Global Poverty Monitoring Technical Note 11

March 2020 PovcalNet Update

What's New

Aziz Atamanov, R. Andres Castaneda Aguilar, Tony H. M. J. Fujs, Reno Dewina, Carolina Diaz-Bonilla, Daniel Gerszon Mahler, Dean Jolliffe, Christoph Lakner, Mikhail Matytsin, Jose Montes, Laura L. Moreno Herrera, Rose Mungai, David Newhouse, Minh C. Nguyen, Francisco J. Parada Gomez Urquiza, Ani Rudra Silwal, Diana M. Sanchez Castro, Marta Schoch, David L. Vargas Mogollon, Martha C. Viveros Mendoza, Judy Yang, Nobuo Yoshida and Haoyu Wu

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Abstract

The March 2020 update to PovcalNet involves several changes to the data underlying the global poverty estimates. Some welfare aggregates have been changed for improved harmonization, and some of the CPI, national accounts, and population input data have been revised. 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, bringing the total number of surveys to more than 1,900.

All authors are with the World Bank. Corresponding authors: Christoph Lakner (clakner@worldbank.org) and Minh C. Nguyen (mnguyen3@worldbank.org). The authors are thankful for comments and guidance received from Francisco Ferreira, Haishan Fu, and Carolina Sánchez-Páramo. We would also like to thank the countless Poverty Economists that have provided data and documentation, and patiently answered our questions. Without them the database of household surveys that underpins the World Bank's global poverty measures would not exist. This note has been cleared by Berk Ozler.

Contents

1. Introduction

The March 2020 global poverty update from the World Bank presents new poverty estimates for the reference year 2018, and revises the previously published global and regional estimates from 1981 to 2015. The update includes new surveys that have been received and processed, as well as several changes to the existing data. Some 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 2018 for those regions that have sufficient population coverage. The data available at the time of the March 2020 update do not offer sufficient population coverage in 2018 for South Asia and Sub-Saharan Africa, so we are unable to publish regional poverty estimates for these two regions.[1] Furthermore, since these regions account for most of the global poor in recent years, we are also unable to provide a global poverty estimate at this time. As further survey data in these two regions become available, we will update PovcalNet such that we can provide a global poverty estimate in the upcoming Poverty and Shared Prosperity report (to be published in the Autumn of 2020).

Table 1. Poverty estimates for reference year 2018, different poverty lines

Region	Survey coverage (%)	$1.90		$3.20		$5.50	
		Head-count ratio (%)	Num-ber of poor (mil)	Head-count ratio (%)	Num-ber of poor (mil)	Head-count ratio (%)	Num-ber of poor (mil)
East Asia and Pacific	91.9	1.3	28	7.6	159	25.6	532
Europe and Central Asia	87.5	1.2	6	4.5	22	12.1	60
Latin America and the Caribbean	86.6	4.4	28	10.4	66	24.2	154
Middle East and North Africa	50.9	7.2	28	19.8	77	44.8	174
Other High-Income Economies	71.2	0.7	7	0.8	9	1.3	14
South Asia	21.8	n/a	n/a	n/a	n/a	n/a	n/a
Sub-Saharan Africa	36.4	n/a	n/a	n/a	n/a	n/a	n/a
World Total	61.5	n/a	n/a	n/a	n/a	n/a	n/a

Source: PovcalNet

[1] Survey coverage is assessed within a two-year window either side of 2018, i.e. including surveys that were conducted between 2016 and 2020 (also see Chen et al., 2018). The estimates for South Asia and Sub-Saharan Africa are not displayed since these regions have a survey coverage less than 40%.

East Asia and Pacific has continued on its downward trend, reducing the poverty headcount ratio at the international poverty line from 2.3% in 2015 to 1.3% in 2018, driven by decreases in poverty in China and the Philippines.[2] 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 2.4% in 2011-2013 to 3.8% in 2015 and 7.2% in in 2018. In Latin America, poverty has largely stagnated, increasing slightly from 4.1% in 2015 to 4.4% in 2018, partially due to an increase in the number of poor in Brazil.

Table 2 illustrates the impact of the data updates on global poverty for the reference year 2015. The estimates for 2015 were first published in September 2018, and have since been revised in March 2019 and September 2019. With the new data, the estimate of the global $1.90 headcount ratio increases very slightly, from 9.98% to 10.04% and the number of poor increases from 734 million to 737 million people. This change is largely explained by an increase in the regional poverty estimate for Sub-Saharan Africa, which in turn is explained by the availability of new survey data (e.g. Angola, Sudan and Tanzania etc.). These new surveys improve the precision of the reference year estimates in these countries, which were previously based on extrapolations of earlier surveys.

Previously, PovcalNet produced poverty numbers for a new reference year (also referred to as a "line-up year") with a three-year lag. For example, in 2018, we released global poverty estimates for 2015. There has been a growing interest in timelier poverty estimates to provide a more up-to-date picture of poverty around the world. The main trade-off weighing against improved timeliness is the added imprecision in the lined-up poverty estimates: The closer the line-up year is to the present time, the further we have to extrapolate survey-estimates forward in time.

To gauge the relevance of this concern, and determine whether the merits to advancing the line-up by one year outweigh the increase in imprecision, we have tried to quantify the increase in the error we would expect from this. By error we mean the difference between the initially reported global/regional poverty estimates and the "final" poverty estimates once survey data before and after the line-up year have become available (we refer to this as the true estimate, although it is

[2] The estimates before 2018 are available in PovcalNet, as well as the R and Stata packages.

obviously subject to various errors). The challenge with such an exercise is that we do not yet know the true poverty rate. We used two methods to approximate the increase in the error, as summarized below (section 6). Jointly, the methods suggest that the error in the global poverty headcount rate (at the international poverty line) is likely to increase somewhere in the range of 0-0.6 percentage points, with 0.15 percentage points being our best guess. We judge this to be small enough to merit advancing the line-up year and are reporting poverty estimates for 2018 with this update.

Table 2. Poverty at reference year 2015:
Comparison of September 2019 and March 2020 versions

	$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)	
Region	Sep-19	Mar-20	Sep-19	Mar-20	Sep-19	Mar-20	Sep-19	Mar-20	Sep-19	Mar-20	Sep-19	Mar-20
East Asia and Pacific	2.3	2.3	47	47	12.4	12.5	254	254	34.8	34.9	710	711
Europe and Central Asia	1.5	1.6	7	8	5.4	5.6	26	27	14.0	14.2	68	69
Latin America and the Caribbean	3.9	4.1	24	25	10.6	10.7	66	66	26.3	26.2	165	162
Middle East and North Africa	4.2	3.8	16	14	15.6	15.1	58	55	42.1	41.7	157	154
Other High-Income Economies	0.7	0.7	7	8	0.9	0.9	10	10	1.5	1.5	16	16
South Asia	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	41.4	42.3	416	420	67.0	68.1	674	676	85.0	86.0	855	853
World Total	10.0	10.0	734	737	26.3	26.4	1936	1937	46.1	46.2	3390	3386

Source: PovcalNet

2. Changes to the welfare aggregates

2.1. Brazil 2012-2015

Since 2012, Brazil's Institute of Geography and Statistics (IBGE) has been undertaking a new survey called the PNAD-Continua (PNADC). Between 2012-2015, the new PNADC was collected in parallel to the traditional PNAD. PNADC incorporates improvements in survey methodology (including improved income questions and larger samples) relative to the PNAD. During this period of overlap, IBGE continued to rely on the PNAD for annual household welfare aggregates and used the quarterly PNADC for employment monitoring. In 2016, the PNAD was discontinued, and IBGE switched to using the income aggregate from the PNADC, without releasing the first four years of PNADC. Until this update, PovcalNet was also using the PNAD from 1981-2015 and the PNADC for 2016-2017.

In October 2019, IBGE published the PNADC series for 2012-2018, including the four years that overlap with PNAD. However, the 2012-2015 PNADC data that were released do not contain the variables necessary for imputing the rent of owner-occupiers. While the PNADC is an improvement over the PNAD in terms of survey methodology, the 2012-2015 data were published without dwelling characteristics, home ownership status, or housing rent amount. These are the variables that are used from the Socioeconomic Database for Latin America and the Caribbean (SEDLAC) for the rent imputation model used in other countries of Latin America and the Caribbean (LAC).

