCU per international \$
POVCAL	<ul style="list-style-type: none"> Mean\$ (PCE): the average monthly per capita income/consumption expenditure from survey in 2005 PPP (used as the explanatory variable). Poverty Gap (PG): Gini index Poverty headcount ratio at \$1.25 a day (PPP) (% of population) Poverty headcount ratio at \$2 a day (PPP) (% of population)
National Accounts, UNSD	<ul style="list-style-type: none"> Household consumption expenditure (including Non-profit institutions serving households)

Computation of national poverty lines for China, India and Indonesia

The national poverty lines were computed using POVCAL (only for countries that have headcount ratio at national poverty line records in WDI). For China, India and Indonesia, the NPL was available at the urban and rural levels. The NPL at the country level is computed as weighted average as follows:

$$NPL_c = NPL_U W_U + NPL_R W_R,$$

where NPL_c is the NPL at the country level, NPL_U and NPL_R are the NPL for urban and rural regions respectively. The shares of the urban and rural populations in the total population are used as weight:

$$W_i = \frac{Pop_i}{(Pop_U + Pop_R)}, \text{ where } i = U \text{ (urban) and } R \text{ (rural).}$$

Same formula was used to compute PCE and headcount ratio at \$1.25 and \$2 on the country level; for Gini Index value on country level, it was computed based on the share of PCE (rural and urban)

Table 2: National poverty line (NPL) and Private consumption expenditure (PCE) at the country level for China, India and Indonesia, 1994-2009

Country	NPL			PCE			Gini Index		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
China 1996	18.56	27.56	21.47	47.87	85.96	60.17	33.62	29.09	31.53
China 2005	20.13	45.1	30.22	71.34	161.83	107.9	35.85	34.8	35.21
India 1994	32	33.56	32.41	43.76	54.91	46.7	28.59	34.34	30.37
India 2005	31.8	31.78	31.79	49.93	62.43	53.52	30.46	37.59	32.85
Indonesia 1996	27.4	24.5	26.33	46.06	60.95	51.55	27.56	37.54	31.91
Indonesia 2009	37.18	31.86	34.38	68.37	83.96	76.57	29.53	37.11	35.43

Source: Authors' estimates based on data from POVCAL

Sensitivity tests

The average annual changes in PCE, GINI and PR (Table 3) (see annex Table 3 for country estimates) were used for sensitivity check. Where theoretically speaking if per capita consumption increases, other things remain constant poverty rates decline. Similarly, as inequality in the distribution of consumption expenditure declines, other things remain the same poverty rates decline. The following countries did not satisfy the criteria Tanzania, Thailand and Yemen) as the directions of changes were not consistent. Therefore, we dropped Tanzania and Thailand while for Yemen, we used the per capita means as per the country's assessment report (2005) and not the underestimated one listed in Povcal.

Table 3: Annual Change in Gini, PCE and HCE by regions and sub-regions

Region	Total Change Gini	Total Change PCE	Total Change Poverty Rate
LDCs	11.37%	0.57%	-11.85%
Maghreb	3.58%	7.72%	-31.75%
Mashreq	-5.22%	15.63%	-11.91%
Arab countries	-1.43%	11.15%	-14.45%
East Asia& Pacific	10.38%	71.90%	-40.53%
Europe& Central Asia	-16.27%	17.83%	-54.88%
Latin America& Caribbean	-4.94%	27.09%	-20.38%
South Asia	6.20%	12.97%	-23.09%
Sub-Saharan Africa	-1.81%	22.56%	-13.49%
Developing region	-2.54%	32.31%	-25.53%

Source: ibid

Methodology for computing comparable national poverty lines

We provide two methods to construct more relevant international poverty lines. We accept the World Bank's basic idea of relying on national poverty lines to construct international poverty lines. However, we reject the assumption that this poverty line should be fixed or that it should be based on the national poverty lines of the poorest countries. Assuming that Engel's Law is verified and dealing with the PPPs as common currency not as purchasing power given its problems; we re-estimate the PLs based on the average per capita consumption. The two methods are based on the fact that the international poverty lines should be based on given stylized facts regarding the relationship between national poverty lines and the average per capita expenditure (in 2005 PPP). We use the recent spur in the number of country surveys available on the World Bank website to examine the cross-country relationship between national poverty lines and per capita consumption across a large number of developing countries.

