

## March 2021 PovcalNet Update

### What's New

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## Abstract

The March 2021 update to PovcalNet involves several changes to the data underlying the global poverty estimates. Some welfare aggregates have been changed for improved harmonization, and the CPI, national accounts, and population input data have been updated. This document explains these changes in detail and the reasoning behind them. In addition to the changes listed here, a large number of new country-years have been added, resulting in a total number of surveys of more than 1,900. Moreover, this update includes important revisions to the historical survey data and for the first time, poverty estimates based on imputed consumption data.

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The Global Poverty Monitoring Technical Note Series publishes short papers that document methodological aspects of the World Bank's global poverty estimates. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent. Global Poverty Monitoring Technical Notes are available at <http://iresearch.worldbank.org/PovcalNet/>.

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## 1. Introduction

The March 2021 global poverty update from the World Bank revises the previously published global and regional estimates from 1981 to 2017. For the regions with sufficient population coverage, the 2018 estimates are updated and new poverty estimates for the reference year 2019 are added where possible. The update includes new surveys that have been received and processed, as well as several changes to the existing data. Notably, this update includes for the first time poverty estimates based on imputed consumption data for three countries in Sub-Saharan Africa (Somalia, South Sudan and Zimbabwe, see section 0), including data on Somalia that previously had no survey estimate available in PovcalNet. For this data release, we also conducted an extensive revision of historical datapoints (largely in the 1990s and early 2000s), resulting in the addition of microdata for over 120 historical surveys (section 3). Other changes reflect improvements in the welfare aggregate based on new harmonization efforts and more available information. This document outlines the changes made to the underlying data by country and explains the reasons why the changes have been made.

Table 1 shows the poverty estimates in 2017 for those regions that have sufficient population coverage.<sup>1</sup> The data available at the time of the March 2021 update do not offer sufficient population coverage in 2017 for South Asia, so we are unable to publish regional poverty estimates for this region.<sup>2</sup> Table 1 also includes poverty estimates for the two new regions of West and East Africa following the new regional classification adopted by the World Bank.<sup>3</sup>

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<sup>1</sup> This is the last year with sufficient population coverage to report a global poverty estimate. Global estimates are reported if two conditions are met: data is available for at least 50% of the global population and for at least 50% of the population living in low- and lower-middle-income countries, both assessed within a three-years window from the reference year (see Castaneda et al. 2020 for further details).

<sup>2</sup> This is explained by the absence of recent data for India, without which the 50% population threshold is not reached. The estimate for India that is included in the global headcount is described in World Bank (2020) (Chapter 1, box 1.2) and Castaneda et al. (2020).

<sup>3</sup> The new regional classification for West- and East-Africa will be available in the new Poverty and Inequality Platform which will be launched soon. In the meantime, replication code to estimate these sub-regional estimates from the published country-level estimates is available [here](#). Economies in West Africa include: Benin, Burkina Faso, Cameroon, Cabo Verde, Central African Republic, Chad, Cote d'Ivoire, Equatorial Guinea, Gabon, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Rep. Congo, Senegal, Sierra Leone, The Gambia, Togo. Economies in East Africa include: Angola, Botswana, Burundi, Comoros, DR Congo, Eritrea, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Sao Tome and Principe, Seychelles, South Africa, Somalia, South Sudan, Sudan, Tanzania, Uganda, Zambia, Zimbabwe. For Equatorial Guinea and Eritrea, which do not have a household survey that can be included in our database, their poverty rate is assumed at the population-weighted average for Sub-Saharan Africa, following PovcalNet's standard methodology for countries missing household survey data.

Table 1. Poverty estimates for reference year 2017, changes between September 2020 and March 2021 vintage at different poverty lines

Region	Survey Coverage (%)	\$1.90: Headcount ratio (%)		\$1.90: Number of poor (mil)		\$3.20: Headcount ratio (%)		\$3.20: Number of poor (mil)		\$5.50: Headcount ratio (%)		\$5.50: Number of poor (mil)	
		Sep 20	Mar 21	Sep 20	Mar 21	Sep 20	Mar 21	Sep 20	Mar 21	Sep 20	Mar 21	Sep 20	Mar 21
		East Asia and Pacific	97.5	1.4	1.4	29	29	8.7	8.4	179	174	28.2	27.6
Europe and Central Asia	89.5	1.3	1.3	6	6	4.7	4.6	23	23	12.6	12.6	62	62
Latin America & Caribbean	90.2	3.9	3.8	24	24	9.5	9.3	60	59	23.1	23.0	146	145
Middle East and North Africa	58.2	6.3	6.3	24	24	18.6	18.3	71	70	43.4	43.1	165	164
Rest of the World	82.4	0.6	0.7	7	7	0.8	0.9	9	10	1.3	1.3	14	14
South Asia	21.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sub-Saharan Africa	81.4	41.0	41.2	431	433	67.3	67.3	707	707	86.1	86.2	905	906 <sup>4</sup>
East Africa	80.7	n/a	44.2	n/a	277	n/a	68.8	n/a	431	n/a	86.4	n/a	541
West Africa	82.6	n/a	36.7	n/a	156	n/a	65.1	n/a	276	n/a	85.9	n/a	364
World Total	71.8	9.2	9.3	689	696	24.1	24.3	1811	1821	43.6	43.5	3271	3269

Source: PovcalNet

Note: Regional poverty estimates are reported if survey coverage is above 50% within a three-years window of the reference year. The global estimate is reported if survey coverage is above 50% and coverage for low- and lower-middle-income countries is above 50%. For 2017 the latter is: 52.9%.

Table 1 illustrates the impact of the data updates on global poverty for the reference year 2017. The estimates for 2017 were first published in September 2020 and this is the first revision for the 2017 reference year. With the new data, the estimate of the global \$1.90 headcount ratio increases very slightly, from 9.2% to 9.3% and the number of poor increases from 689 million to 696 million people. The increase in the millions of poor at the global level is largely explained by an increase in South Asia by 5.5 million.<sup>5</sup> This is mostly explained by new survey data for Pakistan in 2018/19, which leads to an upward revision of the previous poverty estimate that was based on an extrapolation of the 2015/16 survey.<sup>6</sup> Another reason for the upward revision is a change in the

<sup>4</sup> The number of poor for Sub-Saharan Africa is equal to the sum of the number of poor for West and East Africa. The discrepancy at the US\$5.50 poverty line is because of rounding: East Africa (541.57), West Africa (364.0) and Sub-Saharan Africa (905.5).

<sup>5</sup> As explained above, South Asia is not shown separately in the table since it does not meet the population coverage criteria. The global estimate, however, includes estimates for all countries, including South Asia.

<sup>6</sup> A downward revision to national accounts data for India also contributes to the changes in South Asia. Specifically, changes to the per capita Household Final Consumption Expenditure series for the years 2016-2018 result in a change in the lined-up estimates in PovcalNet. Previously published estimates used national accounts from the May 2020 vintage of the WDI (used for the September 2020 PovcalNet update, see Castaneda et al. 2020), while this update uses national accounts data from December 2020 (see section 7 below). The revisions -all expressed in 2010USD- are as follows: change from 1045.64 to 1045.1 (2016), from 1111.5 to 1105.9 (2017) and from 1188.9 to 1172.8(2018). As discussed in World Bank (2020), the absence of recent data for India, considerably raises the uncertainty over our

regional poverty estimate for Sub-Saharan Africa from 41.0% to 41.2%, which is largely explained by the availability of the first survey data-based estimate for Somalia. This improves the precision of the reference year estimate. Previously it was based on the regional poverty rate, which is PovcalNet’s imputation method for countries without household survey data. The difference between the two estimates for Somalia is sizable. The new survey-based estimate shows that 68.6% of the Somali population lives below the US\$1.90 poverty line, against the previous value of 41.0% imputed in PovcalNet.<sup>7</sup> New and more recent data is also available for South Sudan, but the new estimate for the country (76.4%) is lower than the one previously available in PovcalNet (84.7%) balancing off the increase driven by Somalia’s new poverty headcount.<sup>8</sup>

This update also revises poverty estimates for reference year 2018 for those regions with sufficient population coverage and adds estimates for 2019 wherever possible (see Table 2).<sup>9</sup> These numbers confirm a downward trend in poverty rates in East Asia and Pacific, reducing the poverty headcount ratio at the international poverty line from 2.1% in 2015 to 1.0 % in 2019, driven by decreases in poverty in China and the Philippines. In contrast, spurred by the conflicts in Yemen and Syria, the Middle East and North Africa region has seen a sharp reversal, with the poverty rate increasing from around 2.1% in 2013 to 4.3% in 2015 and 7.0% in in 2018. In Latin America, poverty has largely stagnated, remaining at around 3.7% between 2015 and 2018. Estimates for Sub-Saharan Africa show that while the poverty rate continues to decrease, the number of poor increased by 18 million people between 2015 and 2018.

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understanding of poverty in the country, the South Asia region and the world. The India estimate that is underpinning the global poverty count is based on an extrapolation of the latest available comprehensive household consumption expenditure survey from 2011/12 using growth in national accounts household final consumption expenditure per capita, adjusted with a pass-through rate. Further details are available in World Bank (2020) (Chapter 1, box 1.2), Castaneda et al. (2020) and Edochie et al. (forthcoming).

<sup>7</sup> The 41.0% estimate is the population-weighted regional average for Sub-Saharan Africa in 2017 from the September 2020 PovcalNet update (see table 2).

<sup>8</sup> The 84.7% value previously available in PovcalNet was based on the extrapolation of an earlier survey using growth in national accounts following PovcalNet’s lining-up methodology (see Prydz et al. 2019, for further details).

<sup>9</sup> The estimates for 1981-2019 are available in [PovcalNet](#), as well as the [R](#) and [Stata](#) packages.

Table 2 Poverty estimates for reference year 2019, selected regions and different poverty lines

Region	Survey coverage (%)	\$1.90		\$3.20		\$5.50	
		Head-count ratio (%)	Number of poor (mil)	Head-count ratio (%)	Number of poor (mil)	Head-count ratio (%)	Number of poor (mil)
East Asia and Pacific	95.9	1.0	20	6.3	133	22.7	475
Europe and Central Asia	87.4	1.0	5	4.0	20	11.6	58
Latin America and the Caribbean	86.8	3.7	24	9.2	59	22.5	145
Middle East and North Africa	47.9	n/a	n/a	n/a	n/a	n/a	n/a
Other High-Income Economies	80.2	0.6	7	0.8	9	1.3	14
South Asia	21.9	n/a	n/a	n/a	n/a	n/a	n/a
Sub-Saharan Africa	41.3	n/a	n/a	n/a	n/a	n/a	n/a
East Africa	32.0	n/a	n/a	n/a	n/a	n/a	n/a
West Africa	55.1	34.5	154	63.6	284	85.2	381
World Total	64.3	n/a	n/a	n/a	n/a	n/a	n/a

Source: [PovcalNet](#)

Note: Regional poverty estimates are reported if survey coverage is above 50% within a three-years window of the reference year. The global estimate is reported if survey coverage is above 50% and coverage for low- and lower-middle-income countries is above 50%. For 2019 the latter is: 41.2%.

## 2. New surveys for Somalia, South Sudan and Zimbabwe

### 2.1. Introduction

This update includes, for the first time, poverty estimates based on methods that impute consumption data. Broadly speaking, these methods estimate part (or all) of the household consumption module using a set of household characteristics (which may include household expenditure on some items), which can accurately predict total household consumption. These methods are particularly useful to expand coverage to data-deprived countries. For example, in some fragile and conflict affected countries shorter interviews without a full welfare aggregate are needed to reduce safety risks to the enumerators. The imputed data included in this update reduce the time needed to collect household consumption data by skipping parts of the questionnaire for randomly selected groups of households. Under a set of assumptions, the prediction model can then be used to impute skipped consumption modules for households missing consumption data but reporting information on the predictors.

In this update, imputed consumption data is used for poverty measurement for Somalia, South Sudan and Zimbabwe using data from the following three surveys: Somali High Frequency Survey-wave 2, South Sudan High Frequency Survey-wave 3 and Zimbabwe's Mini-Poverty,

Income, Consumption, and Expenditure Survey. These data allow us to have for the first time in PovcalNet a poverty estimate for Somalia.<sup>10</sup> Since the new surveys are imputed, they are not comparable to the earlier surveys in South Sudan and Zimbabwe. The details of the imputation methods vary across the three countries and are explained in the next three sub-sections (as well as the background papers referred to below).

For all three countries, data is ingested in PovcalNet in the same way. The imputed data use multiple imputation methods, which means that every household is imputed 100 consumption values, representing different draws from the distribution of the model's error term. In principle, poverty and inequality statistics should be estimated 100 times, separately on each vector; the 100 estimates are averaged to get a point estimate and their dispersion produces a standard error. Since PovcalNet currently cannot accommodate this kind of data structure, the imputed data is ingested as a long vector where 100 imputed consumption vectors are stacked, i.e. the number of observations is equal to the sample size times the number of imputations. For the poverty measures, this long version of the data is used and it returns the correct poverty estimates.<sup>11</sup> Inequality measures, which are not computed on-the-fly, are estimated outside of PovcalNet using the original dataset, e.g. the reported Gini index is the average of the 100 Gini indices, estimated separately for each of the 100 imputations. Medians and decile shares are not reported for these three surveys, but will be available in the new Poverty and Inequality Platform which will be launched soon.<sup>12</sup>

## **2.2. Somalia**

PovcalNet uses data from the second wave of the Somali High Frequency Survey (SHFS2) carried out in 2017. For more details on the survey, see Takamatsu et al. (forthcoming). The second wave covered 6,384 households distributed among rural and urban areas in the central regions of Jubbaland, Puntland, Somaliland, and South West, as well as urban areas in Banadir. The sample also featured nomads and households in internally displaced population (IDP) settlements located

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<sup>10</sup> Prior to this update, Somalia was implicitly assigned Sub-Saharan Africa's population-weighted average poverty rate following PovcalNet's methodology for countries missing household survey data.

<sup>11</sup> For an additive measure such as the poverty headcount, it does not matter if you first average over households and then over the vectors, or if the average is taken over the long vector. However, it is not possible to obtain the standard error from this version of the data. In general, PovcalNet does not currently report standard errors.

