

# The World Bank's Classification of Countries by Income

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## Abstract

The World Bank has used an income classification to group countries for analytical purposes for many years. Since the present income classification was first introduced 25 years ago there has been significant change in the global economic landscape. As real incomes have risen, the number of countries in the low income group has fallen to 31, while the number of high income countries has risen to 80. As countries have transitioned to middle income status, more people are living below the World Bank's international extreme poverty line in middle income countries than in low income countries. These changes in the world economy, along with a rapid increase in the user base of World Bank data, suggest that a review of the income classification is

needed. A key consideration is the views of users, and this paper finds opinions to be mixed: some critics argue the thresholds are dated and set too low; others find merit in continuing to have a fixed benchmark to assess progress over time. On balance, there is still value in the current approach, based on gross national income per capita, to classifying countries into different groups. However, the paper proposes adjustments to the methodology that is used to keep the value of the thresholds for each income group constant over time. Several proposals for changing the current thresholds are also presented, which it is hoped will inform further discussion and any decision to adopt a new approach.

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# The World Bank's Classification of Countries by Income

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## 1. Introduction

The World Bank has used an income classification to group countries for analytical purposes for many years. The method was presented in the first *World Development Report* (World Bank, 1978), and its origins can be traced even further back. In 1965, for instance, a published essay “The Future of the World Bank” used gross national product (GNP) per capita to classify countries as very poor, poor, middle income, and rich (Reid, 1965).

The current form of the income classification has been used since 1989. It divides countries into four groups—low income, lower middle income, upper middle income, and high income—using gross national income (GNI) per capita valued annually in US dollars using a three-year average exchange rate (World Bank, 1989). The cutoff points between each of the groups are fixed in real terms: they are adjusted each year in line with price inflation. The classification is published on <http://data.worldbank.org> and is revised once a year on July 1, at the start of the World Bank fiscal year.

The World Bank uses the income classification in *World Development Indicators* (WDI) and other presentations of data; the main purpose is analysis. The classification is often mistaken as being the same as the Bank’s operational guidelines<sup>1</sup> that establish lending terms for countries (International Development Association, 2012). While the income classification itself is not used for operational decision-making by the World Bank and by itself has no formal official significance, it uses the same methods to calculate GNI per capita and adjust the thresholds that are used in the operational guidelines. The methods currently in use for this have previously been agreed with the World Bank’s Board of Executive Directors (World Bank, 2000).

Multiple users, ranging from policy makers, the business community, media, and students, have become familiar with the Bank’s datasets and income classification. Over time it has become part of the development discourse, and academia and the news media frequently find it a useful benchmark to analyze development trends. The classification is used by other international organizations and bilateral aid agencies for both analytical and operational purposes. Some use it to inform decisions regarding resource allocation; governments in Europe and the United States have used the classification for setting rules regarding preferential trade

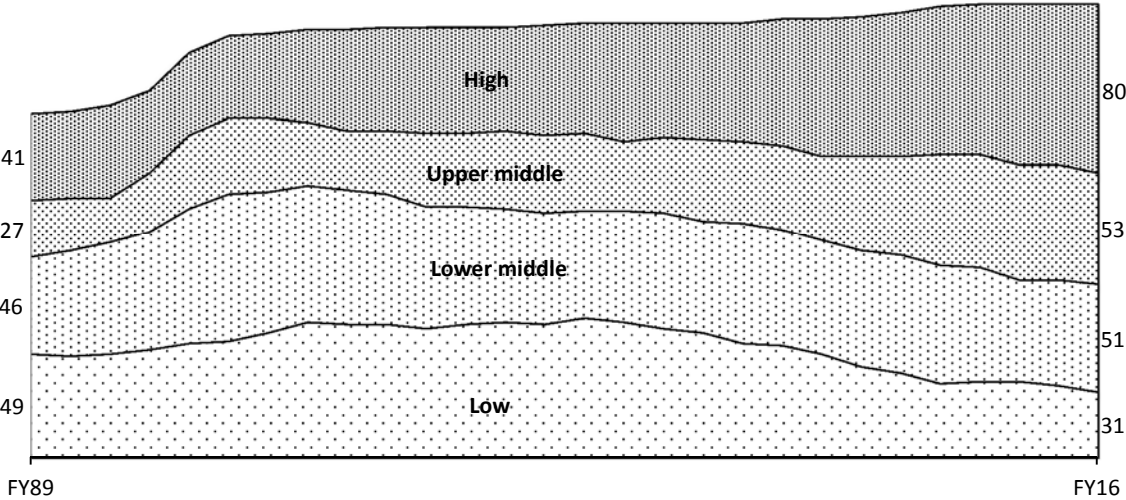
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<sup>1</sup> World Bank Operational Policies, OP3.10.

access to countries; while some governments have used the classification to set aspirational targets, such as achieving the next classification “status” by a certain time period. As Martin Ravallion (2012) notes: “the attention that these classifications get is not just from ‘analytic users’. They have huge influence.”

Since the present classification system was first introduced 25 years ago there has been significant change in the global economic landscape. As real incomes have risen, the number of countries in the low income grouping has fallen. According to the FY16 classification, there are now just 31 low income countries (Figure 1). On the other end of the spectrum, the number of high income countries is 80. In fact, as more countries have transitioned to middle income status, more people are now living below the Bank’s international extreme poverty line in middle income countries than in low income countries. The shift has been sweeping: in 1990, virtually all (an estimated 94 percent) of the world’s extreme poor lived in countries classified as low income; by 2008 about 74 percent of the world’s extreme poor lived in middle income countries (Ravallion, 2012; Kanbur and Sumner, 2012). This phenomenon has been referred to as the “new geography of global poverty” (Kanbur and Sumner, 2012).

**Figure 1. Number of countries in each classification group, FY89–FY16**



Source: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/OGHIST.xls>, accessed November 20, 2015.