In Method 1, we regressed the natural logarithm of the NPL on PCE and PCE squared given the non linearity relation between the NPL and PCE, method 2 that we based our analysis upon earlier we anchored the PCE on the ratio of the NPL to the PCE. Then we recomputed new PLs. The two methods show that the image of the poverty is completely different and confirm the idea that no fixed PL should be used.

Estimating poverty lines using regression

Using cross-country regression we can easily estimate the appropriate lower poverty line for any developing country given its mean consumption per capita. The other important advantage of using cross-country regression analysis is that it will automatically eliminate any over-shooting and under-shooting of national poverty lines (such as in the case of China), hence provide a more realistic basis for global poverty comparisons. Furthermore, the recent spur in the number of poverty assessment surveys available online allows us to examine the cross-country relationship between average per capita expenditure and the value of these national poverty lines across a large number of developing countries.

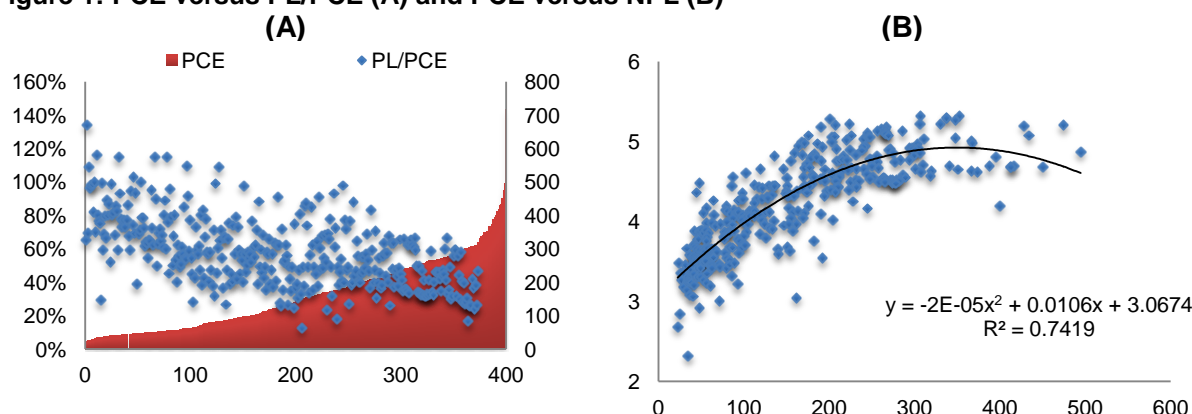
A non linear cross country relationship is expected between poverty line (PL) and per capita mean consumption Expenditure (PCE). The reason being, as shown in Figure 1.A, poorer countries tend to have higher PL/PCE ratios. This makes sense since the cost of basic needs in poorest developing countries, where there is mass poverty, will be only slightly less than average consumption. The opposite is true for richer developing countries. However, as countries get richer it becomes more difficult to reduce this ratio beyond a certain threshold. Hence, we can proceed to estimate our “variable” international poverty lines and re-estimate global poverty rates accordingly using a polynomial function as follows:

$$\ln(\text{NPL}) = \beta_0 + \beta_1(\text{PCE}) + \beta_2(\text{PCE})^2$$

Several non linear specifications have been used, we kept the one with the highest goodness of fit.

The estimated results are presented in Table 4. The model explains 74% of the variation in NPL. The estimated parameters are significant and of the expected sign. The PL increases with the average consumption until a certain level where the impact starts becoming negative (Figure 1.B).