<sup>12</sup> PovcalNet calculates these measures on-the-fly which would ignore the multiple imputation structure of the data, so would result in incorrect numbers.



in urban areas in the above geographic areas, as well as households in IDP host communities. In all, the sample covered 16 out of 17 pre-war regions (see Figure 1) and was stratified into 57 strata (see Table 1 in Pape and Wollburg 2019, for full details on the population coverage). The Primary Sampling Units were randomly drawn proportionate to size, based on the constructed sampling frame using satellite images for rural areas.

Figure 1 Geographical coverage Somali High Frequency Survey- wave 2



Estimating household consumption using the SHFS2 requires two imputation exercises. The first one is needed to impute consumption for a subsample of 15 percent of households surveyed in the two regions of rural North-East and Jubbaland. Consumption data for these households were discarded due to concerns over the quality of data collection (Pape and Wollburg, 2019). The three modules on core food, non-food and assets for this subsample are estimated separately using non-consumption characteristics such as household demographics, asset ownership, and housing characteristics as predictors following the well-established literature on survey to survey imputation (Christiaensen et al. 2012; Dang et al. 2017; Doudich et al. 2016; Newhouse et al. 2014; Stifel and Christiaensen 2007; Yoshida et al. 2015; Yoshida et al. 2020). This approach is also closely related to the World Bank’s Survey of Wellbeing via Instant and Frequent Tracking (SWIFT) program.

A second imputation is needed because the collection of consumption data for SHFS2 was carried out using the Rapid Consumption Methodology (RCM). This method has been used in other fragile country contexts, such as South Sudan (see section 2.3), to address security concerns for the enumerators and reduce the interview time needed to collect the full consumption module. In particular, the length of the interview can be reduced to 60 minutes by removing questions on rarely consumed items from the consumption module or by combining categories of items (for example, vegetables instead of each individual item in this category, see Pape et al. 2019 for a detailed discussion on the questionnaire design for SHFS2).

RCM used in the SHFS2 administers a set of core consumption items to all households, while the remaining non-core consumption items were algorithmically partitioned into optional modules distributed systematically across households. This process requires imputing the skipped consumption modules to obtain a final measure of total consumption on all modules for all surveyed households. This exercise is made more difficult by the fact that about a half of households do not consume items in non-core modules, and that the SHFS2 survey allocates consumption items that are less commonly consumed into the non-core modules. This means that consumption of the non-core modules is zero for a significant number of households. Given this data structure, the imputation of the full consumption aggregate is carried out using a two-part multiple imputation model: The first stage predicts whether a household will consume items included in a non-core module using a logistic regression. The second stage estimates the amount of the positive consumption for households predicted to consume a positive amount in the first stage (Cameron and Trivedi 2005). Using this two-part imputation, all imputed expenditures will have either zero or positive values. The imputation process is run 100 times and total consumption is defined as the sum of the imputed non-core modules and the core modules (more details on the imputation methodology can be found in (Takamatsu et al., forthcoming)).

In the absence of an official CPI series for Somalia, the consumption aggregate was deflated using a price index created using consumption shares from the survey and price data collected by the Market Price Survey (MPS) and the Food Security and Nutrition Analysis Unit, Somalia (FSNAU). More specifically, the inflation rate between 2011 and December 2017 was estimated

by multiplying two inflation rates. First, an inflation rate between February 2016 and December 2017 using data from the second wave of the SHFS and prices from the MPS (weekly price series); then, between 2011 and February 2016 using data from the first wave of the SHFS and from FSNAU (monthly price series). Finally, the Market Price Survey data collected during the second wave of the SHFS was used to calculate a spatial price index between strata (Pape and Wollburg 2019).

The PPPs used for Somalia are imputed using a cross-country relationship, as done for non-benchmark countries that do not participate in the ICP price collection (see section 5). This imputation model is updated with the revised 2011 PPPs, but the input data that is used to predict the PPP for Somalia remains unchanged. For Somalia, the standard model that is used for ICP non-benchmark countries is used, which differs slightly from the model that is used for exception countries (as described in Atamanov et al., 2018 and in section 4 below). Table 3 presents the poverty and inequality estimates for Somalia that are included with this update.

Table 3 Poverty and Inequality estimates for Somalia 2017/18 using SHFS2 data

	Poverty rate \$1.90 (%)	Poverty rate \$3.20 (%)	Gini index
2017	68.62	88.94	36.82

### 2.3. South Sudan

The poverty estimates for South Sudan use data from Wave 3 of the High Frequency Survey (HFS) 2015-2017, collected between September 2016 and February 2017. For more details on the survey, see Takamatsu et al. (forthcoming). Wave 3 provides data for seven out of ten states (consisting of both urban and rural areas, see Figure 2) accounting for two-thirds of the population. Despite the initial plan of extending the survey to the three remaining South Sudanese North-Eastern states of Jonglei, Unity and Upper Nile the enduring situation of insecurity has so far prevented this. The enumeration areas were randomly drawn proportional to population size based on the 2008 Census.

Figure 2 South Sudan High Frequency Survey coverage



Source: South Sudan HFS 2015-17 and Crisis Recovery Survey 2017

The South Sudan High Frequency consumption data was also collected using the Rapid Consumption Method (RCM), as described above for Somalia (see section 2.2). This method allows to save time during the enumeration of the consumption module, which is important in fragile or conflict-affected countries. Like Somalia, the skipped non-core consumption modules are imputed using a two-part multiple imputation method. See Takamatsu et al. (forthcoming) for more details on this methodology.

Consumption aggregates were deflated using a two-step price adjustment applied separately for durables, food and non-food expenditures. The two steps included: a) deflating the consumption aggregates within each wave using a Laspeyres index and monthly CPI data published by the NBS as well as a spatial deflator for rural and urban areas; b) deflating consumption expenditures across waves of the HFS 2015-2017 using the official CPI statistics, obtained from the International Financial Statistics (IFS) of the IMF, which is the standard CPI data used in PovcalNet. The IFS uses data from South Sudan’s National Bureau of Statistics (NBS).

Lastly, the poverty estimates for South Sudan are adjusted using PPP conversion factors. Because South Sudan does not participate in the ICP price collection, its PPP is estimated from a cross-country regression. The revised 2011 PPP is used, which was published by the ICP in May 2020.

Table 4 presents the poverty and inequality estimates included in this update.

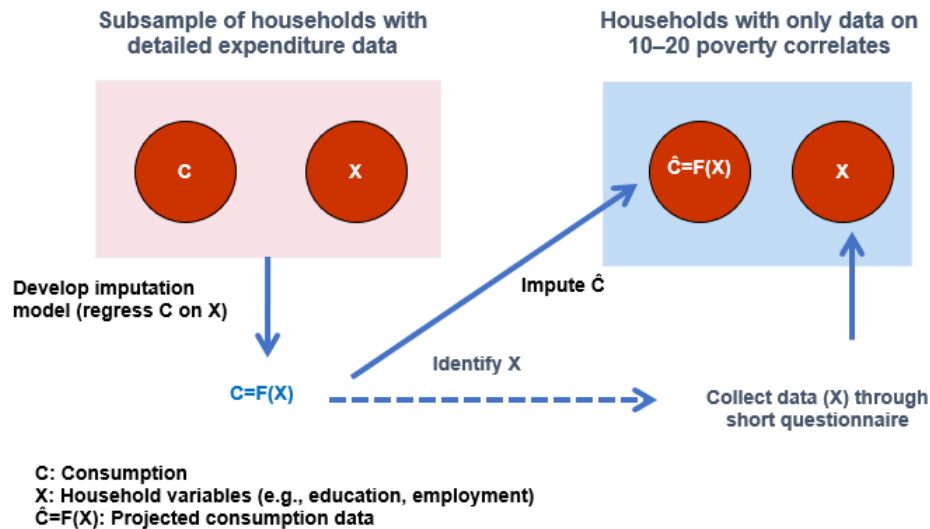
Table 4 Poverty and Inequality estimates for South Sudan using Wave 3-HFS

	Poverty headcount \$1.90 (%)	Poverty headcount \$3.20 (%)	Gini index
2016	76.37	91.64	44.14

## 2.4. Zimbabwe

This update adds poverty estimates for Zimbabwe using data from the 2019 Mini-Poverty, Income, Consumption, and Expenditure Survey (PICES) household survey. This is an “hybrid survey” that collects detailed consumption data from a small subsample of households and data on covariates from all surveyed households (Ahmed et al., 2014). These covariates include variables that tend to be strongly correlated with poverty such as demographic characteristics, household ownership of durable goods, housing quality, and education level, and employment status of the head of the household. An estimated model of the relationship between these correlates and household consumption is then used to impute consumption for households for which no consumption data were collected, see Figure 3 for a schematic illustration. The imputation follows the Survey of Well-being via Instant and Frequent Tracking (SWIFT) approach (see Yoshida et al. (2015) for details on the methodology).<sup>13</sup>

Figure 3 The within-survey imputation approach using the SWIFT approach



Source: Yoshida et al. (2015)

<sup>13</sup> Specifically, we are following SWIFT 2.0 as opposed to SWIFT 1.0, which did not collect consumption data.

The SWIFT modeling process involves multiple steps to improve the imputation of household expenditure. These include estimating the distribution of both the coefficients and the projection errors, and the use of cross-validation to prevent model “overfitting”, i.e. the model performing well within the sample used to estimate the model but poorly outside the dataset. This cross-validation exercise is carried out by separating the data used for developing the model from those used for evaluating the model’s fit. More specifically, the household survey dataset is split randomly into 10 subsamples, or folds; then, consumption models are estimated using stepwise ordinary least squares (OLS) regressions and data from nine of these folds. After each model is estimated, household expenditure for the remaining fold is imputed using the multiple-imputation method (MI).<sup>14</sup> This analysis is repeated 10 times, with a different fold sequentially excluded in each round. Model performance is assessed based on the mean squared errors (MSEs) and the absolute value of the difference between the projected and actual poverty rates.

The Mini-PICES 2019 was conducted between April and May 2019. The survey originally aimed to revisit a subsample of 3,000 households that were interviewed in February–June 2017 for the PICES 2017 round (around a tenth of the total 31,189 households interviewed in 2017). A full set of correlates was collected for 1,723 households, while a detailed consumption module was collected for a sample of 478 households (see Table 5 for more details on survey design and data collection).<sup>15</sup> The former sample is statistically representative for urban and rural areas of Zimbabwe, while the subsample of 478 households is only representative at the national level.

Table 5 Sample design and realized sample of the Mini-PICES 2019

	Full data collection, including consumption data			Collection of poverty correlates only			Total
	Total	Rural	Urban	Total	Rural	Urban	
Design	600	300	300	2,400	1,700	700	3,000
Realized	478	248	230	1,723	1,376	347	2,201

<sup>14</sup> The MI can be implemented using the mi suite of commands in Stata.

<sup>15</sup> A random systematic sample of 14 households were selected with equal probability from the complete list of households in each sampled enumeration area (EA) during the PICES 2017. For the subsample with consumption data in Mini-PICES 2019, 4-5 households per EA in the urban strata and 3-4 households per EA in the rural strata were selected randomly from the sample of 14 households.

Household consumption was imputed as follows:

- A consumption aggregate was constructed for the 478 households with available consumption data. This consumption aggregate was constructed following the revised consumption aggregate and poverty lines adopted in PICES 2017.<sup>16</sup>
- Separate consumption models were estimated for urban and rural areas.
- An optimal p-value of 0.035 was selected for both urban and rural models.<sup>17</sup> Table 32 (Appendix A.1) presents the results of the consumption models for urban and rural areas.
- The consumption aggregate for the remaining 1,723 households was imputed following Elbers et al. (2003).<sup>18</sup> Each household's consumption was estimated using 100 imputations. Poverty rates can be calculated as the average of the 100 poverty rates calculated separately in each of the 100 imputations.

Several caveats exist. Unlike earlier surveys, the Mini-PICES 2019 is not a year-round survey; it was collected only during April and May 2019. The Mini-PICES is therefore not representative for the whole year and may be subject to seasonal bias. Likewise, because detailed consumption data was collected from only 478 households, consumption data were measured with less precision than usual. In addition, the Mini-PICES was conducted during a period of rapid inflation, making it difficult to precisely measure the value of consumption.<sup>19</sup> It is also worth noting that, in the months preceding the Mini-PICES, the country had dropped the U.S. dollar as its de facto national currency and had adopted the Zimbabwean dollar, setting its value to be equal to one U.S. dollar. As the new currency declined in value over time, it may have been difficult for some households to express consumption values in the right currency. The Mini-PICES uses the Zimbabwean dollar as its unit of measurement.

To update the food poverty line to April–May 2019, the newly calculated PICES 2017 food basket was valued at May 2019 prices using the mean of the regional prices for all items in the food basket. The prices of the food basket items were obtained from Zimbabwe National Statistics

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<sup>16</sup> Please refer to the report “Zimbabwe Poverty Update 2017-2019” for further details on the updated poverty measurement methodology (World Bank and ZIMSTAT, 2020).

<sup>17</sup> The optimal p-values are the values with the smallest MSEs and absolute bias of the poverty estimate in out-of-sample data for tested p-values from 0.005 to 0.1.

<sup>18</sup> The [Povmap 2.0 software](#) is used for these calculations.

<sup>19</sup> For example, the price of maize meal rose twofold between May and June 2019.

Agency’s (ZIMSTAT’s) regular price monitoring done through the monthly Consumer Price Survey (CPS). The value of non-food items needed to obtain the lower- and upper-bound poverty lines were updated using the nonfood CPI from June 2017 to June 2019.<sup>20</sup> The ratio of the 2019 and 2017 food poverty lines was 2.66.

To obtain the per capita consumption in purchasing power parity (PPP) terms, the 2019 consumption aggregate valued in LCU (RTGs) was expressed in 2017 USD terms by deflating the aggregate using the above-mentioned ratio of two poverty lines which combines the change in prices and exchange rates. Next, the aggregate is expressed in 2011 PPP terms by deflating it using the 2011-2017 national CPI (1.01966) and the 2011 PPP conversion rate (0.535416). Table 33 (Appendix A.1) shows the direct and imputed poverty rates at the \$1.90 poverty line in 2011 PPP. The point estimates are often very similar to each other – 38.0% national poverty rate for the direct estimates compared with 39.5% for the imputed estimates – and they are always within the confidence intervals.