Commentators and users have highlighted a number of methodological issues with the income classification system; for example, Ravallion (2012) and Nielsen (2011) probe the rationale for setting the threshold levels. Concerns have also been raised about the use of adjusted market exchange rates to convert GNI into US dollars, as compared with, for instance, purchasing power parity conversion factors (World Bank, 2000; Henderson, 2015). Keeping the threshold “fixed” in real terms entails making an adjustment for inflation over time, and the appropriateness of using the deflator for this purpose—based on the currencies in the IMF (International Monetary Fund) Special Drawing Rights (SDR) and calculated as a weighted average of the GDP (gross domestic product) deflators of Japan, the UK, the US, and the Euro Area—has been questioned on grounds of theory (based on interviews with experts) as well as relevance (e.g., Kenny, 2011; Sumner, 2012).

The concerns of researchers and commentators are often compounded because of the classification’s “operational” use outside of the World Bank context. For example, several donors continue to make aid allocation decisions on the basis of the income classification (Kanbur and Sumner, 2012; Ravallion, 2012; Sumner, 2012). Consequently, some have argued for a classification based on alternative measures incorporating poverty and distributional concerns more explicitly. Ravallion (2009) suggests considering classifications by examining countries’ internal capacities for redistribution (through taxes) in favor of their poorest citizens. Similarly, Ceriani and Verme (2014) argue the necessity of understanding whether “a society has the monetary capacity to reduce its own poverty.” Others have proposed methods of capturing the multidimensional nature of development to develop country classifications (e.g., Sumner and Vázquez, 2014; Nielsen, 2011). The recent World Bank Group Strategy (World Bank, 2014) also recognized that a different approach is needed, stating “As the traditional grouping of developing countries into income categories becomes less relevant, more attention is needed to the multiple facets and fragility across the development spectrum.”

This paper attempts to review key issues and challenges confronting the current analytical income classification system against the backdrop of an evolving global economy and the requirements of users. It focuses on the benefits and weaknesses of the current GNI-based method, including alternatives for converting GNI to a common currency for comparison purposes. The paper also discusses the methodologies used for updating income thresholds over

time. Finally, this paper reviews several proposals for using alternate thresholds for income categories based on the current GNI per capita indicator. It also cites alternative methods of classification based on other variables, such as poverty levels or multidimensional indices.

The paper reflects information gathered during interviews and discussions with a number of key internal users of the current system, such as chief economists and selected directors and managers. It incorporates existing literature, including papers prepared for the Board of Executive Directors on the operational guidelines, and views of external users gathered through various channels, including blog posts and online discussions.

## **2. Main findings**

The paper finds that per capita GNI continues to be a readily available and reasonable measure for the purpose of classifying countries for analytical purposes. It correlates well, especially in terms of rankings, with a number of accepted indicators of development outcomes.

Consequently, the income classification is widely used within and outside the World Bank for comparing attributes between groups of countries.

While local currency conversion factors based on purchasing power parities (PPP) are preferable to the use of market exchange rates for comparing per capita GNI using a common numeraire, the lack of consistent annual time-series estimates from the International Comparison Program (ICP) limits their use for the annual classification of economies. Had they been used, the classification would likely be subject to substantial revision when new benchmarks are published, which is not a desirable feature of such a system.

A known shortcoming with the use of market exchange rates is instability from one year to the next, and this can also introduce undesirable volatility in the classification system. The current method employed to mitigate this is known as the “Atlas” method, since it was first used in the World Bank’s *Atlas of Global Development* publication. It uses an average of three exchange rates: the current year, and the previous two years inflated to current year prices. We find that the method is effective in achieving its objective of reducing volatility of the income classification.

The Atlas method uses the ratio of international inflation, measured by a deflator based on the economies in the IMF (International Monetary Fund) Special Drawing Rights<sup>2</sup> (the “SDR deflator”<sup>3</sup>), to the national GDP deflator for the economy in question. The SDR deflator replaced the United States GDP deflator in the Atlas method calculations in 1994 (World Bank, 1994). However, GNI per capita estimates are presented in US dollars, and this paper argues that a return to the use of a measure of US inflation, in place of the SDR deflator, should be considered.

Similarly, we argue that a change to the methodology for maintaining the value of the thresholds in constant prices should be considered. As the thresholds and GNI per capita estimates are presented in US dollars, it is unclear whether “international” inflation, as reflected by the SDR deflator, is the optimal adjustment factor. An attractive option is to use a measure of US inflation, as originally used in the World Bank’s operational guidelines.

The paper finds widely differing views on appropriate threshold levels for the income categories, which largely depend on the intended purpose. Of the several options for reclassifying the current income categories, Ravallion’s (2009) work suggesting linking low income status to the internal capacity of countries to eliminate extreme poverty is perhaps most frequently cited. Another option would be to more closely align the income classification with the World Bank’s *operational* classification of countries, which categorizes its borrowing countries according to their lending eligibility: IDA, IBRD, and Blend. Classifying economies based on the relative rankings of GNI per capita has also been reviewed in the paper – for instance, using cutoffs based on inter-quartile ranges. Still other works propose using non-income dimensions for classification purposes.

While attractive from an analytical viewpoint, we argue that some of these methods would be difficult to apply to many of the current uses. There are also pragmatic considerations of moving to a new classification system: for instance, countries would be reclassified based on a change of method, rather than as a result of economic growth. This suggests that any major

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<sup>2</sup> For an explanation of Special Drawing Rights, see [www.imf.org/external/np/exr/facts/sdr.htm](http://www.imf.org/external/np/exr/facts/sdr.htm).

<sup>3</sup> For a description of the SDR deflator, see <https://datahelpdesk.worldbank.org/knowledgebase/articles/378829-what-is-the-sdr-deflator>.



change to the classification methodology should be introduced gradually and carefully, perhaps with overlapping systems for the first few years following any adjustment.