Figure 1: PCE versus PL/PCE (A) and PCE versus NPL (B)



Source: Authors estimates based on data from POVICAL

Table 4: Estimated parameters of the polynomial regression

Variables	L_PL	L_PL2
PCE	0.0106*** (0.000544)	0.00662*** (0.000660)
PCE_2	-1.52e-05*** (1.35e-06)	-9.51e-06*** (1.36e-06)
LAC		0.639*** (0.0563)
SAS		0.109 (0.0662)
SSA		0.195*** (0.0474)
AC		0.242*** (0.0612)
ECA		0.637*** (0.0562)
Constant	3.066*** (0.0455)	3.108*** (0.0586)
Observations	363	363
R-squared	0.736	0.820

Source: STATA output based on data from WB (Povcal)

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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ANNEX TABLES

Table 1: National poverty lines, poverty lines based on re-ranking of share of PL to PCE and regression poverty lines, 1990-2000 and 2000-2009

Country Name	Year	Base Year				Year	Latest Year			
		PCE mean\$	NPL per day	RPL per day	RPL/ PCE		PCE mean\$	NPL per day	RPL per day	RPL/ PCE
Azerbaijan	1995	87.2	3.1	1.6	0.6	2008	158.3	2.5	2.6	0.5
Bangladesh	1996	48.9	1.3	1.1	0.7	2005	48.3	1.1	1.1	0.7
Belarus	2000	206.4	5.2	3.3	0.5	2008	428.5	5.9	4.1	0.3
Bolivia	1997	203.0	5.2	3.3	0.5	2007	226.2	5.3	3.6	0.5
Brazil	1998	277.3	2.9	4.2	0.5	2009	373.7	3.3	4.5	0.4
Bulgaria	1997	155.3	3.8	2.6	0.5	2001	207.0	2.6	3.3	0.5
Burkina Faso	1998	41.7	0.8	1.1	0.8	2003	46.9	1.1	1.1	0.7
Burundi	1998	24.3	1.1	0.9	1.1	2006	29.0	0.9	1.0	1.0
Cambodia	1994	53.5	1.2	1.2	0.7	2007	83.5	1.3	1.5	0.6
Cameroon	1996	57.9	1.3	1.2	0.7	2001	77.3	1.4	1.5	0.6
Chile	1996	387.4	3.6	4.4	0.3	2009	494.7	4.3	3.3	0.2
China	1996	60.2	0.7	1.3	0.6	2005	107.9	0.7	1.9	0.5
China-R	1996	47.9	0.6	1.1	0.7	2005	71.3	0.7	1.4	0.6
China-U	1996	86.0	0.9	1.6	0.6	2005	161.8	0.7	2.6	0.5
Colombia	1995	220.2	5.0	3.5	0.5	2006	220.9	3.9	3.5	0.5
Costa Rica	1992	203.8	3.2	3.3	0.5	2009	395.3	4.0	4.4	0.3
Djibouti	1996	150.5	3.1	2.5	0.5	2002	93.5	2.0	1.7	0.5
Dominican Republic	2000	303.7	4.7	4.4	0.4	2007	240.2	5.0	3.8	0.5
Ecuador	1994	169.4	2.7	2.8	0.5	2009	247.6	3.9	3.9	0.5
Egypt	1991	100.9	1.9	1.8	0.5	2009	121.1	2.4	2.0	0.5
El Salvador	1995	171.0	3.5	2.8	0.5	2008	215.6	3.9	3.4	0.5
Ethiopia	1995	45.4	1.0	1.1	0.7	2000	42.7	1.1	1.1	0.8
Ghana	1998	62.7	1.3	1.3	0.6	2006	77.7	1.2	1.5	0.6
Guyana	1993	209.4	3.8	3.4	0.5	1998	180.1	3.2	2.9	0.5
Honduras	1999	175.8	5.3	2.9	0.5	2007	168.9	4.1	2.8	0.5
India	1994	46.7	1.1	1.1	0.7	2005	53.5	1.1	1.2	0.7
India-R	1994	43.8	1.1	1.1	0.8	2005	49.9	1.1	1.2	0.7
India-U	1994	54.9	1.1	1.2	0.7	2005	62.4	1.0	1.3	0.6
Indonesia	1996	51.6	0.9	1.2	0.7	2009	76.6	1.1	1.5	0.6
Indonesia-R	1996	46.1	0.9	1.1	0.7	2009	68.4	1.2	1.4	0.6
Indonesia-U	1996	61.0	0.8	1.3	0.6	2009	84.0	1.1	1.6	0.6
Jamaica	1996	192.4	3.1	3.1	0.5	2004	274.3	2.9	4.1	0.5
Jordan	1997	151.6	2.5	2.5	0.5	2006	210.1	2.8	3.4	0.5
Kazakhstan	1996	136.9	2.8	2.3	0.5	2002	124.1	1.7	2.1	0.5
Kenya	1994	77.6	1.6	1.5	0.6	2005	112.4	2.3	1.9	0.5
Lao PDR	1992	43.3	1.1	1.1	0.8	2008	62.9	1.1	1.3	0.6
Madagascar	1997	33.5	1.3	1.0	0.9	2005	44.8	1.3	1.1	0.7
Malawi	1998	29.5	0.8	1.0	1.0	2004	34.1	0.9	1.0	0.9
Mauritania	1996	78.7	2.1	1.5	0.6	2000	88.3	2.1	1.6	0.6
Mexico	1992	256.3	5.5	4.0	0.5	2008	337.2	6.5	4.5	0.4
Mongolia	1995	80.5	1.8	1.5	0.6	2002	86.0	2.8	1.6	0.6
Morocco	1991	155.4	1.9	2.6	0.5	2007	161.4	1.7	2.6	0.5
Mozambique	1997	29.4	1.0	1.0	1.0	2008	46.5	1.1	1.1	0.7
Nepal	1996	38.3	0.8	1.0	0.8	2004	56.2	0.8	1.2	0.7
Nicaragua	1998	132.8	2.5	2.2	0.5	2005	151.2	2.8	2.5	0.5
Pakistan	1999	62.0	1.3	1.3	0.6	2005	65.8	1.3	1.3	0.6