The Gini index with the direct and imputed consumption vectors are also close to each other. Table 6 shows that the national Gini index is 50.1 with direct consumption and 50.3 with imputed consumption (more detailed results on poverty and inequality estimates for Zimbabwe can be found in Appendix A.1-Table 33).

Table 6 Poverty and inequality estimates for Zimbabwe 2019

	Poverty headcount \$1.90 (%)	Poverty headcount \$3.20 (%)	Gini index
2019	39.53	63.81	50.26

### 3. Changes to historical data

For this data release, we conducted an extensive review of some 120 historical datapoints. As part of this exercise, some corrections to both estimates and metadata were introduced. Below is a summary of the main changes.

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<sup>20</sup> The price data collected in June are thought to better reflect the fast price rises that took place during May.



### 3.1. Coverage

- Suriname 1999: The coverage for Suriname 1999 was corrected from National to Urban.

### 3.2. Welfare type

- Mexico 1984: The welfare type for Mexico 1984 was corrected from Consumption to Income.
- Kyrgyz Republic 1998: The welfare type for Kyrgyz Republic 1998 was corrected from Consumption to Income.

### 3.3. Survey year

For the following cases, the survey year (and therefore, CPI) was adjusted to the previous one (t-1) given new information on the timing of the data collection. The year variable in PovcalNet refers to the reference period of the consumption or income data.

Table 7 Changes in survey years for historical data in PovcalNet

Country	Survey year		Poverty headcount \$1.90 (%)		Average monthly consumption/income (USD2011PPP)		Gini index	
	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Malaysia	2004	2003	0.38	1.23	638.65	474.03	46.05	46.42
Malaysia	2007	2006	0.53	0.60	586.69	517.10	46.05	44.75
Syria	2004	2003	1.69	0.90	217.18	259.67	35.78	37.51
Tonga	2001	2000	2.81	2.54	310.43	316.49	37.69	37.69
Vietnam	1998	1997	34.43	31.44	93.13	96.66	35.44	35.44

*Note:* The Malaysia and Syria surveys are affected by multiple changes (see below). This explains why the Gini index changes, which would have been unaffected by the CPI revision itself.

In five other cases, the decimal of the survey year changed, which also results in small changes in the CPI and thus the estimates for poverty and the mean: Morocco 1990 (from 1990.5 to 1990.77), Morocco 1998 (1998.5 to 1998.15), Vietnam 1992 (from 1992.71 to 1992.77), Nigeria 1996 (from 1996 to 1996.25) and Mongolia 2002 (from 2002 to 2002.15).<sup>21</sup>

<sup>21</sup> The estimates for Morocco are shown below. For Mongolia, Nigeria and Vietnam changes in the poverty rate at \$1.90 are small: Mongolia 2002: from 9.27% to 9.48%; Nigeria 1996: from 65.26% to 64.88%; Vietnam 1992: from 51.86% to 52.30%.

### 3.4. Data type

The estimates for the following data points used to be based on *grouped data* and have now been replaced with *microdata*. This switch resulted in minimal to no changes in the main poverty and inequality estimates.<sup>22</sup>

Table 8 Changes in data type for historical data in PovcalNet

		Poverty headcount \$1.90		Average monthly consumption/income (USD2011PPP)		Gini index	
		Grouped data	Microdata	Grouped data	Microdata	Grouped data	Microdata
Country	Year	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Argentina	1986	0.00	1.22	755.78	755.77	42.79	42.81
Argentina	1987	0.00	1.43	690.85	690.82	45.28	45.28
Guyana	1998	11.74	11.81	227.46	227.46	44.55	45.12
Morocco	1990	2.62	2.94	233.62	227.88	39.20	39.21
Morocco	1998	7.07	6.37	195.04	195.33	39.46	39.35
Moldova	2005	13.59	13.22	143.68	143.68	36.28	36.28
Turkmenistan	1998	48.95	49.82	80.33	80.41	40.77	40.81

### 3.5. Changes in the microdata

Underlying microdata for the following cases was replaced with a different version. In the particular case of Malaysia, revisions to the data and welfare aggregate were made by the statistical offices and the country economists. For Mexico 1984, new ENIGH microdata was obtained from the national statistical office, and a regional price adjustment of 15% was applied for rural areas, as is the case for the other years for Mexico and the rest of the region (e.g. see Ferreira et al., 2016).

<sup>22</sup> As expected, the changes are somewhat larger at the tails of the distribution (e.g. poverty estimate for Argentina), where the grouped data methods are less precise.

Table 9 Changes from grouped to microdata for historical data in PovcalNet

Country	Year	Poverty headcount \$1.90 (%)		Average monthly consumption/income (USD2011PPP)		Gini index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Brazil	1981	21.33	21.29	247.92	247.98	57.95	57.93
Brazil	1982	21.68	21.70	252.79	252.72	58.41	58.42
Brazil	1983	27.43	27.41	213.36	213.40	59.00	58.99
Brazil	1984	26.71	26.72	212.10	212.06	58.37	58.38
Brazil	1985	23.04	23.07	223.85	223.77	55.57	55.59
Mexico	1984	8.13	8.34	300.81	264.69	48.95	48.53
Malaysia	2003	0.38	1.23	638.65	474.03	46.05	46.42
Malaysia	2006	0.53	0.60	586.69	517.10	46.05	44.75
Serbia	2002	0.13	0.13	410.76	439.34	31.97	32.74

In two country-years, the sampling weights were corrected. Since Syria 2003 and Suriname 1999 are both self-weighted surveys, estimates were corrected adjusting the population weights to 1 for each individual observation. Changes in main estimates are as follows:

Table 10 Changes in population weights for historical data in PovcalNet

Country	Year	Poverty headcount \$1.90		Average monthly consumption/income (USD2011PPP)		Gini index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Suriname	1999	23.38	21.13	216.12	273.99	57.61	57.85
Syria	2003	1.67	0.90	217.18	259.67	35.78	37.52

**Venezuela 1989-2006:** Following the standard practice with Latin American and Caribbean surveys harmonized under the SEDLAC project, the PovcalNet team revised the estimates for Venezuela (1989 through 2006) restricting the sample to those flagged as coherent income observations (SEDLAC variable coh = 1).<sup>23</sup> Changes in main estimates are as follows:

<sup>23</sup> The Socio-Economic Database for Latin America and The Caribbean (SEDLAC) is a project by CEDLAS (Universidad de La Plata) and The World Bank, that harmonizes household surveys from that region in an effort to improve comparability.

Table 11 Changes in poverty and inequality estimates for Venezuela-historical data

Country	Year	Poverty headcount \$1.90 (%)		Average monthly consumption/income (USD2011PPP)		Gini index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Venezuela	1989	7.40	4.96	357.55	370.52	45.30	43.84
Venezuela	1992	5.01	4.35	336.94	340.72	42.51	42.10
Venezuela	1995	10.50	9.38	268.72	273.13	47.83	47.21
Venezuela	1998	12.94	9.79	275.44	288.39	49.80	48.06
Venezuela	1999	12.14	11.14	255.95	260.20	48.32	47.76
Venezuela	2001	11.04	9.28	266.94	274.06	48.22	47.23
Venezuela	2002	18.34	15.52	216.51	225.73	50.56	49.01
Venezuela	2003	22.83	18.79	179.91	191.20	50.37	48.10
Venezuela	2004	19.84	15.76	201.68	214.16	49.82	47.50
Venezuela	2005	18.99	13.90	248.91	268.26	52.37	49.46
Venezuela	2006	10.27	6.68	311.75	328.74	46.94	44.77

### 3.6. Other changes

Estimates for Guinea-Bissau 1993 were adjusted including a currency conversion factor of 65 in the deflation of welfare. The CFA franc was adopted by Guinea-Bissau in 1997, replacing the Guinea-Bissau peso at an exchange rate of 65:1.<sup>24</sup> The previous estimates included an erroneous currency adjustment of 100. Changes in main estimates are as follows:

Table 12 Other changes to historical data in PovcalNet

Country	Year	Poverty headcount \$1.90 (%)		Average monthly consumption/income (USD2011PPP)		Gini index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Guinea-Bissau	1993	66.56	44.13	60.13	92.50	43.61	43.61

<sup>24</sup> West African CFA franc is the currency of eight countries in West Africa: Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo. The acronym CFA stands for *Communauté Financière Africain*.

## 4. Changes to welfare aggregates in recent years

### 4.1. Argentina 2003-2018

Table 13 Changes in poverty and inequality estimates for Argentina

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Argentina	2003	8.3989	7.8685	17.9581	17.3323	34.2306	33.6946	51.2019	50.8972
Argentina	2004	6.3586	5.7418	14.4881	13.9044	29.4031	29.2369	48.5911	48.3770
Argentina	2005	4.7618	4.1691	11.6599	11.1605	25.4563	25.0077	47.9525	47.7074
Argentina	2006	3.9327	3.2613	9.5921	8.7911	20.8557	20.3184	46.7095	46.3461
Argentina	2007	3.3379	2.6050	8.0383	7.1967	19.7528	19.2406	46.5832	46.1736
Argentina	2008	3.2958	2.4863	7.9366	6.9809	17.6955	17.1102	45.2990	44.8768
Argentina	2009	2.9688	2.3423	7.0395	6.1353	16.1516	15.6123	44.1397	43.6542
Argentina	2010	2.7986	1.4421	6.4943	4.9303	15.2942	14.0707	44.4588	43.5832
Argentina	2011	1.1408	1.1354	3.2995	3.3186	11.4951	11.6215	42.7377	42.6453
Argentina	2012	1.0911	1.1556	3.4653	3.4966	10.5283	10.6643	41.3800	41.3262
Argentina	2013	1.0367	1.0159	3.2428	3.2226	10.4486	10.7939	41.0139	40.9454
Argentina	2014	0.8687	0.9288	3.5418	3.6315	11.4915	11.7943	41.7012	41.6328
Argentina	2016	1.0058	1.0709	3.3757	3.5646	11.1111	11.5108	42.0215	42.0325
Argentina	2017	0.8165	0.9285	3.0892	3.1817	9.7691	9.8760	41.1998	41.1466
Argentina	2018	1.2968	1.3540	3.9044	4.0039	12.1840	12.3386	41.3843	41.3282

**2003-2010:** Two changes in the data affected household income:

- Correction in the coding of the variable that captures income from the “Unemployed Heads of Households Program” (PJJHD, in Spanish). Income from the PJJHD is now subtracted from Labor Income and from income from other state transfers, and added to the variable Income from conditional cash transfer programs, which also affects the variable Non-labor income. In some cases, this income was mistakenly not added to the non-labor income variable, thus affecting total household income. This has now been corrected.
- An error in the do-file resulted in slightly different values for the imputed rent variable every time the do-file for this variable was run. This has now been corrected.

**2011-2018:** The definition of imputed rent was corrected, as explained for 2003-2010. No other changes were made for these years.

## 4.2. Bolivia 2000-2018

Table 14 Changes in poverty and inequality estimates for Bolivia

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Bolivia	2000					61.9870	61.9634	61.6405	61.6399
Bolivia	2001							57.3982	57.3988
Bolivia	2002							59.3095	59.3110
Bolivia	2005							58.5274	58.5279
Bolivia	2006							56.6667	56.6677
Bolivia	2007			26.3171	26.3289			54.5301	54.5371
Bolivia	2008							50.8173	50.8161
Bolivia	2009							49.2234	49.2230
Bolivia	2011			13.9497	13.9557	27.9468	27.9477	46.0812	46.0810
Bolivia	2012	8.1382	8.1610	14.5788	14.6077	28.0034	28.0043	46.5815	46.5852
Bolivia	2013	6.8503	6.8841	12.1777	12.1827	25.7973	25.8270	47.5902	47.5988
Bolivia	2014					24.8129	24.8151	47.8307	47.8320
Bolivia	2015							46.7324	46.7400
Bolivia	2016	6.9823	7.4657	12.5353	13.1088	24.8701	25.9035	44.6366	45.2507
Bolivia	2017	5.7745	6.5463	11.6420	12.4173	24.6499	25.7359	44.0210	44.6161
Bolivia	2018	4.4850	4.9039	10.5403	10.9568	22.8397	23.4160	42.1906	42.5795

Notes: For empty cells there were no changes in poverty or inequality (at four decimals precision). This applies to all tables for Latin America and the Caribbean in this document.

**2000-2015:** Changes have been made to imputed rent. The implicit rent imputation model (used to impute the rental value of owner-occupied housing, of dwellings that have been received as a gift, or of usufruct or ceded dwellings) uses the variable toilet facilities, which was modified throughout the series to improve comparability between years. This impacts imputed rent and therefore overall household income.

**2016-2018:** In addition to the changes mentioned for 2000-2015, in these three years there were changes in the non-labor income variables. In all three years, the income from conditional cash transfer programs was modified to address an error in the variable definition (some income reported on an annual basis was not converted to a monthly value). In addition, in 2018, the following variables were modified: (1) monetary income from public transfers now includes “other social bonuses in cash”, which was previously excluded; (2) non-monetary income from public transfers now includes “other social bonuses in kind”, which was previously excluded; and (3) monetary income from domestic private transfers now includes “Food or gifts from households or other people residing in this or another part of the country”, which was previously excluded.

### 4.3. Brazil 2012-2018

Table 15 Changes in poverty and inequality estimates for Brazil

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Brazil	2012	3.7312	3.7306	8.9691	8.9689	21.0840	21.0815	53.5451	53.5427
Brazil	2013	3.0797	3.0731	7.8737	7.8810	19.2801	19.2761	52.7548	52.7535
Brazil	2014			6.9910	6.9916	17.5984	17.5992	52.1136	52.1127
Brazil	2015	3.1531	3.1528	7.7215	7.7221	18.6255	18.6249	51.9428	51.9446
Brazil	2016	3.8676	3.8710	8.7736	8.7792	19.9843	19.9911	53.3008	53.2771
Brazil	2017	4.4182	4.4184	9.0689	9.0724	20.2155	20.2322	53.2591	53.2728
Brazil	2018	4.4210	4.4201	9.1280	9.1321	19.8157	19.8236	53.8784	53.8650

**2012-2018:** Changes have been made to imputed rent. In the imputation models (both the one used in 2012-2015 and the one used in 2016-2018, as explained in Atamanov et al., 2020a) years of completed education is used, which was modified throughout the series to improve comparability. This impacts imputed rent and therefore total household income.