To create the longest possible time series that is comparable with the new PNADC used from 2016 onwards, the team developed and tested an imputation model that imputes rent into the PNADC for 2012-2015. In brief, the methodology is as follows (further details are available upon request):

1) Adjustments are made to the PNAD to construct an income variable that is more comparable with the PNADC. Since 2012, PNADC uses revised definitions of employment and labor income that are in line with the new guidelines published by the ILO.

2) The distribution of imputed rent is calculated in the PNAD for each year 2012 through 2015.[3] Distributions are estimated separately for rural and urban populations.
3) Based on the distributions of non-zero household per capita income without rent $[y_i]$, 2,000 bins are generated for rural areas and 4,000 bins for urban areas. For both rural and urban areas, one additional bin is generated that includes households with zero income. For each bin, the PNAD is used to estimate the average imputed rent for home owners μ_{rb} and the percent of households who are homeowners π_{rb} (where r refers to urban or rural, and b is the number of the bin).
4) Homeownership and average imputed rent are then allocated to households observed in PNADC, such that each bin matches the μ_{rb} and π_{rb} observed in PNAD. The allocation of homeownership is based on the results of a probit model run for each year, separately for urban and rural households.[4] Based on this model, households with the highest likelihood of being homeowners are allocated home ownership and receive the average imputed rent among homeowners in that bin.

   The final welfare aggregate is defined as

$$\widetilde{y_i} = y_i + \mu_{rb}[1_{\pi_{rb}}]$$

   where $1_{\pi_{rb}}$ takes the value 1 if the household is allocated home ownership and 0 otherwise.

5) This methodology was validated through two tests. First, we applied the methodology to the PNAD for which we can compare the original rent imputation methodology and this bin-imputation approach. Key poverty and inequality indicators are very close under the two approaches. Second, a cross-validation technique was used to test whether the model is properly imputing rent. The first validation relies on an "in sample" test, which is vulnerable to overfitting, especially as the number of bins increases. For the second test, the PNAD was divided into two samples: the training sample and the test sample.[5] The

[3] In the case of Brazil, the value of rent for homeowners is estimated using a quantile regression model. This is described in Atamanov et al. (2018).

[4] The variables used are household head's years of schooling, age, and gender; household composition (number of children in the household, number of household members, and whether a spouse is present), and state fixed effects. The probit estimator was used separately for models of urban and rural areas.

[5] Since the imputation model relies on dividing the data into urban and rural areas, the samples were drawn so as to be balanced over rural and urban areas.

training sample was used to estimate the imputed rent for each bin. These values were then imputed into the test sample, and this sample was used to estimate the indicators. The results show no evidence of overfitting.

The revised data for Brazil uses the PNADC (including the rent imputation as described above) from 2012 to 2015.

	Poverty headcount $1.90		Poverty headcount $3.20		Gini index	
year	Sept 2019	Mar2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
2012	3.8	3.8	8.7	9	52.7	53.5
2013	3.8	3.1	8.2	7.9	52.8	52.7
2014	2.8	2.7	6.9	7.1	51.5	52.1
2015	3.4	3.2	8	7.8	51.3	51.9

Note: Table presents poverty and inequality estimates for 2012 – 2015 as reported in this March 2020 release and as reported in our prior release from September 2019.

2.2. Brazil 2016-2017

IBGE released a new version of the 2016 and 2017 datasets in October 2019. The harmonization methodology has remained unchanged. The October 2019 data release changed 1) survey weights for 2012-2018 due to revised population projections, and 2) the identification and treatment of outliers in labor income for 2012-2019. Further details can be found in the technical notes on the IBGE website.

In the same release, IBGE also released the 2012-2015 and 2018 datasets for the first time (see above).

	Poverty headcount $1.90		Poverty headcount $3.20		Gini index	
year	Sept 2019	Mar2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
2016	4.3	3.9	9.3	8.9	53.7	53.3
2017	4.8	4.5	9.6	9.1	53.3	53.2

Note: Table presents poverty and inequality estimates for 2016 – 2017 as reported in this March 2020 release and as reported in our prior release from September 2019.

2.3. Chile 2006-2017

The PovcalNet data for Latin America and the Caribbean are taken from the Socio-Economic Database for Latin America and the Caribbean (SEDLAC). SEDLAC has been developed by the Center for Distributional, Labor and Social Studies (CEDLAS) of the Universidad Nacional de La Plata in Argentina, in partnership with World Bank's Poverty and Equity Group's Latin America team. A process of methodological and technical revisions to the SEDLAC project started in 2015, to address several issues presented by users during the preceding five years. Additional changes were made to better align the SEDLAC data with the household survey harmonized by the World Bank for other regions. These revisions of the welfare aggregate represent a move from version 02 of the SEDLAC project, to version 03. For most countries in the region, PovcalNet moved from version 02 to version 03 as part of the April 2018 update. With this update, we are also implementing version 03 for Chile from 2006 onwards. The estimates in 2003 and earlier still use version 02, and are therefore not comparable to the series beginning in 2006.

Three specific changes were made to the welfare aggregate for Chile:

First, the methodology used for imputing the rental value of owner-occupied housing was improved. It now includes households with a dwelling that has been received as a gift and those that live in usufruct, ceded dwellings. This change has led to increases in incomes for these types of households. The revision to the imputed rent methodology explains most of the change in the Chile series.

Second, the new series includes imputations for missing labor incomes, which has become more important due to rising non-response rates over the period. The imputed labor income variable has recently become available in the raw data, and the methodological details will soon become publicly available (to be published by the NSO on their website).

Third, the Chilean authorities have released more detailed variables. These variables allowed 1) the exclusion of the scaling up of individual incomes and rents to match National Accounts. 2) improved checks on the elements being included in the income aggregate (this revealed a case of inadvertent double counting in 2015, which led to a small error being corrected).

	Poverty headcount $1.90		Poverty headcount $3.20		Gini index	
Year	Sept 2019	Mar 2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
2006	2.4	1.5	7.4	5.5	48.2	47.3
2009	2.6	1.3	6.7	4.1	49.0	47.0
2011	1.6	0.6	4.7	2.6	47.6	46.1
2013	0.9	0.4	2.6	1.4	47.3	45.8
2015	1.3	0.3	3.1	1.1	47.7	44.4
2017	0.7	0.3	1.8	0.7	46.6	44.4

Note: Table presents poverty and inequality estimates for 2006 – 2017 as reported in this March 2020 release and as reported in our prior release from September 2019.

2.4. Honduras 2016

Weights were adjusted according to population projections based on the 2013 Census. This ensures comparability of the 2016 data with the 2014, 2015, 2017 and 2018 surveys.

	Poverty headcount $1.90		Poverty headcount $3.20		Gini index	
Year	Sept 2019	Mar 2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
2016	16.0	18.0	30.0	32.9	50.1	51.1

Note: Table presents poverty and inequality estimates for 2016 as reported in this March 2020 release and as reported in our prior release from September 2019.

2.5. LIS

We continue to use the Luxembourg Income Study (LIS) for the following seven economies[6]: Australia, Canada, Germany, Israel, Japan, South Korea, and United States. With this update we have also added data for Taiwan, China.

For the countries that use EU-SILC in recent years (typically from the early 2000s), we have added LIS data in the earlier years. This improves the population coverage of our database in the 1980s and 1990s, especially for the economies in the "Other High Income" group. These new data, however, introduce a break in comparability, usually in the early 2000s, when we switch from LIS to EU-SILC. Users should bear this in mind when analyzing country trends, and they are advised

[6] 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.

to use the comparability database that is released together with the global poverty data (see Atamanov et al. 2019, blog, data and Section 5 below). The comparability database accounts for the break between LIS and EU-SILC. More generally, for all LIS surveys, we have added a break whenever the name of the underlying survey changes, given limited information on comparability in the LIS documentation.

All LIS data have been downloaded on 6 February 2020. 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).

2.6. Mexico 2016

Four households in the surveys were classified as non-coherent households due an inconsistency of the income variables, that was not identified previously. These households have very high incomes, so removing them lowers the Gini index considerably, while the poverty measures remain unchanged.