Country Name	Year	Base Year				Year	Latest Year			
		PCE mean\$	NPL per day	RPL per day	RPL/ PCE		PCE mean\$	NPL per day	RPL per day	RPL/ PCE
Panama	1997	269.7	4.4	4.1	0.5	2009	367.9	4.8	4.5	0.4
Peru	2001	178.6	4.0	2.9	0.5	2009	248.7	3.9	3.9	0.5
Philippines	1994	83.5	1.6	1.5	0.6	2006	99.0	1.4	1.7	0.5
Romania	1994	99.2	1.9	1.7	0.5	2005	189.7	3.1	3.1	0.5
Russian Federation	1999	188.0	3.5	3.0	0.5	2005	301.0	3.5	4.4	0.4
Sri Lanka	1991	76.3	1.5	1.5	0.6	2007	119.0	1.5	2.0	0.5
Syria	1997	129.8	2.0	2.2	0.5	2007	125.5	2.0	2.1	0.5
Tajikistan	1999	48.3	2.9	1.1	0.7	2003	56.0	2.1	1.2	0.7
Tunisia	1990	151.3	1.3	2.5	0.5	2000	182.4	1.4	3.0	0.5
Turkey	1994	203.8	3.3	3.3	0.5	2005	234.6	3.0	3.7	0.5
Uganda	1992	37.9	1.0	1.0	0.8	2006	52.7	0.9	1.2	0.7
Ukraine	1999	121.9	2.7	2.1	0.5	2005	250.2	3.6	3.9	0.5
Venezuela RB.	1989	255.8	4.1	4.0	0.5	2006	238.5	4.4	3.7	0.5
Vietnam	1998	49.8	1.1	1.2	0.7	2008	97.2	1.3	1.7	0.5
Yemen Rep	1998	90.3	2.0	1.6	0.5	2005	84.0	2.0	1.6	0.6
Zambia	1998	55.5	1.6	1.2	0.7	2004	43.1	1.1	1.1	0.8
LDCs		90.9	2.0	1.6	0.5		84.8	2.0	1.6	0.6
Maghreb		154.4	1.7	2.5	0.5		166.3	1.7	2.7	0.5
Mashreq		109.4	1.9	1.9	0.5		126.5	2.3	2.1	0.5
AC		117.9	1.9	2.0	0.5		130.0	2.1	2.2	0.5
EAP		59.6	0.8	1.3	0.6		102.4	0.8	1.8	0.5
ECA		167.0	3.2	2.7	0.5		257.2	3.3	3.8	0.5
LAC		254.3	3.9	3.9	0.5		323.2	4.3	4.2	0.4
SAS		48.9	1.1	1.2	0.7		55.2	1.1	1.2	0.7
SSA		48.0	1.2	1.1	0.7		58.8	1.3	1.3	0.7
DR		87.1	1.5	1.6	0.6		121.1	1.5	2.0	0.5