### **3. A primer on the current system**

The Development Economics and Data Group (DECDG) of the World Bank is responsible for updating the Bank's operational guidelines<sup>4</sup> each year, and the income classification is derived from the resulting dataset. The exercise involves gathering data from several sources to calculate preliminary GNI and population estimates for the previous calendar year. For most borrowing countries, the designated country economist provides national accounts aggregates from primary country sources around March; data for high income economies are obtained from the Organisation for Economic Co-operation and Development (OECD) and Eurostat. Population estimates are made by DECDG's demographer using the UN Population Division's biennial *World Population Prospects*, with appropriate adjustments where necessary to estimate resident, rather than de facto, population numbers—so that they have a comparable basis to GNI. GDP deflators for the previous two years (for calculating the SDR deflator) are obtained from Eurostat and the IMF, and annual average exchange rates are obtained from the IMF.

The thresholds for both the operational guidelines and the income classification are maintained in current prices using a weighted average GDP deflator, based on the currencies in the IMF Special Drawing Rights: the SDR deflator. Countries are classified against these thresholds using the most recent GNI per capita estimates, valued in US dollars using currency conversion factors calculated by the Atlas method: this uses a three-year moving average, adjusted by national inflation relative to the SDR deflator, to reduce the effect of exchange rate instability.

The GNI per capita estimates for each country are circulated to the Bank's regional chief economists for review, and updates to the thresholds are approved by DECDG management: this process provides separation between the data collection process and their end use for operational purposes.

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<sup>4</sup> World Bank Operational Policy 3.10.

The GNI per capita estimates and the updated operational thresholds are circulated to the Board of Executive Directors prior to the end of the financial year, so that these operational guidelines may be used in operational decision-making in the following financial year. The income classification is published at the beginning of the financial year, as close to July 1 as practical.

There is a broad misconception among both Bank staff and external users about the relationship between the income classification and the Bank’s operational guidelines. In the minds of many, low income countries equate to countries eligible to borrow from the International Development Association (IDA), and middle income countries equate to countries eligible to borrow from the International Bank for Reconstruction and Development (IBRD). This is not the case, because the threshold levels are different. Furthermore, GNI per capita is only one of several factors taken into account when determining access to World Bank lending windows and terms. In the case of IDA, an eligibility threshold guides access to concessional resources (for FY16, the threshold is GNI per capita US\$1,215), but the major determinant is country creditworthiness. Similarly, while surpassing the IBRD threshold (which is not the same as the high income threshold) informs decisions about a borrower’s graduation from IBRD, factors such as the institutional capacity of the country and its credit rating are also considered.

The difference between the two systems is illustrated in Table 1. For example, for FY16, just 30 of the 77 countries eligible for IDA financing were low income, with the remaining 47 countries classified as middle income. 13 countries classified as high income were still eligible for IBRD lending.

**Table 1: Number of countries eligible for World Bank lending and their income classification, for FY16**

|                     | IDA       | Blend     | IBRD      | Not eligible | Total      |
|---------------------|-----------|-----------|-----------|--------------|------------|
| Low income          | 29        | 1         | 0         | 1            | <b>31</b>  |
| Lower middle income | 26        | 12        | 12        | 1            | <b>51</b>  |
| Upper middle income | 4         | 5         | 42        | 2            | <b>53</b>  |
| High income         | -         | -         | 13        | 67           | <b>80</b>  |
| <b>Total</b>        | <b>59</b> | <b>18</b> | <b>67</b> | <b>71</b>    | <b>215</b> |

Source: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/CLASS.XLS>, accessed November 20, 2015.

With regard to the income classification, the low income threshold corresponds to the procurement related “civil works preference”<sup>5</sup> operational guideline for IDA countries; it was introduced in the first *World Development Indicators*, then the statistical annex to the *World Development Report* (World Bank, 1978). For FY16, it was set at US\$1,045, below the IDA eligibility threshold of \$1,215. The lower middle income threshold is based on the operational guidelines cutoff for determining access to 17-year IBRD repayment terms (although these terms are no longer available), and appears to have first been introduced in the 1983 edition of *World Development Indicators* (World Bank, 1983c). The high income threshold does not relate to a cutoff derived from the operational guidelines, but was set at a GNI per capita of US\$6,000 in 1987 prices in a paper presented to the Board of Executive Directors in January 1989 (World Bank, 1989), which also reconfirmed the low and lower middle income threshold levels. The choice of the high income threshold was made to address anomalies in the classification of high income and industrialized economies used in *World Development Indicators* prior to that point.

A few rules are applied regarding rounding, data collection, and revision management. First, the GNI per capita estimates are rounded so that they end with 0, and the threshold values are rounded so that they end with a 5: this is done for the practical reason of avoiding ties. The threshold values, rounded as just described, are the basis on which the thresholds, applicable for the forthcoming year, are then updated: that is, adjusted for the impact of inflation. Second, to provide consistency for users, the groupings for the analytical classification are set on July 1 of each year and are not revised until the following July, even if there are revisions to GNI or population estimates. Third, countries are reclassified into a higher or lower group once their GNI per capita crosses any of the three thresholds; there is no “settling” period, unlike the operational guidelines. Fourth, the current income classifications are applied to historical series in the *World Development Indicators* database. That means that historical data aggregates reflect the country classification groupings in force at the time of the latest database update; while this occasionally confuses some users, since it means that aggregates for past years are subject to revision, it is not clear whether there is any other workable alternative.

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<sup>5</sup> These are countries with an income level below which civil works can be awarded to eligible domestic contractors for bids procured under a competitive, international bidding process.

#### **4. Uses of the classification and its fitness for purpose**

World Bank staff use the analytical country classification extensively to report levels, trends, and other characteristics of member countries. For instance, the 2013 World Bank Group Strategy uses the classification to analyze the global context in which the Bank is now operating (World Bank, 2013). Using coherent, consistent and well-defined country groupings for such purposes seems to make sense, especially at regional and Bank-wide levels; for instance, it would be very confusing if every Bank report and press release used different, ad hoc groupings.

The classification is also widely used by researchers and analysts external to the Bank for grouping and characterizing countries and reporting summary statistics. Over time, the classification has become part of the development “landscape.” Commentators talk, for example, of the policy implications for countries that “graduate” from middle to high income status or from low to middle income status. There has been talk of the “middle income” trap<sup>6</sup> (Im and Rosenblatt, 2013).