	Poverty headcount $1.90		Poverty headcount $3.20		Gini index	
Year	Sept 2019	Mar 2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
2016	2.2	2.2	7.9	7.9	48.3	46.3

Note: Table presents poverty and inequality estimates for 2016 as reported in this March 2020 release and as reported in our prior release from September 2019.

2.7. Papua New Guinea 1996

The previous version of the Papua New Guinea 1996 data included duplicate households. This has now been corrected.

	Poverty headcount $1.90		Poverty headcount $3.20		Gini index	
Year	Sept 2019	Mar 2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
1996	53.2	51.0	70.8	73.6	55.4	45.8

Note: Table presents poverty and inequality estimates for 1996 as reported in this March 2020 release and as reported in our prior release from September 2019.

2.8. EU-SILC

All historical EU-SILC data have been updated to data released in December 2019. The updates for each country-year are documented on the Eurostat website [CIRCABC → Eurostat → EU-SILC →Library → data_dissemination → udb_user_database].

Previous versions of PovcalNet used 400 bins generated from the EU-SILC microdata (similar to how the LIS data are being used, see Chen et al., 2018 for more details). With this update, we are using the full EU-SILC microdata. Pending further research on harmonizing the treatment of negative incomes across our database, we exclude households with negative incomes. In contrast, the World Bank's Poverty and Equity Portal, as well as its Shared Prosperity Database, include negatives. This can explain some of the differences in the estimates presented in the different databases.

2.9. Uruguay 2000-2017

The thirteenth salary (or Christmas bonus, *aguinaldo* in Spanish) is now included correctly in the income variable. In the previous version, this component of labor income was included only for individuals interviewed in July and January. In the revised version, it is included for individuals interviewed at any point during the survey.

	Poverty headcount $1.9		Poverty headcount $3.2		Gini index	
Year	Sept 2019	Mar 2020	Sept 2019	Mar 2020	Sept 2019	Mar 2020
2001	0.4	0.4	2.5	2.4	44.96	44.94
2002	0.5	0.5	3.3	3.1	45.47	45.49
2003	0.7	0.7	4.5	4.3	44.98	44.99
2004	0.8	0.7	5.7	5.6	45.85	45.83
2005	0.7	0.7	4.7	4.6	44.69	44.69
2006	0.5	0.4	3.7	3.5	45.95	45.91
2007	0.3	0.3	2.9	2.9	46.43	46.38
2008	0.2	0.2	1.8	1.7	45.15	45.06
2009	0.2	0.2	1.8	1.7	45.61	45.52
2010	0.1	0.1	1.3	1.3	44.54	44.45
2011	0.1	0.1	1.0	0.9	42.20	42.15
2012	0.1	0.1	1.1	1.0	39.93	39.89
2013	0.2	0.2	0.8	0.8	40.53	40.44
2014	0.1	0.1	0.7	0.7	40.15	40.10
2015	0.1	0.1	0.6	0.6	40.16	40.12
2016	0.1	0.1	0.5	0.5	39.72	39.69
2017	0.1	0.1	0.4	0.4	39.50	39.46

Note: Table presents poverty and inequality estimates for 2001-2017 as reported in this March 2020 release and as reported in our prior release from September 2019.

3. Changes to CPI data

The baseline source of CPI data has been updated to the IMF's International Financial Statistics (IFS) as of 4 November 2019. Lakner et al. (2018) provide an overview of the various CPI series that are used in PovcalNet. Table A.1 in the Appendix to this note gives the up-to-date source of the deflator for all countries included in PovcalNet as of the current update.

4. 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 February 2020, supplemented with historical data from the Madison Project Database. A full overview of national accounts data used in the update, including special series, is available in Appendix 2.

5. 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). For example, the revision of the Chile series introduces a break in 2006. The introduction of LIS data for the countries that use EU-SILC in later years, also introduces a new break for these countries. As described above, the comparability database accounts for the break between LIS and EU-SILC. More generally, for all LIS surveys, we have added a break whenever the name of the underlying survey changes, given limited information on comparability in the LIS documentation.

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.

6. Methods for estimating the error from advancing the line-up year

As summarized in the Introduction, we use two methods to assess the added imprecision to the global poverty estimates from advancing the line-up year by one year. The first method tries to estimate what the impact of advancing the line-up year by one year would have been if we had done so in the past. Suppose we are in March 2010 and decide whether to use 2007 or 2008 as the line-up year. We can estimate what our estimate of global poverty for 2008 would have been in 2010 by neglecting all data after 2008, which arguably would not have been processed and be ready for a March 2010 update. Next, we can compare that to our current 2008 global estimate of poverty. This will reveal how far off our initial estimate was from the final estimate (which for simplicity we refer to as the "true" estimate here). We can do the same for 2007 and then derive how much the error would have increased if we had reported 2008 poverty numbers rather than 2007 in 2010. We can repeat this exercise for other years. In some years, advancing the line-up year by one year would have increased the error in the global poverty rate by 0.6 percentage points, equivalent to about 3.5% of the actual poverty estimate. Other years it would hardly have mattered. The increased error mostly comes from South Asia and Sub-Saharan Africa, where advancing the line-up year by one year would have increased the error in the regional poverty rates by up to 2 percentage points.

The second method gets around the problem that we do not know the difference between the initially reported lined-up estimate and the true estimate by trying to predict these differences for each country. We do so in the following way. For all past surveys in PovcalNet, we take the observed poverty rate and calculate the poverty rate using PovcalNet's extrapolation method supposing the survey had not been present. The error is the absolute difference between the two. We can use this to get a sense of what has determined the country-level line-up errors in the past.

We use a random forest model to predict the errors as a function of the extrapolation time, the poverty rate, mean consumption, the Gini, GDP per capita, whether income/consumption is used, the region, the growth rate between the two surveys, and whether the two surveys are comparable. The poverty rate of the country as well as the extrapolation time between the two surveys matter the most for the error in lined-up poverty rates. We can use the model to predict the error in the lined-up poverty rate for each country for each line-up year under consideration. For example, the model predicts that the absolute difference between the true poverty rate and the extrapolated poverty rate for Namibia is 2.0 percentage points if 2017 is the line-up year and 2.4 percentage points if 2018 is the line-up year. By taking the population weighted average by region and globally we can estimate the impact of increasing the line-up year from 2017 to 2018. Doing so suggests that changing the line-up year from 2017 to 2018 increases the error in the poverty headcount ratio (at the international poverty line) by about 0.15 percentage points globally, and by about 0.3 percentage points in South Asia and Sub-Saharan Africa.

7. Economy-years added/removed

7.1. Economy-years removed

Lesotho 2010

The data collection of the 2010-11 wave of the CMS/HBS faced several challenges concerning missing values in core consumption items. As an interim solution, a survey-to-survey imputation exercise was carried out to impute household expenditures and estimate poverty in 2010, utilizing the 2002-03 wave of the HBS. For several years, the imputed consumption aggregate has been used in PovcalNet. Since full consumption data were collected in 2017/18 (CMS/HBS 2017/18), the 2010 imputed data have been removed.

7.2. Economy-years added

The table below gives the list of new economy-years added to the PovcalNet database. Two new economies have also been added for the first time: Taiwan, China and United Arab Emirates.