### 4.4. Colombia 2001-2005, 2008-2016

Table 16 Changes in poverty and inequality estimates for Colombia

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Colombia	2001	19.8666	20.1461	37.2586	37.7075	60.7951	61.4223	57.1963	57.4830
Colombia	2002	14.5125	13.1613	30.7743	28.5298	53.8014	52.2819	55.7896	56.0189
Colombia	2003	12.2433	12.1331	27.6067	27.6673	51.4824	51.5780	53.3663	53.5865
Colombia	2004	11.0626	11.1897	27.0166	26.8890	51.2710	51.4471	54.8428	54.9810
Colombia	2005	9.8863	9.8043	23.8261	23.8664	47.2382	47.4599	53.7050	53.9133
Colombia	2008	10.5672	10.3960	22.7122	22.6428	42.7439	42.7879	55.5357	55.3232
Colombia	2009	9.0617	8.9738	20.7864	20.6523	41.5202	41.4274	54.3923	54.2964
Colombia	2010	7.9140	7.7518	18.6545	18.4815	38.7282	38.5461	54.7267	54.6255
Colombia	2011	6.4403	6.3434	16.6127	16.5423	35.7666	35.6590	53.5188	53.4903
Colombia	2012	6.3244	6.2479	15.7157	15.5906	34.4869	34.2658	52.7464	52.6455
Colombia	2013	5.7842	5.6468	14.4102	14.2200	32.4147	32.1735	52.8213	52.6326
Colombia	2014	5.1607	5.0345	13.3746	13.1816	30.2754	30.0261	52.7343	52.5510
Colombia	2015	4.6683	4.6000	12.1110	11.9294	29.1724	28.9827	51.0994	50.9904
Colombia	2016	4.6542	4.5281	12.0393	11.8411	29.0135	28.7211	50.8355	50.5707

**2001-2005:** The underlying microdata have been revised to use the annual database rather than the third quarter only.

**2008-2016:** Several modifications and corrections affected household income:

- Households with secondary household members: There was a small error in the definition of secondary household members, which was corrected. This affects household size and hence per capita household income.
- Non monetary labor income from main occupation: An inconsistency in the definition of this variable for 2012-2016 was corrected to ensure the comparability of the series.
- Self-employed income: additional values for this variable in 2008-2010 that were previously set to missing have been incorporated.
- Imputed rent: For 2012-2016 an error in the definition of the education variables was corrected. This marginally affects the results obtained in the implicit rent imputation model.

#### 4.5. Costa Rica 2001-2004, 2008, 2016-2018

Table 17 Changes in poverty and inequality estimates for Costa Rica

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Costa Rica	2001	4.8506	4.8595	10.9068	10.9077	23.8511	23.7409	51.5555	51.5151
Costa Rica	2002	4.6443	4.5685	10.0339	9.9272	22.9522	22.9474	51.8840	51.8236
Costa Rica	2003	4.5210	4.5729	9.7719	9.8863	22.4023	22.3796	49.2923	49.3087
Costa Rica	2004							48.3499	48.3501
Costa Rica	2008	2.2634	2.2615					48.6754	48.6359
Costa Rica	2016	1.3036	1.2657	3.8130	3.7805	10.9769	10.7800	48.6907	48.7061
Costa Rica	2017			2.8826	2.8133	9.9872	9.9128	48.3401	48.3464
Costa Rica	2018					11.2052	11.1680	47.9612	47.9687

**2001-2004 & 2008:** The small revisions come from the imputed rent variable. For the (few) observations that do not declare the value of implicit rent when asked, a value is imputed (using a model estimated with the information of those who answer the question). Because some of the variables used in the imputation model were modified (particularly the type of water source available for the house), the values imputed to those few observations also changed.

**2016-2018:** There were two changes to income: (1) The same change to imputed rent, as explained for the earlier years, which marginally affects income. (2) For these three years there was an additional modification in labor income, which used a wrong deflator in the previous version (the 2015 deflator had been used to deflate inter-temporally within the survey).



#### 4.6. Ecuador 2003, 2005-2018

Table 18 Changes in poverty and inequality estimates for Ecuador

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Ecuador	2003	14.5026	14.8687	30.1694	30.4864	53.4445	53.8015	53.3587	53.5287
Ecuador	2005	11.9232	11.8035	25.4012	25.3310	46.5252	46.4781	53.0925	53.0585
Ecuador	2006	8.0985	8.1637	19.8314	19.9133	41.2664	41.4094	52.1923	52.2514
Ecuador	2007	8.4816	8.5278	19.2194	19.3797	40.3726	40.4897	53.3045	53.3634
Ecuador	2008	7.4564	7.5140	18.1631	18.3302	38.2356	38.3605	49.7260	49.7935
Ecuador	2009	7.1947	7.3211	17.2369	17.3405	38.2047	38.3364	48.4467	48.5060
Ecuador	2010	5.6338	5.6960	14.7594	14.9253	34.3534	34.5174	48.7341	48.8044
Ecuador	2011							45.8773	45.8775
Ecuador	2012			11.4572	11.4695	27.5202	27.5724	46.1109	46.1208
Ecuador	2013					27.2262	27.2227	46.8638	46.8649
Ecuador	2014							44.9949	44.9951
Ecuador	2015					24.7543	24.7525	45.9541	45.9543
Ecuador	2016			9.4008	9.3988	24.0265	24.0234	45.0198	45.0201
Ecuador	2017							44.6727	44.6730
Ecuador	2018							45.4400	45.4403

The small differences observed come from imputed rent. For the (few) observations that do not declare the value of implicit rent when asked, a value is imputed from a model that is estimated on the households that answer the question. Because some of the variables used in the model were modified (particularly the type of water source available for the house), the values imputed to those few observations were also modified.

#### 4.7. El Salvador 2000-2006, 2008, 2018

Table 19 Changes in poverty and inequality estimates for El Salvador

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
El Salvador	2000	12.3944	12.3967	24.3014	24.3004	45.0625	45.0617	51.4745	51.4744
El Salvador	2001	13.6185	13.6205	25.9507	25.9500	46.8583	46.8663	51.3685	51.3704
El Salvador	2002	14.1349	14.1402	26.2251	26.2197	47.0204	47.0201	51.8714	51.8705
El Salvador	2003	14.9994	15.0834	27.1506	27.2386	47.7402	47.7888	50.4290	50.4977
El Salvador	2004	11.0277	11.0314					47.8220	47.8197
El Salvador	2005	10.5622	10.5616	23.1373	23.1414	45.5587	45.5078	48.4867	48.4849
El Salvador	2006			19.1799	19.1668	42.8403	42.8386	45.6936	45.6926
El Salvador	2008	7.0098	7.0086			43.8316	43.8379	46.8856	46.8857
El Salvador	2018	1.5285	1.5152	7.9291	7.9716	26.2488	26.2765	38.6171	38.6106

**2000-2006, 2008:** Correction to imputed rent. For the (few) observations that do not declare the value of implicit income when asked, a value is imputed from a model that is estimated on the households that answer the question. Because some of the variables used in the model were modified (particularly the type of water source available for the house), the values imputed to those few observations were also modified.

**2018:** Income deflation was corrected. As the survey is annual, it is necessary to deflate the income received by individuals interviewed in different months of the year. In the 2018 data, this deflation had erroneously used the 2017 deflator.

#### 4.8. EU-SILC

All historical EU-SILC data have been updated to data released in November 2020. The updates for each country-year are documented on the Eurostat website [CIRCABC → Eurostat → EU-SILC → Library → data\_dissemination → udb\_user\_database].

#### 4.9. Honduras 2001, 2014-2018

Table 20 Changes in poverty and inequality estimates for Honduras

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Honduras	2001	22.0401	21.9101	35.9038	35.9765	55.8200	55.6280	55.5758	55.3607
Honduras	2014	16.3753	16.2891	32.9145	32.4592	54.8635	52.7375	50.4147	50.3005
Honduras	2015	16.5634	16.3522	32.9413	31.6612	54.6848	52.4705	49.5815	49.7973
Honduras	2016	18.3521	16.1105	33.3313	30.3796	53.6276	49.7436	51.0686	49.8119
Honduras	2017	17.6172	15.4353	32.0890	29.3402	53.5514	50.3416	50.4661	49.4455
Honduras	2018	16.8718	15.8108	30.5903	29.6097	50.8555	50.4375	52.0815	48.9378

**2001:** Corrections to some missing observations for the imputed rent variable.

**2014-2018:** The Honduran National Statistics Institute updated its poverty measurement methodology, which was applied to the 2014-2018 period so far. The new harmonized microdata now uses the revised raw data from the NSO. Several changes affected the income variables: corrections to sampling weights; more thorough data cleaning, analysis of outliers, and imputation for missing values; and the addition of imputed rent to the income aggregate.

#### 4.10. Lao PDR

Data for Lao PDR are obtained from the Lao Expenditure and Consumption Survey (LECS) which has been conducted every five or six years since 1992. Revisions of the poverty methodology were undertaken based on LECS 2018 data to replace the old methodology which was first established in 1997 and has not been revised since. Two specific changes were made to the consumption aggregate. First, it now includes imputed rent which explains most of the change in the Lao PDR series. Second, it includes depreciation values of durable goods, which were previously excluded or unconventionally treated. Newly introduced durable goods include cellular phones, washing machines, cars, motorcycles, stoves, refrigerators, and air conditioners. These changes have led to an increase in the consumption aggregate.

The baseline source of CPI data has been updated to the IMF’s International Financial Statistics (IFS). In the previous version, CPI was calculated using the poverty line basket of the old poverty methodology. The change in the CPI has a small effect on the poverty estimates. Changing the CPI while keeping the old consumption aggregate would have resulted in a 1.4 percentage point decline in the poverty headcount rate at \$1.9 a day in 2012.

These updates are applied for the two recent survey rounds – Lao PDR 2012 and 2018. The consumption aggregates from the two rounds are, however, not strictly comparable due to a difference in the questionnaire design. Essentially, a period of diary was reduced from 30 days in LECS 2012 to 14 days LECS 2018.

Table 21 changes in poverty and inequality estimates for Laos, PDR

Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini index	
	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
2012	21.2	14.5	56.8	46.6	84.3	78.7	36.4	36.0
2018	-	10.0	-	37.4	-	70.4	-	38.8

#### 4.11. LIS

We continue to use the Luxembourg Income Study (LIS) for the following eight economies<sup>25</sup>: Australia, Canada, Germany, Israel, Japan, South Korea, United States, and Taiwan, China. For the countries that use the EU-SILC in recent years (typically from the early 2000s), we continue to use LIS data in the earlier years, and the break in comparability (between LIS and EU-SILC) is indicated by the comparability database.<sup>26</sup> As before, we use disposable income per capita from the LIS data in the form of 400 bins (see Chen et al., 2018 for more details).

All LIS data have been downloaded on 15 December 2020. The following country-years have been revised, as explained in more detail on the LIS website:

- CAN (Canada): 2012, 2014, 2015, 2016
- DEU (Germany): 2012, 2014
- GBR (the United Kingdom): 2000, 2001, 2002, 2003
- IRL (Ireland): 2002
- KOR (South Korea): 2014, 2016
- USA (the United States): 1992, 1993, 1995, 1996, 1998, 1999, 2001, 2002, 2003, 2005, 2006, 2008, 2009, 2011, 2012, 2014, 2015, 2017, 2018.

#### 4.12. Malaysia 2015

The data for Malaysia are obtained from the Household Income and Basic Amenities Survey (HIS), which has been carried out since 1970, usually in 2.5-year intervals. In some years the HIS is carried out in tandem with the Household Expenditure Survey (HES), with the expenditure survey administered to approximately 50 percent of the HIS sample. Both the World Bank and the Department of Statistics Malaysia (DOSM) use income as the primary monetary welfare measure. The income reference period for the HIS is the 12 months preceding the interview, and the survey fieldwork spans 6–12 months. The 2015 HIS data in PovcalNet have been updated to more accurately match the CPI data with the income reference period. The updates applied to the 2015 HIS result in the following small changes in poverty and inequality estimates.

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<sup>25</sup> The term *country*, used interchangeably with *economy*, does not imply political independence but refers to any territory for which authorities report separate social or economic statistics.

<sup>26</sup> These additional surveys were introduced in the March 2020 update (see Atamanov et al. 2020a). The comparability database is released together with the global poverty data (see Atamanov et al. 2019, [blog](#), [data](#) and below).

Table 22 Changes in CPI, poverty and inequality estimates for Malaysia 2015

Year	CPI		Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini index	
	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
2015	1.101	1.113	0.01	0.012	0.235	0.264	2.685	2.876	41.037	41.066

#### 4.13. Mexico 1989, 1992, 1994, 1996, 1998

Table 23 Changes in poverty and inequality estimates for Mexico

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Mexico	1989	7.0211	9.1049	19.0316	23.9455	39.7489	49.2893	54.3426	50.6317
Mexico	1992	9.4351	7.4134	22.9815	20.4569	45.7460	43.2522	53.7328	52.6118
Mexico	1994	9.7940	7.4588	23.5460	20.3078	45.2528	42.3942	54.2996	52.8089
Mexico	1996	20.6198	18.1378	38.8838	36.3341	61.3714	59.3235	54.8052	53.5503
Mexico	1998	15.7580	12.9083	30.7627	27.5906	53.4382	51.1503	53.4012	51.6784

The 1990s data for Mexico in PovcalNet was using the SEDLAC Project 2 harmonization, whereas all the most recent data for Latin America and the Caribbean is using SEDLAC Project 3.<sup>27</sup> Now PovcalNet will use SEDLAC-03 for the Mexican 1990s data. This involves the following changes:

- Total Labor Income: Minor changes in labor income, since Project 3 better captures the labor income of some observations. In particular, this is due to the inclusion of the variable “other labor income”, which captures income for undefined employment types or the unemployed in the last week. Undefined employment types refer to the following: (a) Workers who declare being employed, declare income, but do not report the employment relationship (defined as employer, employee or self-employed); (b) workers who were unemployed or inactive in the last week, but who were employed at some point in the previous month and received income from work.
- Total Non-Labor Income: Project 3 includes two income variables that were not included in Project 2. The variable “gifts and donations originating within the country” (included in

<sup>27</sup> For most countries in the region, PovcalNet moved from version 2 to version 3 as part of the April 2018 update (Atamanov et al., 2018), including the later years in Mexico. Chile 2006-2017 was revised from version 2 to version 3 in March 2020 (Atamanov et al., 2020a).

monetary income from domestic private transfers) and the variable “other current income not considered in the previous income” (included in other non-labor income).