Source: Authors' estimates based on data from POVCAL and National Reports

Notes: This table shows National poverty line per day (NPL per day) that is the actual national poverty line reported by the country in concern versus UNDP line which is the resulted poverty line from the cross country regression of national poverty lines on private consumption expenditure (PCE) (RPL per day) (for further details, Abu-Ismaïl, Ramadan and Gihan Abou Taleb, 2010).

Table 2: Poverty rates according to international poverty lines (\$1, \$2, \$2.75), national and regression based poverty lines, 1990-2009

Country/ Region	YR	Base year					YR	Latest year				
		\$1.25 PR	\$2 PR	\$2.75 PR	National Poverty Rate	Regression PR		\$1.25 PR	\$2 PR	\$2.75 PR	National Poverty Rate	Regression PR
Djibouti	1996	4.8	15.1	28.5	34.5	23.5	2002	18.8	41.2	59.8	42.0	31.8
Mauritania	1996	23.4	48.3	67.7	50.5	31.2	2000	21.2	44.1	62.1	46.3	32.4
Yemen Rep	1998	13.6	43.0	65.0	40.1	33.1	2005	10.0	37.8	57.0	34.8	27.4
Morocco	1991	2.4	15.9	31.3	13.1	27.2	2007	2.5	13.9	29.6	9.0	27.3
Tunisia	1990	5.9	19.0	33.0	6.7	28.2	2000	2.5	12.8	25.2	4.2	28.5
Egypt	1991	4.5	27.6	51.7	24.1	19.9	2009	3.4	18.5	43.7	21.6	18.6
Jordan	1997	2.5	11.5	27.7	21.3	21.9	2006	0.4	3.5	12.6	13.0	22.3
Syria	1997	7.9	14.3	33.2	14.3	15.4	2007	0.3	12.3	33.6	12.3	12.9
China-Rural	1996	49.5	79.6	90.5	7.9	42.3	2005	26.1	55.6	75.0	2.5	31.9
China-Urban	1996	8.9	34.5	59.9	2.0	19.4	2005	1.7	9.4	22.4	0.3	20.5
Indonesia-R	1996	46.7	82.6	93.1	19.8	36.7	2009	18.9	54.9	77.9	17.4	24.5
Indonesia-U	1996	37.6	67.4	82.4	13.6	38.9	2009	18.7	46.6	66.9	10.7	30.5
Cambodia	1994	48.5	77.8	88.8	47.0	45.2	2007	28.3	56.5	72.6	30.1	41.0
Lao PDR	1992	55.7	84.8	93.9	45.0	44.1	2008	33.9	66.0	82.2	27.6	36.4
Mongolia	1995	18.8	43.5	64.2	36.3	27.0	2002	15.5	38.9	59.9	61.1	25.4
Philippines	1994	28.1	52.6	68.5	40.6	38.7	2006	22.6	45.0	60.7	26.4	38.1
Vietnam	1998	49.6	78.2	89.2	37.4	44.0	2008	13.1	38.4	58.7	14.5	29.2