Economy	Years	Survey Name
Albania	2014-2017	HBS
Angola	2018	IDREA
Argentina	2018	EPHC
Armenia	2018	ILCS
Austria	1987, 1994, 1995, 1997, 2000	LIS
Austria	2016, 2017	EU-SILC
Belarus	2018	HHS
Belgium	1985, 1988, 1992, 1995, 1997, 2000	LIS
Belgium	2016, 2017	EU-SILC
Bolivia	2018	EH
Brazil	2018	PNADC
Bulgaria	2016, 2017	EU-SILC
Canada	1971,1975	LIS
Cape Verde	2015	IDRF
Colombia	2018	GEIH
Costa Rica	2018	ENAHO
Croatia	2016, 2017	EU-SILC
Cyprus	2016, 2017	EU-SILC
Czech Republic	1992, 2002	LIS
Czech Republic	2016, 2017	EU-SILC
Denmark	1987, 1992, 1995, 2000	LIS
Denmark	2016, 2017	EU-SILC
Dominican Republic	2017, 2018	ECNFT
Ecuador	2018	ENEMDU
Egypt	2017	HIECS
El Salvador	2018	EHPM

Estonia	2016, 2017	EU-SILC
Eswatini	2016	HIES
Finland	1987, 1991, 1995, 2000	LIS
Finland	2016, 2017	EU-SILC
France	1978, 1984, 1989, 1994, 2000	LIS
France	2016, 2017	EU-SILC
Georgia	2018	HIS
Germany	1973, 1978, 1981, 1983,1984, 1987, 1989, 2016	LIS
Greece	1995, 2000	LIS
Greece	2016, 2017	EU-SILC
Honduras	2018	EPHPM
Hungary	1991, 1994	LIS
Hungary	2016, 2017	EU-SILC
Iran, Islamic Republic of	2017	HEIS
Ireland	1987, 1994, 1995, 1996, 2000	LIS
Ireland	2016	EU-SILC
Iceland	2015	EU-SILC
Italy	1986, 1987, 1989, 1991, 1993, 1995, 1998, 2000	LIS
Italy	2016, 2017	EU-SILC
Japan	2010, 2013	LIS
Kyrgyz Republic	2018	KIHS
Lesotho	2017	CMSHBS
Lithuania	2016, 2017	EU-SILC
Luxembourg	1985, 1991, 1994, 1997, 2000	LIS
Luxembourg	2016, 2017	EU-SILC
Latvia	2016, 2017	EU-SILC
Maldives	2016	HIES
Malta	2016, 2017	EU-SILC
Mauritius	2017	HBS
Mexico	2018	ENIGHNS
Moldova	2018	HBS
Mongolia	2018	HSES
Montenegro	2012-2015	SILC-C
Myanmar	2017	MLCS
Netherlands	1983, 1987, 1990, 1993, 1999	LIS
Netherlands	2016, 2017	EU-SILC
North Macedonia	2016, 2017	SILC-C
Norway	1979, 1986, 1991, 1995, 2000	LIS
Norway	2016, 2017	EU-SILC
Panama	2018	EH
Paraguay	2018	EPH
Peru	2018	ENAHO
Poland	1986, 1992, 1995	LIS
Poland	2017	EU-SILC
Portugal	2016, 2017	EU-SILC
Romania	1995, 1997	LIS
Romania	2017	EU-SILC
Russian Federation	2016, 2017, 2018	HBS

São Tomé and Principe	2017	IOF
Serbia	2016, 2017	SILC-C
Serbia	2018	HBS
Sierra Leone	2018	SLIHS
Slovakia	1992	LIS
Slovakia	2016	EU-SILC
Slovenia	1997, 1999	LIS
Slovenia	2016, 2017	EU-SILC
Somalia	2017	SHSF
Spain	1980, 1985, 1990, 1995, 2000	LIS
Spain	2016, 2017	EU-SILC
Sudan	2014	NHBS
Sweden	1967, 1975, 1981, 1987, 1992, 1995, 2000	LIS
Sweden	2016, 2017	EU-SILC
Switzerland	1982, 1992, 2000, 2002	LIS
Switzerland	2016, 2017	EU-SILC
Taiwan, China	1981, 1986, 1991, 1995, 1997, 2000, 2005, 2007, 2010, 2013, 2016	LIS
Tanzania	2017	HBS
Thailand	2018	SES
Turkey	2017, 2018	HICES
Ukraine	2017, 2018	HLCS
United Arab Emirates	2014	HIES
United Kingdom	1969, 1974, 1979, 1986, 1991, 1994, 1995, 1999	LIS
United Kingdom	2016	EU-SILC
United States	1974	LIS
Uruguay	2018	ECH
Vietnam	2018	VHLSS
Zimbabwe	2017	PICES

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9. 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-201911 denotes the monthly IFS database version November 2019. For economy-specific deflators, the description is given in the text or further details are available upon rfinterequest.

Table A1.1. Source of temporal deflator used in PovcalNet

Code	Economy Name	Survey	Year(s)	CPI period	Source
		HBS	2000	W	IFS-M-201911
		IBEP-MICS	2008	W	IFS-M-201911
AGO	Angola	IDREA	2018	W	IFS-M-201911
		EWS	1996	Y	IFS-M-201911
		LSMS	2002-2012	Y	IFS-M-201911
		HBS	2014-2017	Y	IFS-M-201911
ALB	Albania	SILC-C	2017	(prev. year)Y	IFS-M-201911
ARE	United Arab Emirates	HIES	2014	W	IFS-M-201911
		EPH	1980-1987	Y	CEDLAS May 25 18
			1991-2002	M9	NSO
		EPHC-S2	2003-2018	M7-M12	NSO
ARG	Argentina - urban		2007-2014	M7-M12	Private estimates
ARM	Armenia	ILCS	ALL	Y	IFS-M-201911
		HIS-LIS	1981	Y	IFS-A-201911
		IDS-LIS	1985	Y	IFS-A-201911
		SIH-LIS	1989-2014	Y	IFS-A-201911
AUS	Australia	SIH-HES-LIS	2004-2010	Y	IFS-A-201911
		MC-LIS	1987-1995	Y	IFS-M-201911
		ECHP-LIS	1994-2000	Y	IFS-M-201911
AUT	Austria	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		ALZ	1995	Y	IFS-M-201911
		HBS	2001-2005	Y	IFS-M-201911
AZE	Azerbaijan	HSMTSA	2008	Y	IFS-M-201911
		EDCM	1992	Y	IFS-M-201911
		EP	1998	W	IFS-M-201911
		QUIBB	2006	Y	IFS-M-201911
BDI	Burundi	ECVMB	2013	W	IFS-M-201911
		SEP-LIS	1985-1997	Y	IFS-M-201911
		PSBH-ECHP-LIS	1995-2000	Y	IFS-M-201911
BEL	Belgium	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911

		QUIBB	2003	Y	IFS-M-201911
		EMICOV	2011	W	IFS-M-201911
BEN	Benin		2015	Y	IFS-M-201911
		EP-I	1994	W	IFS-M-201911
		EP-II	1998	Y	IFS-M-201911
		ECVM	2003-2009	Y	IFS-M-201911
BFA	Burkina Faso	EMC	2014	Y	IFS-M-201911
		HHES	1983-1985	W	WEO-A-201910
			1988-1991	W	IFS-A-201911
			1995	W	Survey
BGD	Bangladesh	HIES	2000-2016	Y	Survey
		HBS	1989	Y	IFS-A-201911
			1992-1994	Y	IFS-M-201911
		IHS	1995-2001	Y	IFS-M-201911
		MTHS	2003-2007	Y	IFS-M-201911
BGR	Bulgaria	EU-SILC	2007-2018	(prev. year)Y	IFS-M-201911
		LSMS	2001-2004	Y	WEO-A-201910
BIH	Bosnia and Herzegovina	HBS	2007-2015	Y	IFS-M-201911
		FBS	1988	Y	Previous WDI/IFS
			1993-1995	Y	IFS-M-201911
BLR	Belarus	HHS	1998-2018	Y	IFS-M-201911
		LFS	1993-1999	Y	WEO-A-201910
		HBS	1995	Y	WEO-A-201910
BLZ	Belize	SLC	1996	Y	WEO-A-201910
	Bolivia	EPF	1990	W	IFS-M-201911
	Bolivia - urban	EIH	1992	M11	IFS-M-201911
		ENE	1997	M11	IFS-M-201911
		ECH	1999	M10	IFS-M-201911
			2000	M11	IFS-M-201911
		EH	2001-2005	M11	IFS-M-201911
		ECH	2004	M10	IFS-M-201911
BOL	Bolivia	EH	2006-2016	M10	IFS-M-201911