Imputed rent: In SEDLAC Project 3, the group of households for which rent is imputed has been expanded. The methodology used for imputing the rental value of owner-occupied housing was improved to include households with a dwelling that has been received as a gift and those that live in usufruct, ceded dwellings.

#### 4.14. Pakistan 2015

The definition of the household size variable has been revised. The variable is now defined in the same way as for the other survey years available for Pakistan, increasing consistency across years. This change increases poverty slightly.

Table 24 Changes in poverty and inequality estimates for Pakistan 2015

Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini index	
	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
2015	3.98	4.02	35.09	35.51	75.57	75.88	33.45	32.60

#### 4.15. Panama 2000-2004

Table 25 Changes in poverty and inequality estimates for Panama

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Panama	2000	12.3503	12.2558	20.1004	19.9854	35.4304	35.2338	56.8445	56.6390
Panama	2001	15.5312	15.3826	24.8925	24.8206	40.2696	40.3061	56.8803	56.7453
Panama	2002	11.1696	11.0840	21.6325	21.5494	37.5441	37.4240	56.2422	56.1020
Panama	2003	11.0980	11.1143	20.4965	20.5966	36.0292	36.0573	55.7660	55.6628
Panama	2004	10.1094	10.1224	19.5603	19.6899	34.7686	34.9948		

There was a change in the definition of secondary household members. Previously “other non-family” persons were treated as secondary households, but that is not the practice we follow in the other countries, so it was modified. This change affects other years as well, but in those cases it does not impact the measures of poverty and inequality reported here. Total household income is affected by (a) the decision of whose income counts in household income and (b) the number of household members which are used to compute per capita household income.

#### 4.16. Paraguay 2006, 2010, 2017-2018

Table 26 Changes in poverty and inequality estimates for Paraguay

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Paraguay	2010	5.1938	5.1921	12.6739	12.6699	28.7547	28.7455	50.9824	50.9619
Paraguay	2017	1.0136	0.8876	5.2408	4.7616	17.5461	16.9508	48.8237	48.5475
Paraguay	2018	1.4002	1.3130	5.7825	5.3686	15.8542	15.5852	46.2178	45.9551

**2010:** There is a minor change in imputed rent, which is now defined for a few additional observations that were previously missing.

**2017-2018:** Non-monetary public transfers were corrected to include the “glass of milk” program, which had not been included.

#### 4.17. Peru 1997-2014, 2018

Table 27 Changes in poverty and inequality estimates for Peru

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Peru	1997	18.1171	17.3490	33.2112	31.9765	53.9338	52.6896	53.7228	53.2594
Peru	1998	16.9058	16.4383	31.9187	31.1129	53.2632	53.0046	56.1393	55.1215
Peru	1999	17.6665	17.0407	33.1029	31.6974	53.7491	54.2248	56.3436	54.8289
Peru	2000			30.8685	30.8493			49.0750	49.0734
Peru	2001			33.1327	33.1295			51.3236	51.3238
Peru	2002					50.7117	50.7110	53.5868	53.5856
Peru	2003							53.0770	53.0783
Peru	2004					50.0165	50.0037	49.8773	49.8948
Peru	2005							50.4472	50.4483
Peru	2006							50.3268	50.3276
Peru	2007			23.1911	23.1901	41.3285	41.3079	50.0294	50.0237
Peru	2008					37.6047	37.5928	47.4703	47.4736
Peru	2009					35.6038	35.5559	47.0154	47.0122
Peru	2010			14.9326	14.9237			45.5409	45.5455
Peru	2011	5.2360	5.2332	13.3587	13.3541	29.4834	29.4776	44.6637	44.6655
Peru	2012			12.3382	12.3361			44.4480	44.4485
Peru	2013			11.4933	11.4919	26.2643	26.2610	43.8915	43.8911
Peru	2014					25.3488	25.3449	43.1507	43.1485
Peru	2018	2.6987	2.6852	8.4685	8.4338	22.3403	22.3085	42.8237	42.3739

For Peru, larger differences are observed during the 1990s, smaller differences in more recent years:

- **1997-1999:** Previously, the SEDLAC Project 2 harmonization was used, which has now been updated to SEDLAC Project 3 (for a general description, see the section on Mexico above). This implies the following changes to the data:
  - Labor income: There are some minor changes, affecting few observations. These occur not because of the inclusion or exclusion of new raw variables, but rather because the incomes of some observations that were not captured before are better captured (e.g., using the other non-labor income variable).
  - Imputed rent: This is the main change. The methodology used for imputing the rental value of owner-occupied housing was improved to include households with a dwelling that has been received as a gift and those that live in usufruct, ceded dwellings. In the case of Peru, it has also been imputed for households that report homeownership by squatting rights or housing provided by another organization.
- **2000-2014:** Only labor income is changing. The change is explained by other labor income from main occupation, which was not defined for years prior to 2015.
- **2018:** There are two corrections that modify household income:
  - Labor Income: The type of employment in secondary occupation has been revised slightly. This means that secondary labor income, from all labor relations, is captured to a greater extent for some observations.
  - Number of members in main household: There was an error that caused some observations to be missing in this variable and thus in household per capita income, which uses household size as an input variable.

#### **4.18. Philippines 2015**

Data for the Philippines are obtained from the Family Income and Expenditure Survey (FIES) which has been conducted every three years since 1985. The 2018 FIES incorporates (1) the updated urban-rural classification based on the results of the 2015 Census of Population, (2) the adoption of the results of the 2015 Census of Population for the FIES sampling weights and (3) revisions in the average family size as a result of the validations done by merging the 2018 FIES and the January 2019 Labor Force Survey (LFS). The updated urban-rural classification and weights were also adopted in the 2015 FIES to generate comparable official poverty statistics between 2015 and 2018. The 2015 official poverty estimates released by the Philippines Statistics



Authority (PSA) in December 2019 were updated in the June 2020 Press Release and in official poverty statistics publications. Table 28 presents the estimates included in this update that affect both the income- and consumption-based poverty estimates for 2015.

Table 28 Changes in poverty and Inequality estimates for Philippines 2015

	Welfare Measure	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini index	
		Sep 2020	Mar 2021	Sep 2020	Mar 2021	Sep 2020	Mar 2021	Sep 2020	Mar 2021
2015	Income	6.04	6.14	25.78	25.69	54.86	54.57	44.35	44.55
2015	Consumption	7.64	7.79	32.32	31.94	62.96	62.58	40.11	40.35

#### 4.19. Sri Lanka 2002-2016

The inclusion of spatial deflation leads to a small revision in the welfare aggregate for Sri Lanka in the 2002-2016 period. The deflated aggregate is the same as what is used in national poverty monitoring. The spatial deflator is computed at the district level in every survey year.<sup>28</sup> The impacts on poverty and inequality are small (see Table 29 below). This can be explained by relatively small implied urban/rural price differences.<sup>29</sup> Inequality falls in all years, which is expected, since the lower (higher) prices in less (more) urbanized districts typically lead to a compression of the spatially deflated distribution. While generally small, the changes for poverty are more mixed, which depends on the net effect on more or less urbanized districts.

Table 29 Changes in poverty and inequality estimates for Sri Lanka 2002-2016

Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini index	
	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
2002	8.80	8.76	37.26	37.77	68.94	70.08	40.96	40.17
2006	4.00	4.42	24.58	25.71	59.32	60.97	40.25	39.67
2009	2.67	2.83	19.43	19.91	56.98	57.95	36.39	36.05
2012	2.08	1.91	16.87	16.21	52.13	51.66	39.16	38.71
2016	0.93	0.95	10.79	11.00	41.66	41.97	39.81	39.35

<sup>28</sup> Further information on the index can be found in Box 1 here: <http://www.statistics.gov.lk/Poverty/StaticInformation/OfficialPovertyLineSriLanka>. Also see the report on the 2009/2010 survey for a discussion of the index: <http://www.statistics.gov.lk/Poverty/StaticInformation/PovertyIndicators-HIES2009-10>.

<sup>29</sup> It should also be noted that the index is defined along district lines, not specifically for urban and rural areas.

## 4.20. Uruguay

Table 30 Changes in poverty and inequality estimates for Uruguay

Country	Year	Poverty headcount \$1.90 (%)		Poverty headcount \$3.20 (%)		Poverty headcount \$5.50 (%)		Gini Index	
		Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021	Sept 2020	Mar 2021
Uruguay	1992	0.4786	0.5035	2.2075	2.2793	7.2123	8.1925	40.2001	41.4681
Uruguay	1995	0.7109	0.4477	2.4950	2.0546	8.8164	8.1887	42.1103	40.9267
Uruguay	1996	0.8318	0.4617	2.9941	2.3411	9.5108	8.6573	42.6611	40.7514
Uruguay	1997	0.7307	0.5386	2.7759	2.1251	9.3882	8.5143	42.7287	41.4568
Uruguay	1998	0.9087	0.5810	2.8067	2.1068	9.2512	8.4295	43.8077	42.4824
Uruguay	2000	0.4978	0.5065	2.1470	2.0968	9.3867	9.2443	43.0150	42.9056
Uruguay	2001	0.4212	0.4220	2.4712	2.4758	10.4195	10.4348	44.9385	45.0077
Uruguay	2002	0.5142	0.5149	3.2765	3.2891	13.9101	13.9277	45.4887	45.5444
Uruguay	2003	0.6720	0.6730	4.4121	4.4188	18.3138	18.3416	44.9864	45.0338
Uruguay	2004	0.8039	0.8049	5.7654	5.7722	19.5863	19.6014	45.8281	45.8812
Uruguay	2005	0.7203	0.7210	4.7160	4.7206	17.6310	17.6480	44.6856	44.7278
Uruguay	2006	0.4707	0.4711	3.6605	3.6641	16.9430	16.9600	45.9053	45.9416
Uruguay	2007	0.3315	0.3317	2.9714	2.9733	14.7065	14.7156	46.3813	46.4051
Uruguay	2008			1.8447	1.8455	10.4487	10.4533	45.0635	45.0818
Uruguay	2009			1.8143	1.8151	9.7594	9.7637	45.5204	45.5417
Uruguay	2010			1.3200	1.3206	8.5579	8.5602	44.4514	44.4750
Uruguay	2011			1.0166	1.0171	5.8581	5.8613	42.1492	42.1753
Uruguay	2012			1.1135	1.1138	5.5256	5.5307	39.8896	39.9006
Uruguay	2013			0.8501	0.8503	5.0365	5.0376	40.4420	40.4509
Uruguay	2014			0.6636	0.6638	4.2207	4.2215	40.1014	40.1111
Uruguay	2015					3.9591	3.9596	40.1240	40.1288
Uruguay	2016			0.5697	0.5698			39.6896	39.6955

The main differences are observed in the period 1992-1998, while the differences observed in the later years only affect the second or third decimal place.

- **1992-1998:** This data has now been updated from SEDLAC Project 2 to SEDLAC Project 3 (see earlier discussion for Mexico and Peru). This implies the following changes to the data:
  - Labor Income: Both Christmas bonuses and vacation wages are now included in labor income. These variables are captured separately for public and private workers, and for main and secondary occupations.
  - Imputed rent: This is the main modification. The methodology used for imputing the rental value of owner-occupied housing was improved to include households with a dwelling that has been received as a gift and those that live in usufruct, ceded dwellings.
  - Other changes: In Uruguay the survey is continuous and is conducted throughout the year, so it is necessary to deflate the incomes of households and individuals interviewed in different months. Between Project 2 and Project 3 we changed the CPIs and that slightly modified the deflators. This affects all income sources.

- **2000-2016:** No major changes. However, the definition of secondary household members was corrected. This modifies the sample of households and individuals on which the income variables are defined (only defined for members of the main household), and this marginally affects the poverty and inequality estimates.

## 5. Changes to PPPs

Purchasing power parities (PPPs) are price indices that measure how much it costs to purchase a basket of goods and services in one country relative to purchasing the same basket in a reference country. The World Bank's global poverty estimates use PPPs to adjust for differences in relative price levels across countries. In May 2020, the International Comparison Program (ICP) released the revised 2011 PPPs, which were adopted in the global poverty estimates with the PovcalNet September 2020 update (Castaneda et al., 2020). The original 2011 PPPs were revised, mainly in light of the rebasing of national accounts data in several countries which can translate into changes in PPPs for all countries because PPPs are multilateral price indices (for an explanation of the revisions, see Tetteh Baah et al., 2020). The PPP revisions have a small impact on the global poverty estimates (Atamanov et al. 2020b).

Because of the absence of official GDP data, no revised 2011 PPPs are available for Somalia and Syria, while both countries had original 2011 PPPs. Both are non-benchmark countries, which means that they do not participate in the ICP price collection and their PPPs are imputed using a cross-country relationship. This imputation model is estimated over the participating countries, whose PPPs have been revised. Hence the revisions to the 2011 PPPs also imply that the imputation model needs to be re-estimated. We combine the re-estimated model parameters with the input data (e.g. GDP, share of imports and exports, etc.) that was used in the original 2011 PPPs to impute revised PPPs for Somalia and Syria, which are given in Table 31.<sup>30</sup> In the September 2020 update, we had retained the original PPP for Syria, so the new PPPs leads to a (downward) revision in the poverty rate with this update. The revision for Syria is given in the section on the historical

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<sup>30</sup> For Somalia, the standard model that is used for ICP non-benchmark countries is used, which differs slightly from the model that is used for exception countries (as described in Atamanov et al., 2018).

data, where the concurrent changes to this dataset are also explained. Somalia is included for the first time with the March 2021 update, so no prior estimate is available.

Table 31 Changes to 2011 PPPs for Somalia and Syria

Country	Original 2011 PPP (LCU per USD)	Revised 2011 PPP (LCU per USD)
Somalia	10,731.7	10,817.2
Syria	22.9	22.3

## 6. Changes to CPI data

The baseline source of CPI data has been updated to the IMF's International Financial Statistics (IFS) as of 2 November 2020. Lakner et al. (2018) provide an overview of the various CPI series that are used in PovcalNet (also see the change in the welfare aggregate for Lao PDR above). Table A.1.1 in the Appendix to this note gives the up-to-date source of the CPI for all countries included in PovcalNet as of the current update.