China	1996	36.4	65.1	80.6	6.0	34.9	2005	16.2	36.9	53.8	2.8	27.3
Indonesia	1996	43.4	77.0	89.1	17.6	37.5	2009	18.7	50.5	72.2	14.2	27.7
Azerbaijan	1995	15.5	39.4	60.1	68.1	26.2	2008	1.0	7.7	21.7	15.8	18.4
Belarus	2000	0.3	1.9	7.4	41.9	14.2	2008	0.0	0.0	0.4	6.1	1.3
Bulgaria	1997	0.3	2.3	11.6	36.0	8.1	2001	2.6	7.8	14.1	12.8	19.8
Kazakhstan	1996	5.0	18.8	33.3	34.6	23.9	2002	5.1	21.5	38.5	15.4	23.6
Romania	1994	5.0	23.2	46.5	21.5	15.7	2005	0.7	3.4	10.8	15.1	15.1
Russian Federation	1999	2.3	10.5	21.1	31.4	24.9	2005	0.2	1.5	5.9	11.9	20.2
Tajikistan	1999	44.5	78.5	90.9	92.3	37.0	2003	36.2	68.8	84.8	72.4	34.7
Turkey	1994	2.1	9.8	20.6	28.3	28.2	2005	2.7	9.0	17.7	20.5	29.2
Ukraine	1999	2.0	13.5	32.2	31.5	14.7	2005	0.1	0.5	2.2	7.9	10.7
Bolivia	1997	18.9	29.9	39.9	63.2	45.8	2007	13.9	24.7	35.3	60.1	45.0
Brazil	1998	11.0	22.5	32.2	34.0	46.6	2009	3.8	9.9	16.4	21.4	30.6
Chile	1996	0.4	7.8	15.4	23.2	30.8	2009	0.8	2.4	5.5	15.1	8.1
Colombia	1995	11.2	23.3	34.7	60.0	44.9	2006	16.0	27.9	38.0	50.3	46.7
Costa Rica	1992	8.4	17.8	27.6	33.1	34.1	2009	0.6	5.4	11.6	21.7	24.5
Dominican	2000	4.4	12.4	20.4	39.5	36.2	2007	4.3	13.6	23.3	48.8	35.5
Ecuador	1994	15.9	28.2	39.5	39.3	39.6	2009	5.1	13.4	22.4	36.0	35.3
El Salvador	1995	12.7	25.2	37.1	47.5	37.5	2008	5.1	15.2	25.4	39.9	34.4
Guyana	1993	5.8	15.0	27.9	43.2	36.5	1998	7.7	16.8	27.8	35.0	30.6
Honduras	1999	14.4	26.8	38.2	65.9	39.7	2007	23.3	35.4	45.7	60.2	45.7
Jamaica	1996	1.7	8.6	20.3	26.1	26.2	2004	0.2	5.9	14.8	16.9	31.1
Mexico	1992	4.5	14.6	24.2	53.1	38.2	2008	3.4	8.1	14.4	47.4	31.1
Nicaragua	1998	21.8	38.5	52.2	47.9	42.7	2005	15.8	31.9	45.7	46.2	41.1
Panama	1997	7.2	15.2	21.9	37.3	34.6	2009	2.4	9.5	16.3	32.7	30.4
Peru	2001	15.1	27.9	39.4	54.8	41.4	2009	5.9	14.7	22.8	34.8	34.6
Venezuela	1989	2.9	9.2	17.1	31.3	30.0	2006	3.5	10.1	18.5	36.3	29.6
India-Rural	1994	52.5	85.1	94.5	37.3	40.5	2005	43.8	79.5	91.6	28.3	36.9
India-Urban	1994	40.8	72.1	86.1	32.4	38.5	2005	36.2	65.8	81.3	25.7	38.2