			2017-2018	M11	IFS-M-201911
		PNAD	1981-2015	M9	IFS-M-201911
BRA	Brazil	PNADC-E1	2012-2018	Y	IFS-M-201911
BTN	Bhutan	BLSS	ALL	Y	Previous WDI/IFS
		HIES	1985-2002	W	IFS-M-201911
		CWIS	2009	W	IFS-M-201911
BWA	Botswana	BMTHS	2015	W	IFS-M-201911
		EPCM	1992	W	IFS-M-201911
CAF	Central African Republic	ECASEB	2003-2008	Y	IFS-M-201911
		SCF-LIS	1971-1997	Y	IFS-M-201911
		SLID-LIS	1998-2010	Y	IFS-M-201911
CAN	Canada	CIS-LIS	2013	Y	IFS-M-201911
		SIWS-LIS	1982	Y	IFS-M-201911
		NPS-LIS	1992	Y	IFS-M-201911
		IES-LIS	2000-2002	Y	IFS-M-201911
CHE	Switzerland	EU-SILC	2007-2018	(prev. year)Y	IFS-M-201911
		CASEN	1987	Y	IFS-M-201911
CHL	Chile		1990-2017	M11	IFS-M-201911
	China - rural	CRHS-CUHS	1981-2011	Y	Special
	China - urban		1981-2011	Y	Special
	China - rural	CNIHS	2012-2016	Y	Special
CHN	China - urban		2012-2016	Y	Special
		EPAM	1985-1988	W	IFS-M-201911
		EP	1992	W	IFS-M-201911
CIV	Côte d'Ivoire	ENV	1995-2015	Y	IFS-M-201911
		ECAM-I	1996	Y	IFS-M-201911
		ECAM-II	2001	Y	IFS-M-201911
		ECAM-III	2007	Y	IFS-M-201911
CMR	Cameroon	ECAM-IV	2014	Y	IFS-M-201911
COD	Congo, Dem. Rep.	E123	ALL	W	IFS-M-201911
COG	Congo, Rep.	ECOM	ALL	Y	IFS-M-201911

		ENH	1980-1988	Y	IFS-M-201911
	Colombia - urban		1989-1991	M11	IFS-M-201911
			1992-2000	M11	IFS-M-201911
		ECH	2001-2005	M11	IFS-M-201911
COL	Colombia	GEIH	2008-2018	M11	IFS-M-201911
		EIM	2004	Y	IFS-M-201911
COM	Comoros	EESIC	2013	Y	IFS-M-201911
		IDRF	2001	W	IFS-M-201911
		QUIBB	2007	W	IFS-M-201911
CPV	Cabo Verde	IDRF	2015	Y	IFS-M-201911
		ENH	1981-1986	Y	IFS-M-201911
		EHPM	1989	Y	IFS-M-201911
			1990-2009	M7	IFS-M-201911
CRI	Costa Rica	ENAHO	2010-2018	M7	IFS-M-201911
CYP	Cyprus	EU-SILC	ALL	(prev. year)Y	IFS-M-201911
		CM	1988	Y	Previous WDI/IFS
		MC-LIS	1992-2002	Y	IFS-M-201911
		CM	1993	Y	IFS-M-201911
CZE	Czech Republic	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
		LIS	1973-1983	Y	IFS-M-201911
			1981	Y	IFS-M-201911
DEU	Germany		1984-2016	Y	IFS-M-201911
		EDAM	2002-2013	Y	IFS-M-201911
DJI	Djibouti		2017	M5	IFS-M-201911
		LM-LIS	1987-2000	Y	IFS-M-201911
DNK	Denmark	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		ENGSLF	1986-1989	Y	IFS-M-201911
		ICS	1992	M6	IFS-M-201911
		ENFT	1996	M2	IFS-M-201911
DOM	Dominican Republic		1997	M4	IFS-M-201911

			2000-2016	M9	IFS-M-201911
		ECNFT-Q03	2017-2018	Y	IFS-M-201911
		EDCM	1988	Y	IFS-M-201911
		ENMNV	1995	Y	IFS-M-201911
DZA	Algeria	ENCNVM	2011	W	IFS-M-201911
		EPED	1987	Y	IFS-M-201911
	Ecuador	ECV	1994	M6-M10	IFS-M-201911
	Ecuador - urban	EPED	1995	M11	IFS-M-201911
			1998	M6	IFS-M-201911
		ECV	1999	(prev. year)M10-M9	IFS-M-201911
		EPED	2000	M11	IFS-M-201911
ECU	Ecuador	ENEMDU	2003-2018	M11	IFS-M-201911
		HIECS	1990-2012	W	IFS-M-201911
			2015	Y	IFS-M-201911
EGY	Egypt, Arab Rep.		2017	W	IFS-M-201911
		HBS-LIS	1980-1990	Y	IFS-M-201911
		ECHP-LIS	1995-2000	Y	IFS-M-201911
ESP	Spain	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		HIES	1988	Y	Previous WDI/IFS
			1993-1998	Y	IFS-M-201911
		HBS	2000-2004	Y	IFS-M-201911
EST	Estonia	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
	Ethiopia - rural	HICES	1981	W	IFS-M-201911
			1995-2010	W	IFS-M-201911
ETH	Ethiopia		2015	M12	IFS-M-201911
		IDS-LIS	1987-2000	Y	IFS-M-201911
FIN	Finland	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
FJI	Fiji	HIES	ALL	W	IFS-M-201911
		HBS-LIS	1978-2000	Y	IFS-M-201911
FRA	France	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911

	Micronesia, Fed. Sts. - urban	CPH	2000	Y	IFS-A-201911
FSM	Micronesia, Fed. Sts.	HIES	2005-2013	Y	IFS-A-201911
GAB	Gabon	EGEP	ALL	Y	IFS-M-201911
GBR	United Kingdom	FES-LIS	1969-1995	Y	IFS-M-201911
		FRS-LIS	1994-1999	Y	IFS-M-201911
		EU-SILC	2005-2017	(prev. year)Y	IFS-M-201911
GEO	Georgia	SGH	1996-1997	Y	IFS-M-201811
		HIS	1997-2004	Y	IFS-M-201811
			2005-2018	Y	IFS-M-201911
GHA	Ghana	GLSS-I	1987	W	IFS-M-201911
		GLSS-II	1988	W	IFS-M-201911
		GLSS-III	1991	W	IFS-M-201911
		GLSS-IV	1998	W	IFS-M-201911
		GLSS-V	2005	W	Survey
		GLSS-VI	2012	W	Survey
		GLSS-VII	2016	W	Survey
GIN	Guinea	ESIP	1991	Y	WEO-A-201910
		EIBC	1994	W	WEO-A-201910
		EIBEP	2002	W	WEO-A-201910
		ELEP	2007-2012	Y	IFS-M-201911
GMB	Gambia, The	HPS	1998	Y	IFS-M-201911
		HIS	2003	W	IFS-M-201911
		IHS	2010-2015	W	IFS-M-201911
GNB	Guinea-Bissau	ILJF	1991	Y	IFS-M-201911
		ICOF	1993	Y	IFS-M-201911
		ILAP-I	2002	Y	IFS-M-201911
		ILAP-II	2010	Y	IFS-M-201911
GRC	Greece	ECHP-LIS	1995-2000	Y	IFS-M-201911
		EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
GTM	Guatemala	ENSD	1986	W	IFS-M-201911
			1989	Y	IFS-M-201911
		ENIGF	1998	M8	IFS-M-201911
		ENCOVI	2000	M6-M11	IFS-M-201911

			2006-2014	M7	IFS-M-201911
		GLSMS	1992	W	WEO-A-201910
GUY	Guyana		1998	Y	IFS-M-201911
	Honduras - urban	ECSFT	1986	Y	IFS-M-201911
		EPHPM	1989	Y	IFS-M-201911
			1990-1993	M5	IFS-M-201911
			1994	M9	IFS-M-201911
HND	Honduras		1995-2018	M5	IFS-M-201911
		HBS	1988-2010	Y	IFS-M-201911
HRV	Croatia	EU-SILC	2010-2018	(prev. year)Y	IFS-M-201911
		ECVH	2001	M5	IFS-M-201911
HTI	Haiti	ECVMAS	2012	M10	IFS-M-201911
		HBS	1987-2007	Y	IFS-M-201911
		HHP-LIS	1991-1994	Y	IFS-M-201911
		THMS-LIS	1999	Y	IFS-M-201911
HUN	Hungary	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
		SUSENAS	1984-1999	Y	IFS-M-201911
			2000-2007	M2	IFS-M-201911
IDN	Indonesia		2008-2018	M3	IFS-M-201911
	India - rural	NSS	1983	Y	Special
	India - urban		1983	Y	Special
	India - rural	NSS-SCH1	1987-2011	W	Special
IND	India - urban		1987-2011	W	Special
		SIDPUSS-LIS	1987	Y	IFS-M-201911
		LIS-ECHP-LIS	1994-2000	Y	IFS-M-201911
IRL	Ireland	EU-SILC	2004-2017	(prev. year)Y	IFS-M-201911
		SECH	1986-1998	Y	CBI
IRN	Iran, Islamic Rep.	HEIS	2005-2017	Y	CBI
		IHSES	2006	M11-(next year)M12	COSIT
IRQ	Iraq		2012	Y	COSIT