## 7. Changes to national accounts data

The national accounts data used to adjust survey data to reference years have been updated. Methodological details and choice of data sources are available in Prydz et al. (2019). The primary series is national accounts data from WDI December 2020, supplemented with data from the World Economic Outlook October 2020 edition, and with historical data from the Madison Project Database. By combining the different series more systematically, we have been able to fill 53 gaps in lined-up estimates with this round.<sup>31</sup> We have removed HFCE data for Belize prior to 1992 and Iraq due to concerns about the quality of the data. A full overview of national accounts data used in the update, including special series, is available in Appendix 2.

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<sup>31</sup> This concerns the Maldives, Samoa, the Solomon Islands and Sao Tome and Principe. Previously, the regional average would have been used, as is done for missing countries.

## **8. Changes to population data**

Previously, there were some missing population data. For West Bank and Gaza before 1990, for Kuwait between 1992 and 1994, and for Sint Maarten (Dutch part) before 1998 such data are not available in the World Development Indicators. These gaps have now been filled using alternative sources and assumptions:

- For West Bank and Gaza, the population figures exclude East Jerusalem, and figures from 1991 onwards are calculated using data from the Palestinian Central Bureau of Statistics. Before 1990, we use data from United Nations Population Division's (UNPD) World Population Prospects 2019 Revision. Since the UNPD data include East Jerusalem, to create a comparable trend, we use the growth rate from the UNPD data to project backwards to 1981.
- For Kuwait, all data come from the UNPD.
- For Sint Maarten (Dutch part), the data from 1998 are from Sint Maarten's Department of Statistics. We now complement this with data from UNPD prior to 1998. Thus, there is a small break in time series in the data at 1998.

## **9. Changes to survey years**

- In addition to the changes for the historical data described above, one survey year for the United Arab Emirates is changing from 2014.42 to 2013.42.
- One survey year for Solomon Islands was corrected from 2013 to 2012.79 to ensure consistency with the fieldwork period.
- As described in section 4.12, the survey year for Malaysia 2015 is changing from 2015.33 to 2015.88

## **10. Comparability database**

Since September 2019, we provide metadata on comparability of poverty estimates within countries over time. The assessment of comparability is country-dependent and relies on the accumulation of knowledge from past and current Bank staff in the countries, as well as close

dialogue with national data producers with knowledge of survey design and methodology (see Atamanov et al. 2019, for more information on reasons that break comparability).

With this data update, we have also revised the comparability database. Changes in the comparability database arise from the introduction of new years in the database or the revision of previously published data (as documented above).

The updated comparability database can be accessed here:

<https://datacatalog.worldbank.org/dataset/comparability-over-time-country-level-international-poverty-measures>

More information on how to use the database is available in Atamanov et al. (2019), [this blog](#) and [this replication code](#).

## **11. Economy-years added/removed**

### **11.1. Economy-years removed**

- Central African Republic: Following the recommendations of the country team, estimates for Central African Republic 2003 were removed from PovcalNet based on the lack of documentation of the sampling procedures and concerns with the overall quality of the survey.
- Mexico: The consumption data have been removed for an assessment of the construction of the consumption aggregate and the spatial price deflation.

### **11.2. Economies added**

In addition to Somalia, for the first time, we are adding survey data for Nauru to the PovcalNet database. For the purposes of the regional and global poverty aggregates, Nauru is included in the East Asia and Pacific region. Previously it was included in the Other High Income/Rest of the World group. We are unable to substantiate why Nauru was included in that group. The regional classification into East Asia and Pacific appears more sensible, since Nauru is substantially poorer than the economies included in the Other High Income group. For example, more than two-fifths

of the population live below the \$5.50 poverty line compared with less than 5% in all of the Other High Income economies.<sup>32</sup> It is important to note that since no survey data was previously included, the reclassification only affects the population totals for OHI and EAP, and not the reported regional poverty rates, although it could affect the global aggregate.<sup>33</sup> However, given Nauru’s small population size (less than 11,000 in 2018), this effect is not noticeable in the aggregates.

### 11.3. Economy-years added

The table below gives the list of new economy-years added to the PovcalNet database. Two new countries have also been added for the first time: Nauru and Somalia.

Economy	Year	Survey Name
Argentina	2019	EPHC-S2
Armenia	2019	ILCS
Austria	2018	EU-SILC
Belarus	2019	HHS
Belgium	2018	EU-SILC
Bolivia	1990/1991*	EPF
Bolivia	2019	EH
Brazil	2019	PNADC-E1
Bulgaria	2018	EU-SILC
Canada	2012, 2014, 2015, 2016	CIS-LIS
Colombia	2019	GEIH
Costa Rica	2019	ENAHO
Croatia	2018	EU-SILC
Cyprus	2018	EU-SILC
Czech Republic	2018	EU-SILC
Denmark	2018	EU-SILC
Dominican Republic	2019	ECNFT-Q03
Ecuador	1987*	EPED
Ecuador	2019	ENEMDU
El Salvador	2019	EHPM
Estonia	2018	EU-SILC
Finland	2018	EU-SILC
France	2018	EU-SILC

<sup>32</sup> These comparisons are complicated by the fact that all Other High Income economies use income as the welfare aggregate, while Nauru uses consumption.

<sup>33</sup> The global aggregate is computed as the population-weighted average of the regional poverty rates, where the weights are the regional population totals (including countries with and without a poverty estimate).

Georgia	2019	HIS
Germany	2012, 2014	GSOEP-LIS
Greece	2018	EU-SILC
Honduras	2019	EPHPM
Hungary	2018	EU-SILC
Iceland	2016, 2017	EU-SILC
Indonesia	2019	SUSENAS
Iran, Islamic Republic of	2018	HEIS
Ireland	2002	SILC-LIS
Ireland	2017	EU-SILC
Kazakhstan	2018	HBS
Korea, Republic of	2014, 2016	HIES-FHES
Kyrgyz Republic	2019	KIHS
Lao People's Democratic Republic	2018	LECS
Latvia	2018	EU-SILC
Lithuania	2018	EU-SILC
Luxembourg	2018	EU-SILC
Malta	2018	EU-SILC
Mexico	1984	ENIGH
Montenegro	2016	SILC-C
Nauru	2012	HIES
Netherlands	2018	EU-SILC
North Macedonia	2018	SILC-C
Norway	2018	EU-SILC
Pakistan	2019	PSLM
Panama	2019	EH
Paraguay	2019	EPH
Peru	2019	ENAHO
Philippines	2018	FIES
Poland	2017, 2018, 2019	EU-SILC
Portugal	2018	EU-SILC
Romania	2018	EU-SILC
Rwanda	1984*	ENBCM
Seychelles	2018	HBS
Slovak Republic	2018	EU-SILC
Slovenia	2018	EU-SILC
Somalia	2017	High Frequency Survey: Wave 2
South Sudan	2016/2017	High Frequency Survey: Wave 3
Spain	2018	EU-SILC
Sweden	2018	EU-SILC
Switzerland	2018	EU-SILC
Syrian Arab Republic	1996	HIES



Thailand	2019	SES
Turkey	2019	HICES
Ukraine	2019	HLCS
United Arab Emirates	2018	HIES
United Kingdom	2000, 2001, 2002, 2003	FRS-LIS
United Kingdom	2017	EU-SILC
United States	1992, 1993, 1995, 1996, 1998, 1999, 2001, 2002, 2003, 2005, 2006, 2008, 2009, 2011, 2012, 2014, 2015, 2017, 2018	CPS-, CPS-ASEC-LIS
Uruguay	1981*, 1989*	ENH
Uruguay	2019	ECH
Zimbabwe	2019	Mini-PICES: Poverty, Income, Consumption and Expenditure Survey

*Note:* The data points with an asterisk were part of PovcalNet in the past, but were dropped in the September 2020 update due to a technical issue. These data points have now been reinserted.

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## 13. Appendix A- Country specific additional material

### 13.1. Zimbabwe

Table 32 Results of the consumption model

Urban Model									
Source	SS		df		MS	Number of obs	=		230
						F(7, 222)	=		25.9
Model	64.9829		7		9.28327	Prob > F	=		0
					0.35836				
Residual	79.55797		222		0.35836	R-squared	=		0.4496
						Adj R-squared	=		0.4322
Total	144.5409		229		0.63118	Root MSE	=		0.59864
					3				
Dependent variable: Log consumption	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval ]	Mean (subsample)	Mean (full sample)	
Cooking energy: electricity or LPG gas	0.257	0.098	2.62	0.009	0.064	0.451	0.794	0.821	
Log number of rooms	0.216	0.072	2.99	0.003	0.073	0.359	1.009	1.159	
HH head, tertiary level of education	0.307	0.103	2.98	0.003	0.104	0.509	0.219	0.301	
Household size	-	0.054	-5.63	0.000	-0.413	-0.199	4.594	4.863	
(Household size)^2	0.306	0.016	3.05	0.003	0.006	0.026	24.867	27.882	
Bedroom suite	0.283	0.104	2.71	0.007	0.077	0.489	0.257	0.289	
Car	0.373	0.112	3.32	0.001	0.152	0.594	0.207	0.286	
Constant	5.668	0.147	38.6	0.000	5.379	5.957			
			3						

Rural Model									
Source	SS		df		MS	Number of obs	=		248
						F(10, 237)	=		22.62
Model	62.89079		10		6.2890	Prob > F	=		0
					0.2779				
Residual	65.88421		237		0.2779	R-squared	=		0.4884
						Adj R-squared	=		0.4668
Total	128.775		247		0.5213	Root MSE	=		0.52725
					56				

Dependent Variable: Log consumption	Coef.	Std. Err.	t	P>t	[95% Conf.	Interv al]	Mean (subsample)	Mean (full sample)	
HH head completed education level = tertiary	0.576	0.189	3.04	0.003	0.203	0.949	0.037	0.042	
Main source of water for drinking and cooking= borehole/protected well	0.246	0.073	3.35	0.001	0.101	0.391	0.637	0.601	
Cooking energy= electricity or LPG gas	0.536	0.170	3.16	0.002	0.202	0.870	0.074	0.039	
HH head completed education level=secondary	0.176	0.072	2.45	0.015	0.035	0.317	0.447	0.478	
Own lounge suite	0.455	0.147	3.11	0.002	0.167	0.744	0.094	0.093	
Material used for floor= wood/planks,	0.261	0.077	3.4	0.001	0.110	0.412	0.681	0.712	

parquet/polished wood, vinyl/asp								
Own cattle	0.194	0.076	2.55	0.012	0.044	0.344	0.531	0.562
Household size	-0.364	0.048	-7.55	0	-0.460	-	5.426	5.545
(Household size)^2	0.018	0.004	4.52	0	0.010	0.027	34.666	36.096
Log number of rooms	0.200	0.075	2.65	0.009	0.051	0.349	1.088	1.144
constant	4.998	0.150	33.42	0	4.703	5.293		

Source: Estimation using Mini-PICES 2019 by World Bank Zimbabwe poverty team

Table 33 Poverty and Inequality estimates for Zimbabwe 2019 (Mini-PICES 2019): detailed results

<b>Poverty rate (%), \$1.90 per person per day poverty line</b>						
<b>2,201 HHs</b>	Mean	Std. Err.	[95% Conf.	Interval]	Sample size	
National	39.5	2.3	35.0	44.0	2,201	
Rural	52.3	2.7	47.0	57.7	1,624	
Urban	10.9	3.6	3.7	18.1	577	
<b>478 HHs</b>	Mean	Std. Err.	[95% Conf.	Interval]	Sample size	
National	38.0	3.6	30.9	45.1	478	
Rural	51.3	4.6	42.3	60.3	248	
Urban	11.9	4.9	2.2	21.5	230	
<b>Poverty rate (%), \$3.20 per person per day poverty line</b>						
<b>2,201 HHs</b>	Mean	Std. Err.	[95% Conf.	Interval]		
National	63.8	2.3	59.3	68.3		
Rural	78.3	2.3	73.7	82.9		
Urban	31.4	4.6	22.4	40.5		
<b>478 HHs</b>	Mean	Std. Err.	[95% Conf.	Interval]		
National	63.3	3.5	56.4	70.2		
Rural	78.4	4.6	69.4	87.4		
Urban	33.7	5.7	22.3	45.0		
<b>Gini index</b>						
<b>2,201 HHs</b>	Mean	Std. Err.	[95% Conf.	Interval]		
National	50.3	2.5	45.3	55.3		
<b>478 HHs</b>	Mean	Std. Err.	[95% Conf.	Interval]		
National	50.1	2.5	45.3	54.9		

Note: HH = households. Urban/rural provinces are used as strata. The subsample with detailed consumption data is representative only nationally. The urban/rural estimates using the subsample are for comparison purposes only.

## 14. Appendix 1 – CPI Data sources

Table A1.1 lists the source of CPI used for each economy-year reported in PovcalNet. The columns in the table are defined as follows:

- **Code:** The 3-letter economy code used by the World Bank: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-countryand-lending-groups>
- **Economy name:** Name of economy
- **Year(s):** Welfare reporting year, i.e. the year for which the welfare has been reported. If the survey collects income for the previous year, it is the year prior to the survey. This is identical to the year variable used in PovcalNet.
- **CPI period:** Common time period to which the welfare aggregates in the survey have been deflated. The letter Y denotes that the CPI period is identical to the year column. When the welfare aggregate has been deflated to a particular month within the welfare reporting year, the month is indicated by a number between 1 and 12, preceded by an M, and similarly with a Q for quarters. The letter W indicates that a weighted CPI is used, as described in equation 1 in Lakner et al. (2018).
- **CPI source:** Source of the deflator used. The source is given by the abbreviation, the frequency of the CPI, and the vintage; e.g. IFS-M-202011 denotes the monthly IFS database version November 2020. For economy-specific deflators, the description is given in the text or further details are available upon request.