The classification has also been put to uses beyond the analytical purpose for which it was conceived, and in some instances these extend to resource allocation: examples include the European Commission, the Global Fund to fight AIDS, Tuberculosis, and Malaria, and the Millennium Challenge Corporation. It has become commonly used to categorize the world into “developing” (i.e., low and middle income) and “developed” countries (i.e., high income). For instance, the OECD’s Development Assistance Committee (DAC) uses the income classification to distinguish two groups of countries (OECD, 2015): the “developed countries”<sup>7</sup> and “developing countries”: the latter are potential recipients of Official Development Assistance (ODA). The OECD also uses the analytical income classification for its arrangement on Officially Supported Export Credits: the lower middle income threshold is the cutoff line between countries that are eligible for tied aid credits and those that are not (OECD, 2014b). The US government also uses the Bank’s classification in setting trade policy. For example, the US Trade Act of 1974 provides that the President would remove “high income” countries as

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<sup>6</sup> See, for example, [www.economist.com/blogs/graphicdetail/2012/03/focus-3](http://www.economist.com/blogs/graphicdetail/2012/03/focus-3).

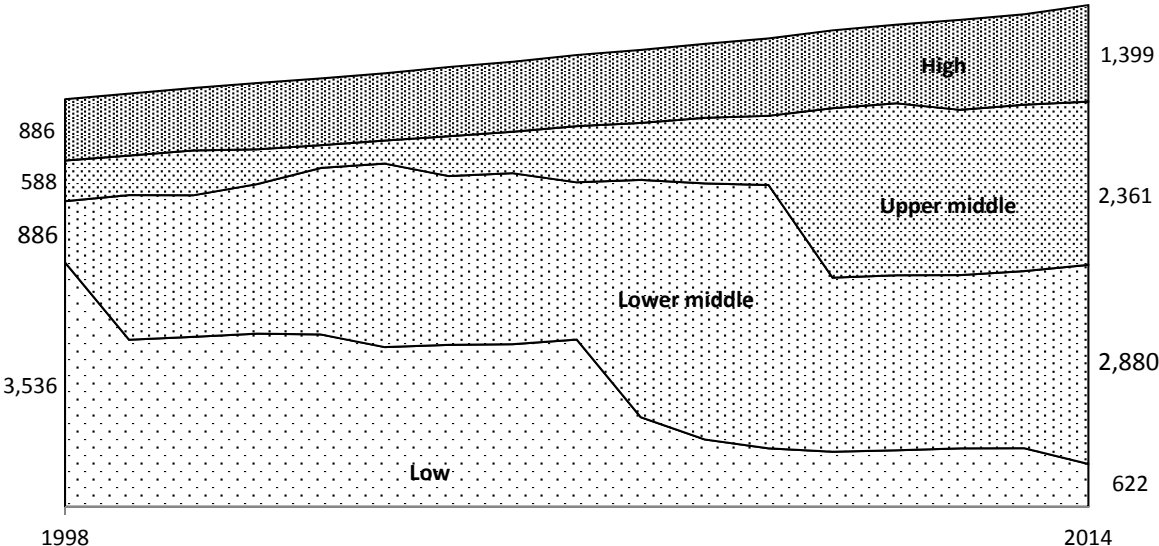
<sup>7</sup> Essentially high income countries, plus G8 members, EU members, and countries with a firm date of entry into the EU.

classified by the World Bank from the list of countries benefiting from the US Generalized System of Preferences (GSP) schemes that grant preferential duties access.

A further use of the classification is for setting and monitoring policy targets. A number of countries, for example, use the “graduation” from one grouping to the next as a mechanism for setting a time-bound policy target. For example, the Government of Ghana set a goal of reaching middle income status by 2015, while the Government of Bangladesh adopted the goal of transitioning to a middle income country by 2021 under its “Vision 2021” plan (Gimenez, Jolliffe, and Sharif, 2014).

A number of users within the World Bank were interviewed to obtain their views on the classification, focusing on whether (and why) there is a need to change or introduce modifications to the Bank’s current classifications and to establish what issues are relevant for different regions. The views of commentators and users outside the Bank have been obtained through blogs and other online discussions, and the team has reviewed a number of papers. Issues and concerns raised by external users are similar to those of many World Bank staff.

**Figure 2. Population in each income group, latest year of data availability during each fiscal year (FY00–FY16), millions**



Source: World Development Indicators database (accessed November 30, 2015), and print editions 2000 to 2015.

One criticism of the current income classification is that the thresholds are dated and somewhat arbitrary. Some feel that it is a less relevant classification now than in the past since the majority of the world’s extreme poor now live in countries classified as middle income (e.g., Kanbur and Sumner, 2012; Ravallion, 2012). Indeed, over 70 percent of the world’s total population—some 5 billion people—lived in countries classified as middle income in FY16; less than 10 percent lived in low income countries (see Figure 2). However, Table 2 shows that the estimated incidence of extreme poverty is considerably higher among low income countries as a whole (47.2%), compared with lower middle countries (18.7%) or upper middle income countries (5.4%).

**Table 2. Extremely poor population in each income group, 2012**

|              | Extreme poverty headcount<br>(% living below US\$ 1.90 a day at 2011 PPP) | Share of population (%) | Share of extremely poor population (%) |
|--------------|---|-------------------------|--|
| Low          | 47.2  | 8.3                     | 30.1                                   |
| Lower middle | 18.7  | 39.4                    | 56.3                                   |
| Upper middle | 5.4   | 32.8                    | 13.6                                   |
| High         | 0.0   | 19.5                    | 0.0                                    |
| World        | 12.7  | 100.0                   | 100.0                                  |

Source: World Development Indicators and PovcalNet, accessed on December 8, 2015.