ISL	Iceland	EU-SILC	ALL	(prev. year)Y	IFS-M-201911
ISR	Israel	HES-LIS	ALL	Y	IFS-M-201911
		SHIW-LIS	1986-2000	Y	IFS-M-201911
ITA	Italy	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		SLC	1988	M9	IFS-M-201911
			1990-1993	M11-(next year)M3	IFS-M-201911
			1996	M5-M8	IFS-M-201911
			1999	M6-M8	IFS-M-201911
JAM	Jamaica		2002-2004	M6	IFS-M-201911
		HEIS	1986	W	IFS-M-201911
			1992-1997	Y	IFS-M-201911
JOR	Jordan		2002-2010	W	IFS-M-201911
JPN	Japan	JHPS-LIS	ALL	Y	IFS-M-201911
		HBS	1988	Y	Previous WDI/IFS
			1993-2017	Y	IFS-M-201911
KAZ	Kazakhstan	LSMS	1996	Y	IFS-M-201911
		WMS-I	1992	Y	NSO
		WMS-II	1994	Y	NSO
		WMS-III	1997	Y	NSO
KEN	Kenya	IHBS	2005-2015	W	NSO
		PMS	1988	Y	Previous WDI/IFS
		HBS	1993	Y	Previous WDI/IFS
			1998-2003	Y	IFS-M-201911
KGZ	Kyrgyz Republic	KIHS	2004-2018	Y	IFS-M-201911
KHM	Cambodia	CSES	ALL	Y	IFS-M-201911
KIR	Kiribati	HIES	2006	Y	IFS-M-201911
KOR	Korea, Rep.	HIES-FHES-LIS	ALL	Y	IFS-M-201911
		LECS	1997	W	IFS-M-201911
LAO	Lao PDR		2002-2012	W	Survey
LBN	Lebanon	HBS	2011	(next year)M5	IFS-M-201911
		CWIQ	2007	Y	IFS-M-201911
LBR	Liberia	HIES	2014-2016	Y	IFS-M-201911
		LSMS	1995	Y	IFS-M-201911
LCA	St. Lucia	SLC-HBS	2016	M1	IFS-M-201911

		LFSS	1985	Y	IFS-M-201911
		HIES	1990	W	IFS-M-201911
		SES	1995	W	IFS-M-201911
		HIES	2002	Y	IFS-M-201911
			2006-2012	W	IFS-M-201911
LKA	Sri Lanka		2016	Y	IFS-M-201911
		HBS	1986	W	WEO-A-201910
		NHECS	1994	W	WEO-A-201910
		HBS	2002	W	IFS-M-201911
		CMSHBS	2010	Y	IFS-M-201911
LSO	Lesotho		2017	M8	IFS-M-201911
		HBS	1988	Y	Previous WDI/IFS
			1993-2008	Y	IFS-M-201911
LTU	Lithuania	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
		PSELL-LIS	1985-1991	Y	IFS-M-201911
		PSELL-ECHP-LIS	1994-2000	Y	IFS-M-201911
LUX	Luxembourg	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		HBS	1988	Y	Previous WDI/IFS
			1993-2009	Y	IFS-M-201911
LVA	Latvia	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
		ECDM	1984	W	IFS-M-201911
		ENCV	1990	W	IFS-M-201911
		ENNVM	1998-2006	W	IFS-M-201911
MAR	Morocco	ENCDM	2000-2013	W	IFS-M-201911
		HBS	1988-1992	Y	Previous WDI/IFS
MDA	Moldova		1997-2018	Y	IFS-M-201911
		EB	1980	Y	IFS-M-201911
		EPM	1993	W	IFS-M-201911
			1997-2010	Y	IFS-M-201911
MDG	Madagascar	ENSOMD	2012	Y	IFS-M-201911
		HIES	2002-2009	W	IFS-M-201911
MDV	Maldives		2016	Y	IFS-M-201911

		ENIGH	1984-2014	M8	IFS-M-201911
MEX	Mexico	ENIGHNS	2016-2018	M8	IFS-M-201911
		HBS	1998-2008	Y	IFS-M-201911
MKD	North Macedonia	SILC-C	2010-2018	(prev. year)Y	IFS-M-201911
		EMCES	1994	Y	IFS-A-201911
		EMEP	2001	W	IFS-M-201911
		ELIM	2006	Y	IFS-M-201911
MLI	Mali		2009	W	IFS-M-201911
MLT	Malta	EU-SILC	ALL	(prev. year)Y	IFS-M-201911
		MPLCS	2015	M1	IFS-M-201911
MMR	Myanmar	MLCS	2017	Q1	IFS-M-201911
		HBS	2005-2014	Y	IFS-M-201911
MNE	Montenegro	SILC-C	2013-2016	(prev. year)Y	IFS-M-201911
		LSMS	1995-1998	Y	IFS-M-201911
		LFS	2002	Y	IFS-M-201911
		LSS	2007	W	IFS-M-201911
MNG	Mongolia	HSES	2010-2018	Y	IFS-M-201911
		NHS	1996	W	WEO-A-201910
		IAF	2002	W	WEO-A-201910
MOZ	Mozambique	IOF	2008-2014	W	WEO-A-201910
		EPCV	1987	Y	IFS-M-201911
		EP	1993	Y	IFS-M-201911
		EPCV	1995	W	IFS-M-201911
MRT	Mauritania		2000-2014	Y	IFS-M-201911
		HBS	2006	W	IFS-M-201911
MUS	Mauritius		2012-2017	Y	IFS-M-201911
		IHS-I	1997	W	IFS-M-201911
		IHS-II	2004	W	Survey
		IHS-III	2010	W	Survey
MWI	Malawi	IHS-IV	2016	M04	Survey
		HIS	1984-2007	Y	IFS-M-201911
			2009	W	IFS-M-201911
MYS	Malaysia		2012-2014	Y	IFS-M-201911

			2016	W	IFS-M-201911
		NHIES	1993	W	WEO-A-201910
NAM	Namibia		2003-2015	W	IFS-M-201911
		ENBCM	1992-2007	W	IFS-M-201911
		EPCES	1994	W	IFS-M-201911
		ENCVM	2005	Y	IFS-M-201911
NER	Niger	ECVMA	2011-2014	Y	IFS-M-201911
		NCS	1985	W	IFS-M-201911
			1992-1996	Y	IFS-M-201911
NGA	Nigeria	LSS	2003-2018	W	IFS-M-201911
		EMNV	1993	M2	NSO
			1998	M6	NSO
			2001	M6	IFS-M-201911
			2005-2009	M8	IFS-M-201911
NIC	Nicaragua		2014	M8-M10	IFS-M-201911
		AVO-LIS	1983-1990	Y	IFS-M-201911
		SEP-LIS	1993-1999	Y	IFS-M-201911
NLD	Netherlands	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
		IDS-LIS	1979-2000	Y	IFS-M-201911
NOR	Norway	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		MHBS	1984	W	IFS-M-201911
		LSS-I	1995	W	IFS-M-201911
		LSS-II	2003	W	IFS-M-201911
NPL	Nepal	LSS-III	2010	W	IFS-M-201911
		HIES	1987	Y	IFS-M-201911
			1990-1998	W	IFS-M-201911
		IHS2	1996	W	IFS-M-201911
		PIHS	2001	W	IFS-M-201911
PAK	Pakistan	PSLM	2004-2015	W	IFS-M-201911
		EMO	1979-1989	Y	IFS-M-201911
			1991	M7	IFS-M-201911
PAN	Panama	EH	1995-2018	M7	IFS-M-201911