Code	Economy	Survey	Year(s)	CPI period	Source
AGO	Angola	HBS	2000	Y	WEO-A-202010
		IBEP-MICS	2008	Y	WEO-A-202010
		IDREA	2018	Y	WEO-A-202010
ALB	Albania	EWS	1996	Y	IFS-M-202011
		LSMS	2002-2012	Y	IFS-M-202011
ARE	United Arab Emirates	HIES	ALL	Y	IFS-M-202011
ARG	Argentina	EPH	1980-1987	Y	NSO
			1991-2002	M9	NSO
		EPHC-S2	2003-2019	M7-M12	NSO
			2007-2014	M7-M12	Private estimates
ARM	Armenia	ILCS	ALL	Y	IFS-M-202011
AUS	Australia	HIS-LIS	1981	Y	IFS-A-202011
		IDS-LIS	1985	Y	IFS-A-202011
		SIH-LIS	1989-2014	Y	IFS-A-202011
		SIH-HES-LIS	2004-2010	Y	IFS-A-202011
AUT	Austria	MC-LIS	1987-1995	Y	IFS-M-202011
		ECHP-LIS	1994-2000	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
AZE	Azerbaijan	SLC	1995	Y	IFS-M-202011
		HBS	2001-2005	Y	IFS-M-202011
BDI	Burundi	EDCM	1992	Y	IFS-M-202011
		EP	1998	Y	IFS-M-202011
		QUIBB	2006	Y	IFS-M-202011
		ECVMB	2013	Y	IFS-M-202011
BEL	Belgium	SEP-LIS	1985-1997	Y	IFS-M-202011
		PSBH-ECHP-LIS	1995-2000	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
BEN	Benin	QUIBB	2003	Y	IFS-M-202011
		EMICOV	2011-2015	Y	IFS-M-202011
BFA	Burkina Faso	EP-I	1994	Y	IFS-M-202011
		EP-II	1998	Y	IFS-M-202011
		ECVM	2003-2009	Y	IFS-M-202011
		EMC	2014	Y	IFS-M-202011
BGD	Bangladesh	HHES	1983-1985	Y	WEO-A-202010
			1988-1991	Y	IFS-A-202011
		HIES	1995	Y	Survey
			2000-2016	Y	Survey



		HBS	1989	Y	IFS-A-202011
			1992-1994	Y	IFS-M-202011
BGR	Bulgaria	IHS	1995-2001	Y	IFS-M-202011
		MTHS	2003-2007	Y	IFS-M-202011
		EU-SILC	2007-2019	(prev. year) Y	IFS-M-202011
BIH	Bosnia and Herzegovina	LSMS	2001-2004	Y	WEO-A-202010
		HBS	2007-2011	Y	IFS-M-202011
BLR	Belarus	FBS	1993-1995	Y	IFS-M-202011
		HHS	1998-2019	Y	IFS-M-202011
BLZ	Belize	LFS	1993-1999	Y	WEO-A-202010
		HBS	1995	Y	WEO-A-202010
		SLC	1996	Y	WEO-A-202010
		EPF	1990	Y	IFS-M-202011
		EIH	1992	M11	IFS-M-202011
		ENE	1997	M11	IFS-M-202011
		ECH	1999	M10	IFS-M-202011
BOL	Bolivia	EH	2000	M11	IFS-M-202011
			2001-2005	M11	IFS-M-202011
		ECH	2004	M10	IFS-M-202011
		EH	2006-2016	M10	IFS-M-202011
			2017-2019	M11	IFS-M-202011
BRA	Brazil	PNAD	1981-2011	M9	IFS-M-202011
		PNADC-E1	2012-2019	Y	IFS-M-202011
BTN	Bhutan	BLSS	ALL	Y	Previous WDI/IFS
BWA	Botswana	HIES	1985-2002	Y	IFS-M-202011
		CWIS	2009	Y	IFS-M-202011
		BMTHS	2015	Y	IFS-M-202011
CAF	Central African Republic	EPCM	1992	Y	IFS-M-202011
		ECASEB	2003-2008	Y	IFS-M-202011
		SCF-LIS	1971-1997	Y	IFS-M-202011
CAN	Canada	SLID-LIS	1998-2010	Y	IFS-M-202011
		CIS-LIS	2012-2017	Y	IFS-M-202011
		SIWS-LIS	1982	Y	IFS-M-202011
		NPS-LIS	1992	Y	IFS-M-202011
CHE	Switzerland	IES-LIS	2000-2002	Y	IFS-M-202011
		EU-SILC	2007-2019	(prev. year) Y	IFS-M-202011
CHL	Chile	CASEN	1987	Y	IFS-M-202011
			1990-2017	M11	IFS-M-202011
		EPAM	1985-1988	Y	IFS-M-202011
CIV	Côte d'Ivoire	EP	1992	Y	IFS-M-202011
		ENV	1995-2015	Y	IFS-M-202011

CMR	Cameroon	ECAM-I	1996	Y	IFS-M-202011
		ECAM-II	2001	Y	IFS-M-202011
		ECAM-III	2007	Y	IFS-M-202011
		ECAM-IV	2014	Y	IFS-M-202011
COD	Congo, Dem. Rep.	E123	ALL	Y	IFS-M-202011
COG	Congo, Rep.	ECOM	ALL	Y	IFS-M-202011
COL	Colombia	ENH	1980-1988	Y	IFS-M-202011
		ECH	1989-2000	M11	IFS-M-202011
			2001-2005	M11	IFS-M-202011
		GEIH	2008-2019	M11	IFS-M-202011
COM	Comoros	EIM	2004	Y	IFS-M-202011
		EESIC	2013	Y	IFS-M-202011
CPV	Cabo Verde	IDRF	2001-2015	Y	IFS-M-202011
		QUIBB	2007	Y	IFS-M-202011
CRI	Costa Rica	ENH	1981-1986	Y	IFS-M-202011
		EHPM	1989	Y	IFS-M-202011
			1990-2009	M7	IFS-M-202011
		ENAHO	2010-2019	M7	IFS-M-202011
CYP	Cyprus	EU-SILC	ALL	(prev. year)Y	IFS-M-202011
CZE	Czech Republic	MC-LIS	1992-2002	Y	IFS-M-202011
		CM	1993	Y	IFS-M-202011
		EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011
DEU	Germany	LIS	1973-1983	Y	IFS-M-202011
			1981	Y	IFS-M-202011
			1984-2016	Y	IFS-M-202011
DJI	Djibouti	EDAM	2002-2013	Y	IFS-M-202011
			2017	M5	IFS-M-202011
DNK	Denmark	LM-LIS	1987-2000	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
DOM	Dominican Republic	ENGSLF	1986-1989	Y	IFS-M-202011
		ICS	1992	M6	IFS-M-202011
			1996	M2	IFS-M-202011
		ENFT	1997	M4	IFS-M-202011
			2000-2016	M9	IFS-M-202011
ECNFT-Q03	2017-2019	Y	IFS-M-202011		
DZA	Algeria	EDCM	1988	Y	IFS-M-202011
		ENMNV	1995	Y	IFS-M-202011
		ENCNVM	2011	Y	IFS-M-202011
ECU	Ecuador	EPED	1987	Y	IFS-M-202011

		ECV	1994	M6-M10	IFS-M-202011
		EPED	1995	M11	IFS-M-202011
			1998	M6	IFS-M-202011
		ECV	1999	(prev. year) M10-M9	IFS-M-202011
		EPED	2000	M11	IFS-M-202011
		ENEMDU	2003-2019	M11	IFS-M-202011
EGY	Egypt, Arab Rep.	HIECS	ALL	Y	IFS-M-202011
		HBS-LIS	1980-1990	Y	IFS-M-202011
ESP	Spain	ECHP-LIS	1995-2000	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
		HIES	1993-1998	Y	IFS-M-202011
EST	Estonia	HBS	2000-2004	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
ETH	Ethiopia	HICES	1981-2010 2015	Y M12	IFS-M-202011 IFS-M-202011
		IDS-LIS	1987-2000	Y	IFS-M-202011
FIN	Finland	EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
FJI	Fiji	HIES	ALL	Y	IFS-M-202011
		HBS-LIS	1978-2000	Y	IFS-M-202011
FRA	France	EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
FSM	Micronesia, Fed. Sts.	CPH	2000	Y	IFS-A-202011
		HIES	2005-2013	Y	IFS-A-202011
GAB	Gabon	EGEP	ALL	Y	IFS-M-202011
		FES-LIS	1969-1995	Y	IFS-M-202011
GBR	United Kingdom	FRS-LIS	1994-2003	Y	IFS-M-202011
		EU-SILC	2005-2018	(prev. year) Y	IFS-M-202011
GEO	Georgia	HIS	ALL	Y	IFS-M-202011
		GLSS-I	1987	Y	IFS-M-202011
		GLSS-II	1988	Y	IFS-M-202011
		GLSS-III	1991	Y	IFS-M-202011
GHA	Ghana	GLSS-IV	1998	Y	IFS-M-202011
		GLSS-V	2005	Y	Survey
		GLSS-VI	2012	Y	Survey
		GLSS-VII	2016	Y	Survey
GIN	Guinea	ESIP	1991	Y	WEO-A-202010
		EIBC	1994	Y	WEO-A-202010
		EIBEP	2002	Y	WEO-A-202010

		ELEP	2007-2012	Y	IFS-M-202011
GMB	Gambia, The	HPS	1998	Y	IFS-M-202011
		HIS	2003	Y	IFS-M-202011
		IHS	2010-2015	Y	IFS-M-202011
		ILJF	1991	Y	IFS-M-202011
GNB	Guinea-Bissau	ICOF	1993	Y	IFS-M-202011
		ILAP-I	2002	Y	IFS-M-202011
		ILAP-II	2010	Y	IFS-M-202011
		ECHP-LIS	1995-2000	Y	IFS-M-202011
GRC	Greece	EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
		ENSD	1986-1989	Y	IFS-M-202011
GTM	Guatemala	ENIGF	1998	M8	IFS-M-202011
		ENCOVI	2000	M6-M11	IFS-M-202011
			2006-2014	M7	IFS-M-202011
		GLSMS	1992	Y	WEO-A-202010
GUY	Guyana		1998	Y	IFS-M-202011
		ECSFT	1986	Y	IFS-M-202011
HND	Honduras		1989	Y	IFS-M-202011
		EPHPM	1990-1993	M5	IFS-M-202011
			1994	M9	IFS-M-202011
			1995-2019	M5	IFS-M-202011
HRV	Croatia	HBS	1988-2010	Y	IFS-M-202011
		EU-SILC	2010-2019	(prev. year) Y	IFS-M-202011
HTI	Haiti	ECVH	2001	M5	IFS-M-202011
		ECVMAS	2012	M10	IFS-M-202011
HUN	Hungary	HBS	1987-2007	Y	IFS-M-202011
		HHP-LIS	1991-1994	Y	IFS-M-202011
		THMS-LIS	1999	Y	IFS-M-202011
		EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011
IDN	Indonesia		1984-1999	Y	IFS-M-202011
		SUSENAS	2000-2007	M2	IFS-M-202011
			2008-2019	M3	IFS-M-202011
IRL	Ireland	SIDPUSS-LIS	1987	Y	IFS-M-202011
		LIS-ECHP-LIS	1994-2000	Y	IFS-M-202011
		SILC-LIS	2002	Y	IFS-M-202011
		EU-SILC	2004-2018	(prev. year) Y	IFS-M-202011
IRN		SECH	1986	Y	IFS-A-202011

	Iran, Islamic Rep.	HEIS	1990-1998 2005-2018	Y Y	IFS-M-202011 IFS-M-202011
IRQ	Iraq	IHSES	2006 2012	M11-(next year) M12 Y	COSIT COSIT
ISL	Iceland	EU-SILC	ALL	(prev. year) Y	IFS-M-202011
ISR	Israel	HES-LIS	ALL	Y	IFS-M-202011
		SHIW-LIS	1986-2000	Y	IFS-M-202011
ITA	Italy	EU-SILC	2004-2018	(prev. year) Y	IFS-M-202011
			1988	M9	IFS-M-202011
			1990-1993	M11-(next year) M3	IFS-M-202011
JAM	Jamaica	SLC	1996	M5-M8	IFS-M-202011
			1999	M6-M8	IFS-M-202011
			2002-2004	M6	IFS-M-202011
JOR	Jordan	HEIS	ALL	Y	IFS-M-202011
JPN	Japan	JHPS-LIS	ALL	Y	IFS-M-202011
		HBS	1993-2018	Y	WEO-A-202010
KAZ	Kazakhstan	LSMS	1996	Y	WEO-A-202010
		WMS-I	1992	Y	NSO
		WMS-II	1994	Y	NSO
		WMS-III	1997	Y	NSO
		IHBS	2005-2015	Y	NSO
		HBS	1998-2003	Y	IFS-M-202011
KGZ	Kyrgyz Republic	KIHS	2004-2019	Y	IFS-M-202011
KHM	Cambodia	CSES	ALL	Y	IFS-M-202011
KIR	Kiribati	HIES	2006	Y	IFS-M-202011
		HIES-FHES-LIS	ALL	Y	IFS-M-202011
			1992	Y	IFS-A-202011
LAO	Lao PDR	LECS	1997 2002-2018	Y Y	IFS-M-202011 Survey
LBN	Lebanon	HBS	2011	(next year) M5	IFS-M-202011
		CWIQ	2007	Y	IFS-M-202011
LBR	Liberia	HIES	2014-2016	Y	IFS-M-202011
		LSMS	1995	Y	IFS-M-202011
LCA	St. Lucia	SLC-HBS	2016	M1	IFS-M-202011
		LFSS	1985	Y	IFS-M-202011
LKA	Sri Lanka	HIES	1990-2016	Y	IFS-M-202011
		SES	1995	Y	IFS-M-202011