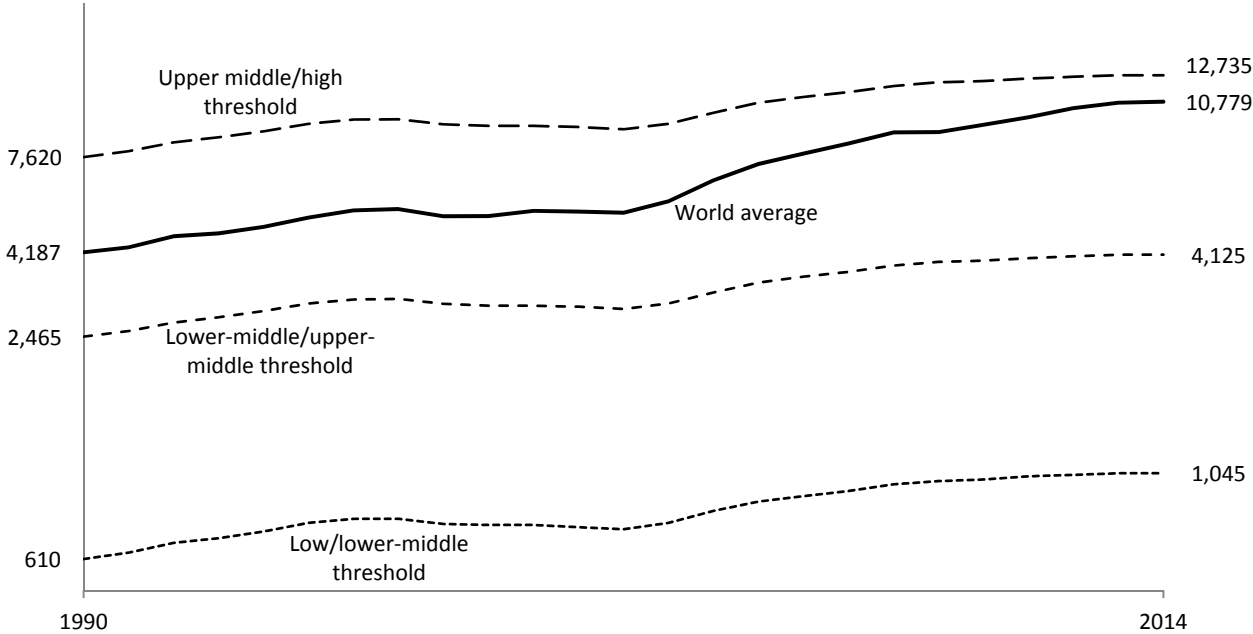
The use of market exchange rates for converting GNI to a common currency is also felt to be sub-optimal. The common suggestion is to use purchasing power parities (PPP); some argued that, at least for a period of time, there is a need for both a PPP and US dollar based GNI per capita classification.

Users also voiced concerns about the volatility of the classification—in other words, an undesirable characteristic of a country classification system is that reclassifications occur too frequently. Suggestions to address this were put forward, including restricting classification changes until a country has been in the new category for a fixed time period, or above a set percentage of the threshold, or the use of moving averages of the GNI per capita estimates. There were also proposals for the publication of aggregates with a much closer link to the Bank’s operational activities. For example, measures could be based on fragile and conflict-affected

states (FCS) and non-FCS states, or IDA-eligible and IBRD-eligible countries. Such a classification is certainly attractive and simple, though it should be noted that analytical presentations of statistics based on these groupings are readily available in *World Development Indicators* and in other World Bank databases.

Another widely expressed concern was that thresholds are absolute figures remaining constant in real terms. As a result, if average world income continues to increase along current trends, the high income country threshold will eventually fall below the average world income level. Figure 3 shows the income thresholds and the average world GNI per capita from 1990 to 2013. Some users hold the opposite view, however, arguing that the absolute nature of the thresholds is useful for tracking progress over time. But even then some commentators (e.g., Ravallion, 2012) feel that the threshold levels need updating to reflect the changing world, similar to the need to update poverty lines to reflect changing standards of living and societal preferences.

**Figure 3. Income classification thresholds and average world GNI per capita (current US\$, Atlas method, log scale)**



Source: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/OGHIST.xls>, and *World Development Indicators*, accessed November 30, 2015 (NY.GNP.PCAP.CD)

Some suggest that the current methodology to maintain a fixed threshold in real terms over time (i.e., adjusting for inflation using the SDR deflator) is inappropriate and unclear (e.g., Ravallion, 2012; Sumner, 2012). Options for alternative deflators include narrower measures, such as a measure of US inflation (since GNI per capita comparisons are presented with the US dollar as the common numeraire) or measures thought to be more representative of “international” inflation, such as a measure of average world inflation, or average inflation in G20 countries. There appears to be no clear answer to this—the initial methodology of the operational guidelines used US inflation, but anomalous measures in the 1980s caused a change to the broader SDR inflation measure. Other methods have also been considered and discarded in the past, such as using average inflation measures of countries with GNI per capita values close to the thresholds.

Some users suggest an alternative approach to adjusting thresholds is to use constant price estimates of GNI per capita, with some specified base year. In this case, thresholds would be set at a constant level, eliminating the need for estimating “international” inflation. While this seems attractive, there are significant practical problems with this approach. In particular, a reliable and timely GNI deflator is needed for all countries but is not readily available in many cases. Another issue is that the choice of base year would be a source of volatility in the country classification.

## **5. Using GNI per capita for classifying countries**

### ***5.1 Strengths and weaknesses of the GNI per capita measure***

The Bank and many other bilateral and multilateral agencies have used GNI<sup>8</sup> as a workable and reasonable measure of economic and institutional development for over fifty years. GNI is a broad-based measure of income generated by a nation’s residents from international and domestic activity: GNI per capita measures the average amount of resources available to persons residing in a given territory. All production of goods and services, with a few exceptions, are included as income-generating activities, irrespective of whether produced for the market, for

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<sup>8</sup> Defined as Gross National Product prior to the introduction of the term Gross National Income in the 1993 revision of the System of National Accounts (SNA) (United Nations, 1993).



own use, or provided to others free of charge. In particular, informal, illegal, and subsistence activities are included. Per capita income reflects both the average economic wellbeing of a population and its capacity to engage in international financial transactions—a measure of its creditworthiness. GNI has been widely preferred to GDP because GDP measures income generated in the domestic economy by both residents and non-residents. Many textbooks on economic development make extensive use of the GNI per capita variable.