Country/ Region	YR	Base year					YR	Latest year				
		\$1.25 PR	\$2 PR	\$2.75 PR	National Poverty Rate	Regressi on PR		\$1.25 PR	\$2 PR	\$2.75 PR	National Poverty Rate	Regressi on PR
Bangladesh	1996	49.6	79.5	90.2	50.1	42.9	2005	50.5	80.3	90.7	40.0	43.2
Nepal	1996	68.4	88.1	94.2	41.8	56.8	2004	55.1	77.6	87.3	30.9	53.9
Pakistan	1999	29.1	66.5	84.7	30.6	31.4	2005	22.6	60.3	81.3	23.9	27.2
Sri Lanka	1991	15.0	49.5	72.7	26.1	24.7	2007	7.0	29.1	48.8	15.2	29.6
India	1994	49.4	81.7	92.2	36.0	40.0	2005	41.6	75.6	88.6	27.6	37.3
Burkina Faso	1998	70.0	87.6	93.8	45.3	61.9	2003	56.5	81.2	90.5	46.4	49.7
Burundi	1998	86.4	95.4	97.8	81.0	73.5	2006	81.3	93.5	96.9	66.9	72.6
Cameroon	1996	51.5	74.5	85.2	53.3	51.1	2001	32.8	57.7	73.1	40.2	41.0
Ethiopia	1995	60.5	84.6	92.8	45.5	52.3	2000	55.6	86.4	94.5	44.2	43.1
Ghana	1998	39.1	63.3	77.8	39.5	40.9	2006	30.0	53.6	70.4	28.5	37.4
Kenya	1994	28.6	53.7	70.9	40.3	36.3	2005	19.7	39.9	55.9	45.9	38.0
Madagascar	1997	72.0	89.4	94.9	73.3	59.2	2005	67.8	89.6	96.4	68.7	59.7
Malawi	1998	83.1	93.5	96.8	65.3	73.5	2004	73.9	90.5	95.3	52.4	61.4
Mozambique	1997	81.3	92.9	96.4	69.4	69.5	2008	60.0	81.6	90.6	54.7	53.4
Uganda	1992	70.0	88.6	94.5	56.4	59.0	2006	51.5	75.6	86.5	31.1	48.5
Zambia	1998	55.4	74.8	84.6	66.8	54.5	2004	64.3	81.5	89.3	58.4	58.2
LDCs		14.5	42.7	64.2	41.1	32.6		11.5	38.6	57.6	36.3	28.0
Maghreb		3.3	16.7	31.7	11.5	27.5		2.5	13.7	28.6	7.9	27.6
Mashreq		5.0	24.1	46.8	22.0	19.2		2.7	16.6	40.3	19.4	17.7
AC		6.0	25.1	45.6	22.3	23.3		3.9	19.0	40.0	19.1	21.5
EAP		37.6	66.8	81.6	10.9	36.0		16.9	39.5	57.1	5.6	28.1
ECA		3.5	13.6	26.6	32.8	22.8		1.7	5.6	11.7	14.7	20.3
LAC		9.4	20.3	30.2	42.9	42.0		5.5	12.3	19.6	34.1	32.4
SAS		47.0	79.5	90.9	36.9	39.4		40.3	73.9	87.5	28.4	37.0
SSA		59.4	79.8	88.7	52.9	54.0		49.8	73.6	84.1	45.8	47.3
DRs		34.8	60.7	73.7	26.9	37.1		23.6	46.4	60.5	19.7	31.8

Source: ibid

Table 3: Average annual changes for Gini Coefficient, Private consumption expenditure (PCE) household consumption expenditure (HCE), 2000s