LSO	Lesotho	HBS	1986	Y	WEO-A-202010
		NHECS	1994	Y	WEO-A-202010
		HBS	2002	Y	IFS-M-202011
		CMSHBS	2017	M8	IFS-M-202011
LTU	Lithuania	HBS	1993-2008	Y	IFS-M-202011
		EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011
LUX	Luxembourg	PSELL-LIS	1985-1991	Y	IFS-M-202011
		PSELL- ECHP-LIS	1994-2000	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
LVA	Latvia	HBS	1993-2009	Y	IFS-M-202011
		EU-SILC	2005-2019	(prev. year)Y	IFS-M-202011
MAR	Morocco	ECDM	1984	Y	IFS-M-202011
		ENNVN	1990-2006	Y	IFS-M-202011
		ENCDM	2000-2013	Y	IFS-M-202011
MDA	Moldova	HBS	ALL	Y	IFS-M-202011
MDG	Madagascar	EB	1980	Y	IFS-M-202011
		EPM	1993-2010	Y	IFS-M-202011
		ENSOMD	2012	Y	IFS-M-202011
MDV	Maldives	HIES	ALL	Y	WEO-A-202010
MEX	Mexico	ENIGH	1984-2014	M8	IFS-M-202011
		ENIGHNS	2016-2018	M8	IFS-M-202011
MKD	North Macedonia	HBS	1998-2008	Y	IFS-M-202011
		SILC-C	2010-2019	(prev. year)Y	IFS-M-202011
MLI	Mali	EMCES	1994	Y	IFS-A-202011
		EMEP	2001	Y	IFS-M-202011
		ELIM	2006-2009	Y	IFS-M-202011
MLT	Malta	EU-SILC	ALL	(prev. year)Y	IFS-M-202011
MMR	Myanmar	MPLCS	2015	M1	IFS-M-202011
		MLCS	2017	Q1	IFS-M-202011
MNE	Montenegro	HBS	2005-2014	Y	IFS-M-202011
		SILC-C	2013-2017	(prev. year)Y	IFS-M-202011
MNG	Mongolia	LSMS	1995-1998	Y	IFS-M-202011
		HIES-LSMS	2002	Y	IFS-M-202011
		HSES	2007-2018	Y	IFS-M-202011
MOZ	Mozambique	NHS	1996	Y	WEO-A-202010
		IAF	2002	Y	WEO-A-202010
		IOF	2008-2014	Y	IFS-M-202011

MRT	Mauritania	EPCV	1987-2014	Y	IFS-M-202011	
		EP	1993	Y	IFS-M-202011	
MUS	Mauritius	HBS	ALL	Y	IFS-M-202011	
MWI	Malawi	IHS-I	1997	Y	IFS-M-202011	
		IHS-II	2004	Y	Survey	
		IHS-III	2010	Y	Survey	
		IHS-IV	2016	M04	Survey	
MYS	Malaysia	HIS	1984-1997	Y	IFS-M-202011	
			2004	(prev. year)M7-	IFS-M-202011	
			2007	(prev. year)M12	IFS-M-202011	
			2009-2016	(prev. year)M7-	IFS-M-202011	
NAM	Namibia	NHIES	1993	Y	WEO-A-202010	
			2003-2015	Y	IFS-M-202011	
NER	Niger	ENBCM	1992-2007	Y	IFS-M-202011	
		EPCES	1994	Y	IFS-M-202011	
		ENCVM	2005	Y	IFS-M-202011	
		ECVMA	2011-2014	Y	IFS-M-202011	
NGA	Nigeria	LSS	NCS	1985-1996	Y	IFS-M-202011
			2003-2009	Y	IFS-M-202011	
			2018	(next year) M3-(next year) M4	IFS-M-202011	
NIC	Nicaragua	EMNV	1993	M2	NSO	
			1998	M6	NSO	
			2001	M6	IFS-M-202011	
			2005-2009	M8	IFS-M-202011	
NLD	Netherlands	AVO-LIS	2014	M8-M10	IFS-M-202011	
			1983-1990	Y	IFS-M-202011	
			1993-1999	Y	IFS-M-202011	
NOR	Norway	EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011	
		IDS-LIS	1979-2000	Y	IFS-M-202011	
NPL	Nepal	EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011	
		MHBS	1984	Y	IFS-M-202011	
		LSS-I	1995	Y	IFS-M-202011	
		LSS-II	2003	Y	IFS-M-202011	
		LSS-III	2010	Y	IFS-M-202011	

NRU	Nauru	HIES	2012	Y	WEO-A-202010
PAK	Pakistan	HIES	1987-1998	Y	IFS-M-202011
		IHS	1996	Y	IFS-M-202011
		PIHS	2001	Y	IFS-M-202011
		PSLM	2004-2018	Y	IFS-M-202011
PAN	Panama	EMO	1979-1989	Y	IFS-M-202011
			1991	M7	IFS-M-202011
		EH	1995-2019	M7	IFS-M-202011
PER	Peru	ENNIV	1985-1994	Y	IFS-M-202011
			1997-2002	Q4	IFS-M-202011
		ENAHO	2003	M5-M12	IFS-M-202011
			2004-2019	Y	IFS-M-202011
PHL	Philippines	FIES	ALL	Y	IFS-M-202011
PNG	Papua New Guinea	HIES	ALL	Y	IFS-A-202011
POL	Poland	HBS	1985-1987	Y	IFS-A-202011
		HBS-LIS	1986	Y	IFS-A-202011
		HBS	1989-2019	Y	IFS-M-202011
		HBS-LIS	1992-1999	Y	IFS-M-202011
		EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011
PRT	Portugal	EU-SILC	ALL	(prev. year) Y	IFS-M-202011
PRY	Paraguay	EH	1990	M7	IFS-M-202011
			1995	M8-M11	IFS-M-202011
		EIH	1997	(next year) M2	IFS-M-202011
		EPH	1999	M9	IFS-M-202011
		EIH	2001	M3	IFS-M-202011
			2002	M11	IFS-M-202011
			2003	M9	IFS-M-202011
			2004	M10	IFS-M-202011
		EPH	2005	M11	IFS-M-202011
			2006	M12	IFS-M-202011
			2007-2008	M10	IFS-M-202011
			2009	M11	IFS-M-202011
	2010-2019	M10	IFS-M-202011		
PSE	West Bank and Gaza	PECS	ALL	Y	IFS-M-202011
ROU	Romania	HBS	1989	Y	Milanovic (1998)
		MC	1992	Y	IFS-M-202011
		HIS	1994-1999	Y	IFS-M-202011
		IHS-LIS	1995-1997	Y	IFS-M-202011



		IHS	1998-2000	Y	IFS-M-202011
		HBS	2001-2016	Y	IFS-M-202011
		EU-SILC	2007-2019	(prev. year) Y	IFS-M-202011
RUS	Russian Federation	HBS	ALL	Y	IFS-M-202011
		ENBCM	1984	Y	IFS-M-202011
		EICV-I	2000	Y	IFS-M-202011
		EICV-II	2005	Y	IFS-M-202011
RWA	Rwanda	EICV-III	2010	(next year) M1	IFS-M-202011
		EICV-IV	2013	(next year) M1	IFS-M-202011
		EICV-V	2016	(next year) M1	IFS-M-202011
SDN	Sudan	NBHS	2009	Y	IFS-M-202011
			2014	M11	IFS-M-202011
		EP	1991	Y	IFS-M-202011
		ESAM	1994	Y	IFS-M-202011
SEN	Senegal	ESAM-II	2001	Y	IFS-M-202011
		ESPS-I	2005	Y	IFS-M-202011
		ESPS-II	2011	Y	IFS-M-202011
SLB	Solomon Islands	HIES	ALL	Y	IFS-M-202011
		HEEAS	1989	Y	WEO-A-202010
SLE	Sierra Leone	SLIHS	2003	Y	WEO-A-202010
			2011-2018	Y	IFS-M-202011
			1989	Y	IFS-M-202011
			1991	M10-(next year) M4	IFS-M-202011
SLV	El Salvador	EHPM	1995-1999	Y	IFS-M-202011
			2000-2007	M12	IFS-M-202011
			2008-2019	M11	IFS-M-202011
		LSMS	2002	Y	IFS-M-202011
SRB	Serbia	HBS	2003-2018	Y	IFS-M-202011
		EU-SILC	2013-2018	(prev. year) Y	IFS-M-202011
		NBHS	2009	Y	IFS-M-202011
SSD	South Sudan	HFS-W3	2016	(prev. year) M7	IFS-M-202011
STP	São Tomé and Príncipe	IOF	ALL	Y	IFS-M-202011
SUR	Suriname	EHS	1999	Y	IFS-M-202011
		MC-LIS	1992-1996	Y	IFS-M-202011
SVK	Slovak Republic	HBS	2004-2009	Y	IFS-M-202011

		EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011
SVN	Slovenia	IES	1987-1993	Y	IFS-M-202011
		HBS-LIS	1997-1999	Y	IFS-M-202011
		HBS	1998-2003	Y	IFS-M-202011
		EU-SILC	2005-2019	(prev. year) Y	IFS-M-202011
SWE	Sweden	LLS-RD-LIS	1967	Y	IFS-M-202011
		HIS-LIS	1975-2000	Y	IFS-M-202011
		EU-SILC	2004-2019	(prev. year) Y	IFS-M-202011
SWZ	Eswatini	HIES	ALL	Y	IFS-M-202011
SYC	Seychelles	HES	1999	Y	IFS-M-202011
		HBS	2006-2018	Y	IFS-M-202011
SYR	Syrian Arab Republic	HIES	ALL	Y	IFS-M-202011
TCD	Chad	ECOSIT-II	2003	Y	IFS-M-202011
		ECOSIT-III	2011	Y	IFS-M-202011
TGO	Togo	QUIBB	ALL	Y	IFS-M-202011
THA	Thailand	SES	ALL	Y	IFS-M-202011
TJK	Tajikistan	TLSS	1999	Y	WEO-A-202010
			2003-2007	Y	Survey
		HBS	2004	Y	Survey
		TLSS	2009	Y	IFS-M-202011
		HSITAFIEN	2015	Y	IFS-M-202011
TKM	Turkmenistan	LSMS	1998	Y	WEO-A-202010
TLS	Timor-Leste	TLSS	2001	Y	WEO-A-202010
		TLSLS	2007-2014	Y	IFS-M-202011
TON	Tonga	HIES	ALL	Y	IFS-M-202011
TTO	Trinidad and Tobago	SLC	1988	Y	IFS-M-202011
		PHC	1992	Y	IFS-M-202011
TUN	Tunisia	HBCS	1985	Y	IFS-A-202011
			1990	Y	IFS-M-202011
		LSS	1995-2000	Y	IFS-M-202011
		NSHB CSL	2005-2015	Y	IFS-M-202011
TUR	Turkey	HICES	ALL	Y	IFS-M-202011
TUV	Tuvalu	HIES	2010	Y	WEO-A-202010
TWN	Taiwan, China	FIDES-LIS	ALL	Y	WEO-A-202010
TZA	Tanzania	HBS	1991	Y	IFS-A-202011
			2000-2018	Y	IFS-M-202011
UGA	Uganda	HBS	1989	Y	WEO-A-202010
			1992	Y	WEO-A-202010
		NIHS	1996-1999	Y	IFS-M-202011

		UNHS	2002-2016	Y	IFS-M-202011		
UKR	Ukraine	HS	1992-1993	Y	IFS-M-202011		
		HIES	1995-1996	Y	IFS-M-202011		
		HLCS	1999-2019	Y	IFS-M-202011		
URY	Uruguay	ENH	1981-1989	Y	IFS-M-202011		
		ECH	1992-2019	(prev. year) M12	IFS-M-202011		
USA	United States	CPS-LIS	1974-2001	Y	IFS-M-202011		
		CPS-ASEC-LIS	2002-2018	Y	IFS-M-202011		
UZB	Uzbekistan	HBS	ALL	Y	WEO-A-202010		
VEN	Venezuela, RB	EHM	1981-1989	Y	NSO		
			1992-2006	M12	NSO		
VNM	Vietnam	VLSS	1992	Y	WEO-A-202010		
			1997	Y	IFS-M-202011		
			2002-2018	M1	IFS-M-202011		
VUT	Vanuatu	HIES	ALL	Y	IFS-A-202011		
WSM	Samoa	HIES	ALL	Y	IFS-M-202011		
XKX	Kosovo	HBS	ALL	Y	IFS-M-202011		
YEM	Yemen, Rep.	HBS	ALL	Y	IFS-M-202011		
				KIDS	1993	Y	IFS-M-202011
				HIES	1996-2000	Y	IFS-M-202011
				IES	2005-2010	(next year) M6	IFS-M-202011
				LCS	2008	Y	IFS-M-202011
					2014	(next year) M6	IFS-M-202011
ZMB	Zambia	HBS	1991-1993	Y	IFS-M-202011		
			LCMS-I	1996	Y	IFS-M-202011	
			LCMS-II	1998	Y	IFS-M-202011	
			LCMS-III	2002	Y	IFS-M-202011	
			LCMS-IV	2004	Y	IFS-M-202011	
			LCMS-V	2006	Y	IFS-M-202011	
			LCMS-VI	2010	Y	IFS-M-202011	
LCMS-VII	2015	Y	IFS-M-202011				
ZWE	Zimbabwe	ICES	2011	Y	IFS-M-202011		
		PICES	2017-2019	Y	IFS-M-202011		

## 15. Appendix 2 – National Accounts Data Sources

This appendix provides details of national accounts data used in aligning estimates to reference years (see Prydz et al, 2019 for methodological details). The primary source of national accounts data in this update is the December 2020 version of the World Development Indicators (WDI). When WDI data are missing, data from the IMF’s World Economic Outlook (WEO), October 2020 version are used. Supplementary data from the Maddison Project Database (MDP), 2020 version are further used to fill missing observations. For a more complete series, national accounts data are chained on backward or forward using growth rates in WEO data, or MDP data when WDI data are missing.

In addition, the following special economy series are used:

- **India 2011-2015, after 2015:** As before, the reference year estimates for India from 2012 to 2015 are based on a method which adjusts HFCE growth by incorporating findings of a poverty imputation for 2014.5. Growth rates in national accounts are adjusted to match the results from the poverty imputation. The method is described in greater detail in Chen et al (2018) and Newhouse and Vyas (2018). After 2015, growth rates in national accounts are adjusted with a pass-through rate of 67%, as described in Section 5 of Castaneda et al. (2020).
- **Syrian Arab Republic:** WEO data are chained on with growth rates in special national accounts series after 2010 from the following sources: Gobat and Kostial (2016) (2011-2015) and Devadas et al. (2019) (2016-2019).

A complete overview is available in Table A2.1 (GDP per capita) and Table A2. 2 (HFCE per capita).

### Legend Tables A2.1 and A2.2

Code – World Bank economy code	Sources (See beginning of Appendix for details)
Cov – Coverage	M – Maddison Project Dataset
N – National	W – World Development Indicators, February 2021
U – Urban	S – Special Country Series
R – Rural	I – IMF’s WEO, October 2020