Many other international organizations use their own classification schemes based on GDP or GNI for operational purposes. The IMF uses a hybrid measure of GDP,<sup>9</sup> together with other measures, to assess the financial contributions of members, their voting power, their access to financing, and their share of general SDR allocations. The OECD determines the budget contribution of members based on their capacity to pay, approximated by GNI (with some modifications) converted at official exchange rates. The European Union (EU) uses GNI per capita (with PPP conversion factors) to determine the eligibility of EU regions for fund allocations from the Structural and Cohesion Funds, and the United Nations apportions its expenditures to member countries based on their capacity to pay, approximated by GNI converted at official exchange rates, except in cases of excessive fluctuations.

GNI per capita is not, of course, without weaknesses. Although it serves as a proxy for individuals' potential command over resources that enhance their wellbeing, it does not indicate how well income is shared within the community. Critics of the use of average per capita GNI as one of the criteria for determining the Bank's lending policy—and, by association, the basis for the analytic income classification—have focused on the fact that GNI provides only a narrow measure of development and progress. They regard this as a key deficiency, particularly given the Bank's mission of eradicating poverty and increasing shared prosperity.

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<sup>9</sup> An average measure computed from GDP converted using market exchange rates and PPP conversion factors, weighted at 60 and 40 percent respectively.

**Table 3: Correlation between GNI per capita and selected indicators<sup>10</sup>**

|  | Secondary school enrollment (% net) | Births attended by skilled health staff (% of total) | Malnutrition prevalence, weight for age (% of children under 5) | Poverty headcount ratio at US\$2 a day (2005 PPP) (% of population) |
|--|-------------------------------------|--|---|---|
| <b>Spearman's rank correlation coefficient</b> |                                     |  |   |   |
| GNI per capita (current US\$, Atlas)           | 0.78                                | 0.80   | -0.70   | -0.88   |
| GNI per capita (current US\$, PPP)             | 0.79                                | 0.78   | -0.68   | -0.87   |
| <b>Number of observations (economies)</b>      |                                     |  |   |   |
| GNI per capita (current US\$, Atlas)           | 132                                 | 147  | 98  | 120   |
| GNI per capita (current US\$, PPP)             | 95                                  | 95   | 78  | 100   |

Source: *World Development Indicators* database, accessed May 30, 2014 (indicator codes NY.GNP.PCAP.CD, NY.GNP.PP.CD, SE.SEC.NENR, SH.STA.BRTC.ZS, SH.STA.MALN.ZS, SI.POV.2DAY).

While it is recognized that GNI per capita does not measure welfare or success in the fight against poverty, GNI per capita is found to correlate closely, in terms of both values and rankings, with a number of accepted indicators of development outcomes such as secondary school enrollment, stunting (malnutrition), births attended by skilled staff, and the poverty headcount ratio (see Table 3). Heckelman, Knack and Rogers (2011) also find that it is highly correlated with broad-based measures of institutional development and creditworthiness.

There is an important practical consideration for the regular production of a country classification: data availability. Both GNI and population estimates are readily available on an annual basis for most countries, with GNI compiled by countries using the international standard System of National Accounts (SNA), and population data available from the United Nations Population Division and national sources. While some users have suggested a new classification more closely aligned with poverty incidence rates and with new measures of shared prosperity, current data availability for most countries of interest is far less than the annual frequency desired for classification purposes.

There are, however, issues of data quality related to the GNI estimates that may result in systematic bias. First, infrequent adjustment of the national accounting framework in countries

<sup>10</sup> In order to increase sample size we take five-year averages between 2006 and 2010 for the selected indicators.

undergoing rapid structural change may affect data quality. Second, the measurement of informal, illegal and subsistence activities is often very approximate in poor countries, but is likely to be a relatively larger share of GNI than in higher income countries. Third, countries with weaker statistical systems may also lack adequate data sources and estimation methods for accurately measuring formal activities; business registers—a fundamental tool for conducting a sample survey of businesses—may be incomplete and outdated, and survey response rates may be poor. It is possible that, in some countries, under-estimation of formal activities may be as large as under-estimation of informal activities (Jerven, 2013).

Non-market production is another potential source of systematic biases in income figures. Market equivalent prices generally do not exist for measuring the value of most non-market production, such as government services, own-account production, and the output of non-profit institutions, and the value of non-market output, by convention, is proxied by production costs (wages, intermediate consumption, consumption of fixed capital) without adjustments for productivity or the full cost of use of capital. Because government sector productivity levels likely vary systematically among countries at different income levels, this may result in a systematic bias in income measures: an overvaluation in low income countries with low government productivity levels relative to higher income countries with more robust government productivity levels. This effect is, however, likely smaller than the effect of under-coverage of other activities in poorer countries (World Bank, 1989).

A question of the viability of international comparability may arise from the use by countries of different vintages of international standards for the System of National Accounts (SNA).<sup>11</sup> However, this is believed to be a relatively minor issue, compared with the lack of adequate data sources and estimation methods for data compilation, especially in poor countries where statistical capacity is often weakest. Countries are constantly working to increase their statistical capacity and improve their national accounts estimates, and new source data and improved methodologies have led to revisions to previous estimates of production and income. China, for example, increased its estimate of nominal GDP (and GNI) by 17 percent in 2006

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<sup>11</sup> The current standard is the 2008 version of the System of National Accounts (United Nations, 2008), although many low and middle income countries use the 1993, 1968 or even the 1953 versions.

based on data from the first national economic census for 2005. Ghana increased its estimate of nominal GDP for 2006 by around 60 percent in 2010, partly as a result of re-basing its volume estimates. Nigeria released re-based estimates in 2014, resulting in new estimates of its GDP for 2012 that are above that of South Africa.