Country/ Region	Annual Change Poverty Rate	Annual Change Gini	Annual Change PCE	Annual Change HCE	Country/ Region	Annual Change Poverty Rate	Annual Change Gini	Annual Change PCE	Annual Change HCE
Djibouti	3.3%	1.4%	-7.6%	4.7%	Morocco	-2.3%	0.3%	0.2%	1.2%
Egypt	-0.6%	-0.3%	1.0%	2.0%	Syria	-1.5%	-0.6%	-0.3%	0.6%
Jordan	-5.3%	0.4%	3.7%	3.5%	Tunisia	-4.6%	0.1%	1.9%	2.7%
Mauritania	-2.2%	1.2%	2.9%	-0.4%	Yemen Rep	-2.0%	1.7%	-1.0%	-2.2%
China-Rural	-12.0%	0.7%	4.5%	0.0%	Guyana	-4.1%	-2.9%	-3.0%	5.0%
China-Urban	-19.0%	2.0%	7.3%	0.0%	Honduras	-1.1%	1.4%	-0.5%	3.5%
Indonesia-Rural	-1.0%	0.5%	3.1%	0.0%	Jamaica	-5.3%	1.5%	4.5%	0.2%
Indonesia-Urban	-1.8%	-0.1%	2.5%	0.0%	Mexico	-0.7%	0.1%	1.7%	1.4%
Cambodia	-3.4%	1.1%	3.5%	4.8%	Nicaragua	-0.5%	-0.4%	1.9%	2.4%
Lao PDR	-3.0%	1.2%	2.4%	3.3%	Panama	-1.1%	0.6%	2.6%	4.9%
Mongolia	7.7%	-0.2%	0.9%	-1.7%	Peru	-5.5%	-1.2%	4.2%	4.1%
Philippines	-3.5%	0.2%	1.4%	2.1%	Venezuela	0.9%	-0.1%	-0.4%	0.2%
Vietnam	-9.0%	0.6%	6.9%	5.2%	India-Rural	-2.5%	0.6%	1.2%	0.0%
China	-8.1%	1.2%	6.7%	6.0%	India-Urban	-2.1%	0.8%	1.2%	0.0%
Indonesia	-1.6%	0.5%	3.1%	2.4%	Bangladesh	-2.5%	-0.1%	-0.1%	1.7%
Azerbaijan	-10.6%	-0.3%	4.7%	9.3%	Nepal	-3.7%	2.9%	4.9%	1.9%
Belarus	-21.4%	-1.4%	9.6%	11.6%	Pakistan	-4.0%	-1.0%	1.0%	1.2%
Bulgaria	-22.8%	6.8%	7.4%	7.3%	Sri Lanka	-3.3%	1.4%	2.8%	4.9%
Kazakhstan	-12.6%	-0.2%	-1.6%	3.2%	India	-2.4%	0.7%	1.3%	3.9%
Romania	-3.2%	1.0%	6.1%	5.0%	Burkina Faso	0.5%	-3.3%	2.4%	2.8%
Russian	-14.9%	0.0%	8.2%	8.0%	Burundi	-2.4%	-3.0%	2.2%	-0.6%
Tajikistan	-5.9%	0.9%	3.8%	15.4%	Cameroon	-5.5%	-1.0%	6.0%	2.1%
Turkey	-2.9%	0.4%	1.3%	2.8%	Ethiopia	-0.6%	-5.6%	-1.2%	-2.0%
Ukraine	-20.6%	-0.4%	12.7%	8.3%	Ghana	-4.0%	0.6%	2.7%	3.1%
Colombia	-1.6%	0.2%	0.0%	0.6%	Kenya	1.2%	1.1%	3.4%	0.5%
Costa Rica	-2.5%	0.4%	4.0%	2.1%	Madagascar	-0.8%	2.4%	3.7%	0.3%
Dominican	3.1%	-1.0%	-3.3%	4.4%	Malawi	-3.6%	-4.2%	2.5%	1.0%
Ecuador	-0.6%	-0.4%	2.6%	2.4%	Mozambique	-2.1%	0.2%	4.3%	4.9%
Bolivia	-0.5%	-0.2%	1.1%	1.1%	Uganda	-4.2%	0.0%	2.4%	4.5%
Brazil	-4.1%	-0.9%	2.8%	1.4%	Zambia	-2.2%	-0.9%	-4.1%	8.5%
Chile	-3.3%	-0.4%	1.9%	2.5%	EAP	-49.1%	9.9%	71.9%	60.7%
El Salvador	-1.3%	-0.5%	1.8%	2.6%	ECA	-55.2%	-0.1%	54.0%	57.0%
LDCs	-11.9%	11.5%	-6.7%	-12.0%	LAC	-20.4%	-4.9%	27.1%	21.8%
Maghreb	-31.8%	3.6%	7.7%	23.1%	SAS	-23.1%	6.2%	13.0%	42.2%
Mashreq	-11.9%	-5.2%	15.6%	36.2%	SSA	-13.5%	-1.8%	22.6%	17.0%
AC	-14.5%	-1.4%	10.2%	30.5%	DR	-26.9%	0.3%	39.0%	40.7%

Source: ibid