		ENNIV	1985	W	IFS-M-201911
			1994	Y	IFS-M-201911
		ENAHO	1997-2002	Q4	IFS-M-201911
			2003	M5-M12	IFS-M-201911
PER	Peru		2004-2018	Y	IFS-M-201911
PHL	Philippines	FIES	ALL	Y	IFS-M-201911
		HIES	1996	Y	IFS-A-201911
PNG	Papua New Guinea		2009	W	IFS-A-201911
		HBS	1985-1987	Y	IFS-A-201911
		HBS-LIS	1986	Y	IFS-A-201911
		HBS	1989-2016	Y	IFS-M-201911
		HBS-LIS	1992-1999	Y	IFS-M-201911
POL	Poland	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
PRT	Portugal	EU-SILC	ALL	(prev. year)Y	IFS-M-201911
		EH	1990	M7	IFS-M-201911
			1995	M8-M11	IFS-M-201911
		EIH	1997	(next year)M2	IFS-M-201911
		EPH	1999	M9	IFS-M-201911
		EIH	2001	M3	IFS-M-201911
		EPH	2002	M11	IFS-M-201911
			2003	M9	IFS-M-201911
			2004	M10	IFS-M-201911
			2005	M11	IFS-M-201911
			2006	M12	IFS-M-201911
			2007-2008	M10	IFS-M-201911
			2009	M11	IFS-M-201911
PRY	Paraguay		2010-2018	M10	IFS-M-201911
		PECS	2004-2011	Y	IFS-M-201911
PSE	West Bank and Gaza		2016	W	IFS-M-201911
		HBS	1989	Y	Milanovic (1998)
		MC	1992	Y	IFS-M-201911
		HIS	1994	Y	IFS-M-201911
		IHS-LIS	1995-1997	Y	IFS-M-201911
ROU	Romania	IHS	1998-2000	Y	IFS-M-201911

		HBS	1999-2016	Y	IFS-M-201911
		EU-SILC	2007-2018	(prev. year)Y	IFS-M-201911
		RLMS	1988	Y	Previous WDI/IFS
		HBS	1993-2018	Y	IFS-M-201911
RUS	Russian Federation	RLMS	2001	Y	IFS-M-201911
		ENBCM	1984	W	IFS-M-201911
		EICV-I	2000	W	IFS-M-201911
		EICV-II	2005	W	IFS-M-201911
		EICV-III	2010	(next year)M1	IFS-M-201911
		EICV-IV	2013	(next year)M1	IFS-M-201911
RWA	Rwanda	EICV-V	2016	(next year)M1	IFS-M-201911
		NBHS	2009	Y	IFS-M-201911
SDN	Sudan		2014	M11	IFS-M-201911
		EP	1991	W	IFS-M-201911
		ESAM	1994	W	IFS-M-201911
		ESAM-II	2001	Y	IFS-M-201911
		ESPS-I	2005	W	IFS-M-201911
SEN	Senegal	ESPS-II	2011	W	IFS-M-201911
SLB	Solomon Islands	HIES	ALL	Y	IFS-M-201911
		HEEAS	1989	W	WEO-A-201910
		SLIHS	2003	W	WEO-A-201910
SLE	Sierra Leone		2011-2018	Y	IFS-M-201911
		EHPM	1989	Y	IFS-M-201911
			1991	M10-(next year)M4	IFS-M-201911
			1995-1999	Y	IFS-M-201911
			2000-2007	M12	IFS-M-201911
SLV	El Salvador		2008-2018	M11	IFS-M-201911
		LSMS	2002	Y	IFS-M-201911
		HBS	2003-2018	Y	IFS-M-201911
SRB	Serbia	EU-SILC	2013-2018	(prev. year)Y	IFS-M-201911
SSD	South Sudan	NBHS	2009	Y	IFS-M-201911
		IOF	2000	W	IFS-M-201911
STP	São Tomé and Principe		2010-2017	Y	IFS-M-201911
SUR	Suriname	EHS	1999	Y	IFS-M-201911

		MC-LIS	1992-1996	Y	IFS-M-201911
		HBS	2004-2009	Y	IFS-M-201911
SVK	Slovak Republic	EU-SILC	2005-2017	(prev. year)Y	IFS-M-201911
		IES	1987-1993	Y	IFS-M-201911
		HBS-LIS	1997-1999	Y	IFS-M-201911
		HBS	1998-2003	Y	IFS-M-201911
SVN	Slovenia	EU-SILC	2005-2018	(prev. year)Y	IFS-M-201911
		LLS-RD-LIS	1967	Y	IFS-M-201911
		HIS-LIS	1975-2000	Y	IFS-M-201911
SWE	Sweden	EU-SILC	2004-2018	(prev. year)Y	IFS-M-201911
		HIES	1994-2000	W	IFS-M-201911
			2001	Y	IFS-M-201911
SWZ	Eswatini		2009-2016	W	IFS-M-201911
		HES	1999	W	IFS-M-201911
		HBS	2006	W	IFS-M-201911
SYC	Seychelles		2013	Y	IFS-M-201911
SYR	Syrian Arab Republic	HBS	2004	Y	IFS-M-201911
		ECOSIT-II	2003	Y	IFS-M-201911
TCD	Chad	ECOSIT-III	2011	Y	IFS-M-201911
TGO	Togo	QUIBB	ALL	Y	IFS-M-201911
THA	Thailand	SES	ALL	Y	IFS-M-201911
		TLSS	1999	Y	WEO-A-201910
			2003-2007	Y	Survey
		HBS	2004	Y	Survey
		TLSS	2009	Y	IFS-M-201911
TJK	Tajikistan	HSITAFIEN	2015	Y	IFS-M-201911
TKM	Turkmenistan	LSMS	1998	Y	WEO-A-201910
		TLSS	2001	Y	WEO-A-201910
TLS	Timor-Leste	TLSLS	2007-2014	Y	IFS-M-201911
TON	Tonga	HIES	ALL	Y	IFS-M-201911
		SLC	1988	Y	IFS-M-201911
TTO	Trinidad and Tobago	PHC	1992	Y	IFS-M-201911
TUN	Tunisia	HBCS	1985	Y	IFS-A-201911

			1990	Y	IFS-M-201911
		LSS	1995-2000	Y	IFS-M-201911
		NSHBCSL	2005-2015	W	IFS-M-201911
TUR	Turkey	HICES	ALL	Y	IFS-M-201911
TUV	Tuvalu	HIES	2010	Y	WEO-A-201910
TWN	Taiwan, China	FIDES-LIS	ALL	Y	WEO-A-201910
		HBS	1991	W	IFS-A-201911
			2000	W	IFS-M-201911
			2007	Y	IFS-M-201911
TZA	Tanzania		2011-2018	W	IFS-M-201911
		HBS	1989	Y	WEO-A-201910
		NIHS	1992	W	WEO-A-201910
			1996-1999	W	IFS-M-201911
UGA	Uganda	UNHS	2002-2016	W	IFS-M-201911
		HS	1988	Y	Previous WDI/IFS
			1992-1993	Y	IFS-M-201911
		HIES	1995-1996	Y	IFS-M-201911
		HBS	1999	Y	IFS-M-201911
UKR	Ukraine	HLCS	2002-2018	Y	IFS-M-201911
	Uruguay	ENH	1981-1989	Y	IFS-M-201911
	Uruguay - urban	ECH	1992-2005	(prev. year)M12	IFS-M-201911
URY	Uruguay		2006-2018	(prev. year)M12	IFS-M-201911
		CPS-LIS	1974-2000	Y	IFS-M-201911
USA	United States	CPS-ASEC-LIS	2004-2016	Y	IFS-M-201911
UZB	Uzbekistan	HBS	ALL	Y	WEO-A-201910
		EHM	1981-1989	Y	NSO
VEN	Venezuela, RB		1992-2006	M12	NSO
		VLSS	1992	W	WEO-A-201910
			1998	W	IFS-M-201911
VNM	Vietnam	VHLSS	2002-2018	M1	IFS-M-201911
VUT	Vanuatu	HIES	2010	Y	IFS-A-201911

		HIES	2002-2008	Y	IFS-M-201911
WSM	Samoa		2013	W	IFS-M-201911
XKX	Kosovo	HBS	ALL	Y	IFS-M-201911
		HBS	1998	Y	IFS-M-201911
			2005	W	IFS-M-201911
YEM	Yemen, Rep.		2014	Y	IFS-M-201911
		KIDS	1993	Y	IFS-M-201911
		HIES	1996	Y	IFS-M-201911
			2000	W	IFS-M-201911
		IES	2005-2010	(next year)M6	IFS-M-201911
		LCS	2008	W	IFS-M-201911
ZAF	South Africa		2014	(next year)M6	IFS-M-201911
		HBS	1991-1993	Y	IFS-M-201911
		LCMS-I	1996	Y	IFS-M-201911
		LCMS-II	1998	Y	IFS-M-201911
		LCMSIII	2002	W	IFS-M-201911
		LCMS-IV	2004	W	IFS-M-201911
		LCMS-V	2006	W	IFS-M-201911
		LCMS-VI	2010	Y	IFS-M-201911
ZMB	Zambia	LCMS-VII	2015	Y	IFS-M-201911
		ICES	2011	Y	IFS-M-201911
ZWE	Zimbabwe	PICES	2017	Y	IFS-M-201911

10. 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 February 2020 version of the World Development Indicators. For historical data this is supplemented with the Madison Project Database (MDP), 2018 version, for years prior to 2000.