To be useful for classification purposes, GNI per capita estimates must be converted into a common currency so that they can be compared on the same basis. The current analytical country classification system, and the related operational guidelines, uses the US dollar as the common currency or numeraire. Conversion factors are estimated from market exchange rates, adjusted to lessen the impact of any large transitory changes. A clear advantage of using market exchange rates compared with purchasing power parity exchange rates is that they are readily available on an annual basis for almost all countries (this issue is discussed further in section 5.3).

## ***5.2 Reducing Volatility of the GNI measure: The Atlas Method***

The Atlas method is designed to smooth the effects of short-term transitory changes in exchange rates which introduce undesirable volatility into the classification system. The Atlas conversion factor for any year is the average of a country's exchange rate for that year and its exchange rates for the two preceding years, adjusted for the difference between the rate of inflation in the country and international inflation.<sup>12</sup> Consistent with the threshold adjustment, international inflation is estimated using the SDR deflator, which is itself compiled as a weighted average of the inflation in the Euro Area, Japan, the UK, and the US (the SDR deflator is discussed in section 6 of this paper). The current methodology was introduced in 1984 following discussion by Executive Directors of a report prepared by the Economic Analysis and Projections Department, in consultation with a panel of experts (World Bank, 1983b).

There have been criticisms of the Atlas method and its theoretical underpinnings, but nonetheless the weighted three-year moving average is effective in achieving its aim of smoothing the series. The smoothing effect is achieved in two ways: the use of the moving

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<sup>12</sup> For more details, see <https://datahelpdesk.worldbank.org/knowledgebase/articles/378832-what-is-the-world-bank-atlas-method>.

average, and the choice of weighting: an unweighted average would smooth the series but would “center” the average exchange rate on the middle value of the three. The weights aim to center the average on the latest point of the three—they are the ratio of price inflation rates between each point and the latest point, derived from assumption that if prices rise faster in country A than in the US, the exchange rate between A and the US will adjust accordingly—all other factors being equal.

However, some degree of volatility still remains: a few countries that moved up the income categories fell back within two to three years (Table 4). The number of countries affected by this “round-tripping” is relatively small, and some of this may be unavoidable, particularly when it reflects political change, economic shocks, or conflict. Still, changes resulting purely from large but short-term changes in exchange rates should be minimized; even though a relatively rare occurrence, it can draw sharp criticism when it occurs, especially when the resource allocation decisions of development partners are impacted.

**Table 4: “Volatile” changes in the income classification between FY02 and FY16**

| World Bank fiscal year | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Calendar year of data  | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 |
| Albania                | LM | LM | LM | LM | LM | LM | LM | LM | LM | LM | UM | UM | LM | UM | UM |
| Antigua and Barbuda    | UM | UM | H  | UM | UM | H  | H  | H  | H  | UM | UM | UM | H  | H  | H  |
| Barbados               | H  | UM | H  | UM | UM | UM | H  | H  | H  | H  | H  | H  | H  | H  | H  |
| Equatorial Guinea      | LM | L  | L  | L  | UM | UM | UM | H  | H  | H  | H  | H  | H  | H  | H  |
| Fiji                   | LM | LM | LM | LM | LM | LM | LM | UM | UM | UM | LM | LM | UM | UM | UM |
| Hungary                | UM | UM | UM | UM | UM | UM | UM | H  | H  | H  | H  | H  | UM | UM | H  |
| Latvia                 | LM | UM | UM | UM | UM | UM | UM | UM | UM | H  | UM | UM | H  | H  | H  |
| Malta                  | H  | UM | H  | H  | H  | H  | H  | H  | H  | H  | H  | H  | H  | H  | H  |
| Mauritania             | L  | L  | L  | L  | L  | L  | L  | L  | L  | L  | LM | L  | LM | LM | LM |
| Solomon Islands        | L  | L  | L  | L  | L  | L  | L  | L  | LM | L  | LM | LM | LM | LM | LM |
| South Sudan            | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | LM | L  | LM | L  |
| Turkey                 | UM | LM | LM | LM | UM | UM | UM | UM | UM | UM | UM | UM | UM | UM | UM |

Countries are included in this list if they returned to a classification they had previously held during the fifteen year period between FY02 and FY16 for three years or less; H=high, UM=upper middle, LM=lower middle, L=low.

Source: <http://siteresources.worldbank.org/DATASTATISTICS/Resources/OGHIST.xls>, accessed November 30, 2016

One option for changing current practice would be to use a “buffer” around the threshold to help minimize any volatility. So, for example, a country might only be reclassified if it has

been consistently above a threshold for three years; or, if a country exceeds the threshold by X percent; or a combination. The advantages of either system are that they provide a clear early warning of a likely change, but of course they also introduce a lag in reclassification. Such a system already exists in the operational guidelines, based on a three-year period.

Other options have been proposed to manage exchange rate volatility. One is to use longer averaging periods. At some point prior to 1983, for example, the Atlas method used a seven-year average. But a three-year period was felt to offer the best compromise between sensitivity to change and smoothing (World Bank, 1983). This still appears to be the case, and overall there does not seem to be a compelling reason to change current practice.

It should also be noted that GNI per capita estimates can be affected by revisions in the estimate of both GNI and the total resident population, caused, for example, by new data from economic and population surveys and censuses, or other sources.

### ***5.3 Market exchange rates versus Purchasing Power Parity (PPP) conversion factors***

Another well-known issue concerns the conceptual underpinning of the use of market exchange rates as conversion factors. What one US dollar buys in the United States does not necessarily correspond to the amount of goods and services that one US dollar would buy in another country, when converted to that country's national currency. The implication is that, while the use of exchange rates may be useful for some purposes—such as measuring countries' relative spending power on the world market—they are not the most appropriate choice for the international comparison of income; they do not fully adjust for the differences in price levels between countries and therefore do not provide a measure of the relative sizes of the volume of goods and services they produce. Furthermore, exchange rate based conversions are likely to result in a systematic downward bias in the measurement of the GNI or GDP of lower income countries, since they tend to have relatively lower wages than more developed economies, and thus lower prices on their non-traded goods and services. For that reason, the GNI (and GDP) of lower income countries will typically be under-estimated when exchange rates are used to compare their value with those of high income countries.