In addition, the following special economy series are used:

- **Angola:** GDP data for the year 2019 is used from WEO October 2019, since they are not available in WDI.
- **Djibouti:** GDP data from May 2018 WDI is used from 1990 to 2015. From 1987 to 1989, September 2006 WDI is used. From 2016 to 2018, the IMF's World Economic Outlook (WEO) October 2019 is used.
- **India 2011-2015:** 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).
- **Iran:** GDP from February 2020 WDI is used until 2017. For 2018, WEO October 2019 is used.
- **Liberia:** GDP from October 2019 WDI is used from 2001 to 2018. For the earlier years, November 2018 WDI is used.
- **South Sudan:** GDP from December 2017 WDI is used until 2015. From 2016 onwards, WEO October 2019 is used.
- **Syrian Arab Republic**: The GDP series for the Syrian Arab Republic has been revised and updated to 2018. The availability of growth estimates in a conflict setting such as Syria is scarce, so we are forced to combine several sources: WDI June 2016 is used up to 2007. It is then linked with growth rates (in real per capita GDP) based on the WEO October 2019 (2008-2010), Gobat and Kostial (2016) (2011-2015) and Devadas et al. (2019) (2016-2018).
- **Taiwan, China**: GDP from WEO October 2019 is used.

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/country code

Cov – Coverage

- N – National
- U – Urban
- R – Rural

Sources (See beginning of Appendix for details)

- M – Madison Project Dataset
- W – World Development Indicators, February 2020
- S – Special Country Series

Table A2.1. Gross Domestic Product (GDP) per capita

GDP

Code	Coverage	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ALB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ARE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ARG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ARM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
AUS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
AUT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
AZE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BDI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BEL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BFA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BGD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BGR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BIH	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BLR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BLZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BOL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BRA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BTN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BWA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CAF	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CAN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHN	R	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHN	U	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CIV	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CMR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CPV	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CRI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CYP	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CZE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DEU	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DJI	N	W	W	W	W	W	W	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
DNK	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DOM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DZA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ECU	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
EGY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ESP	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
EST	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ETH	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
FIN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
FJI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

FRA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
FSM	N						W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GAB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GBR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GEO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GHA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GIN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GMB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GNB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GRC	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GTM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GUY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
HND	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
HRV	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
HTI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
HUN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IDN	R	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IDN	U	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IND	R	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IND	U	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IRL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IRN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	S
IRQ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ISL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ISR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ITA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
JAM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
JOR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
JPN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KAZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KGZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KHM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KIR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KOR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LAO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LBN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LBR	N	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
LCA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LKA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LSO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LTU	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LUX	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LVA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MAR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MDA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MDG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MDV	N															W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MEX	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MKD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MLI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MLT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MMR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MNE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MNG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MOZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

MRT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MUS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MWI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MYS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NAM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NER	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NGA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NIC	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NLD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NOR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NPL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PAK	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PAN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PER	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PHL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PNG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
POL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
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PRY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PSE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ROU	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
RUS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
RWA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SDN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SLB	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SLE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SLV	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SRB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SSD	N																												S	S	S	S	S	S	S	S	S	S	S
STP	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SUR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SVK	N					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SVN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SWE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SWZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SYC	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SYR	N	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
TCD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TGO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
THA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TJK	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TKM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TLS	N																				W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TON	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TTO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TUN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TUR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TUV	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TWN	N	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
TZA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
UGA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
UKR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
URY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
USA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
UZB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

VEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
VNM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
VUT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
WSM	N		W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
XKX	N																				W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
YEM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ZAF	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ZMB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ZWE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

Table A2.2. Household Final Consumption Expenditures (HFCE) per capita

HFCE

Code	Coverage	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AGO	N																						W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
ALB	N																W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W			
ARE	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ARG	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ARM	N														W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
AUS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
AUT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
AZE	N												W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W							
BDI	N																	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BEL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BFA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BGD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BGR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BIH	N																										W	W	W	W	W	W	W	W	W	W	W	W	W
BLR	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BLZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BOL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BRA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BTN	N																				W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
BWA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CAF	N																													W	W	W	W	W	W	W	W	W	W
CAN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHN	R															W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CHN	U															W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CIV	N																												W	W	W	W	W	W	W	W	W	W	W
CMR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COD	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
COM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CPV	N																											W	W	W	W	W	W	W	W	W	W	W	W
CRI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CYP	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
CZE	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DEU	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DJI	N																																						
DNK	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DOM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
DZA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ECU	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
EGY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ESP	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
EST	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ETH	N																																						
FIN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
FJI	N																																						

FRA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
FSM	N																																						
GAB	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GBR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GEO	N																														W	W	W	W	W	W	W	W
GHA	N																												W	W	W	W	W	W	W	W	W	W	W
GIN	N																												W	W	W	W	W	W	W	W	W	W	W
GMB	N																									W	W	W	W	W	W	W	W	W	W	W	W	W	W
GNB	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GRC	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GTM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
GUY	N																														W	W	W	W	W	W	W	W
HND	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
HRV	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
HTI	N																														W	W	W	W	W	W	W	W
HUN	N											W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IDN	R	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IDN	U	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IND	R	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	S	S	S	S	S	S	S
IND	U	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	S	S	S	S	S	S	S
IRL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
IRN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
IRQ	N																														W							
ISL	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ISR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ITA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
JAM	N																												W	W	W	W	W	W	W	W	W	W	W
JOR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
JPN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KAZ	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KGZ	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KHM	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
KIR	N																																						
KOR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LAO	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
LBN	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LBR	N																					S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
LCA	N																														W							
LKA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LSO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LTU	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LUX	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
LVA	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MAR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MDA	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MDG	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MDV	N																																						
MEX	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MKD	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MLI	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MLT	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MMR	N																														W							
MNE	N																												W	W	W	W	W	W	W	W	W	W	W
MNG	N																														W	W	W	W	W	W	W	W	W
MOZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W

MRT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MUS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
MWI	N																						W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
MYS	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NAM	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NER	N																										W	W	W	W	W	W	W	W	W	W	W	W	W
NGA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NIC	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NLD	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NOR	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
NPL	N																					W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PAK	N						W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PAN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
PER	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PHL	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PNG	N																																						
POL	N															W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PRT	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PRY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
PSE	N														W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ROU	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
RUS	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
RWA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SDN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SEN	N																																						
SLB	N																																						
SLE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SLV	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SRB	N															W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SSD	N																												S	S	S	S	S	S	S	S			
STP	N																																						
SUR	N																													W								
SVK	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SVN	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SWE	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SWZ	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
SYC	N																													W								
SYR	N																																						
TCD	N																											W	W	W	W	W	W	W	W	W	W	W	W
TGO	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
THA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TJK	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W					
TKM	N																													W								
TLS	N																				W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
TON	N																													W								
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TUR	N							W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
TUV	N																																						
TWN	N																																						
TZA	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	
UGA	N		W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
UKR	N										W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
URY	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
USA	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
UZB	N																													W	W	W	W	W	W	W	W	W

VEN	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
VNM	N													W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
VUT	N																						W	W	W	W	W	W	W	W	W	W					
WSM	N																																				
XKX	N																								W	W	W	W	W	W	W	W	W	W	W	W	W
YEM	N																																				
ZAF	N	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
ZMB	N																													W							
ZWE	N																												W	W	W	W	W	W	W	W	W
HFCE																																					