The solution to this problem is also well known and has been proposed in many previous discussions about the use of GNI per capita: the alternative conversion factor that addresses some

of the weaknesses in the use of exchange rates is one based on purchasing power parities (PPPs). A PPP is the number of units of a national currency needed to purchase the same amount of goods and services as a reference currency unit (for example, the US dollar) would buy in the reference country. PPPs allow more meaningful comparisons to be made across countries for many indicators—but they are not appropriate for some purposes. For example, international trade, capital flows, and the values of foreign debt must be measured at market exchange rates. Still, it seems clear that PPPs are the appropriate conversion factor for country classification purposes, compared with market exchange rates.

The major constraint to the use of PPPs has been the availability of regular and reliable time-series estimates for all countries of interest. This issue has been repeatedly discussed by World Bank Executive Directors (for example, World Bank, 1989, 1994 and 2000) but the consistent conclusion has been that the coverage and quality of annual PPP data (rather than the PPP estimates produced at each benchmark year) are not sufficiently robust for operational use. The international statistical community has undertaken substantial work in recent years to improve the quality of PPPs, especially in the 2005 and the more recent 2011 benchmark rounds of the International Comparison Program (ICP). The number of countries participating in the ICP has increased over time, and price collection procedures, valuation, and computation methods have all improved substantially.

Despite the improvements, difficulties with using PPP conversion factors for the annual classification of economies remain, because the ICP produces data for benchmark years only. This means that the classification system would have to rely on extrapolated or modeled annual estimates, using proxy measures. While extrapolated estimates are produced and published in *World Development Indicators*, each benchmark round so far, including the latest results from the 2011 round, has resulted in substantial revisions to this series. In turn, this would have likely resulted in substantial revisions to the classification of countries, which would be both difficult to explain to users and provide another source of classification volatility.

Possible solutions are to improve extrapolation and interpolation methodologies, or for the ICP to collect prices in years between benchmarks and publish annual estimates of PPPs. Another approach could be to restrict changes in country classification to benchmark years only. While this latter proposal would potentially strengthen the basis for comparison between

countries, it risks making the classification substantially less useful to users. More importantly, it is unlikely to be found acceptable for operational purposes, thereby leading to an income classification that departs significantly from the operational guidelines.

One pragmatic approach is to use a hybrid based on an average of the two conversion factors: adjusted market exchange rates and PPPs. This would reduce the impact on the classification of switching to a PPP-based method, and—depending on the use to which the classification is put—there may be some justification for maintaining exchange rates in the formula. For example, market exchange rates provide a better measure of a country’s ability to service its international obligations and may, therefore, better reflect its creditworthiness. But there are several disadvantages, including that the PPP-based method would still need to use annual estimates based on extrapolation from benchmark years, it would still be subject to substantial periodic revision, and any method of combining the two series may be seen as an arbitrary choice.

It is also worth noting that the ranking of countries using either conversion method is very similar. Using data for 2010 (extracted from *World Development Indicators* on May 30, 2014), the rank correlation coefficient is 0.99. And, as noted earlier, correlations between selected social indicators and GNI per capita using either market exchange rates or PPPs are relatively high.

The discussion leads us to the conclusion that market exchange rates, with appropriate adjustments to mitigate the impact of short-term volatility, continue to provide a reasonable and practical basis for preparing comparable GNI per capita estimates for use in classifying countries. We also conclude that the use of PPPs should be considered only when consistent annual estimates of PPPs are produced by the ICP.

## **6. Adjusting classification “cutoffs” over time**

The initial choice of the three threshold levels used in the income classification appears to have been made largely on pragmatic grounds. The cutoffs for defining the low and lower middle income thresholds were already in use in the World Bank’s operational guidelines process (for determining eligibility to “civil works preference” in IDA and “17 year terms” for IBRD) and the choice of high income threshold was made to rationalize the existing groupings of high income



countries (World Bank, 1989). In any case, the result has been groupings that have contained sufficiently large numbers of countries to be analytically useful. The chosen levels have occasionally been hotly debated, but it is likely that this would occur in any case, regardless of the conceptual underpinning.

An equally important discussion as the original choice of threshold levels is the manner in which they should be adjusted over time. The underlying objective has been to maintain their value in constant prices, so a method has been needed to account for inflation. Initially, the thresholds used in the operational guidelines were updated using the US GNP deflator, but this was changed to the SDR deflator, beginning with the 1982 data (World Bank, 1983b). The analytical income classification follows the same methodology and uses the SDR deflator to maintain the thresholds constant in real terms. One way to think of this is to suppose that thresholds are really set in terms of SDRs, but converted to US dollars for presentation purposes.

Is the SDR deflator an appropriate measure of inflation in the context of updating the thresholds? Other choices have certainly been considered. For example, the same methodology paper that resulted in the use of the SDR deflator (World Bank, 1983b) also proposed that a more appropriate measure would be the average inflation of countries close to each threshold.

The SDR deflator is essentially a measure of the average inflation (measured by the GNP deflator) of the countries whose currencies make up the SDR: the Euro Area, the US, the UK, and Japan. The SDR deflator is calculated by weighting the inflation rates of the countries that contribute to the SDR basket of currencies according to their weight in the SDR;<sup>13</sup> the IMF calculates the value of the SDR for a five-year period (Table 5).

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<sup>13</sup> See <https://datahelpdesk.worldbank.org/knowledgebase/articles/378829-what-is-the-sdr-deflator>.

**Table 5: SDR weights (1986–1990 and 2010–2014)**

| Currency           | 1986–1990 | 2010–2014 |
|--------------------|-----------|-----------|
| Euro <sup>14</sup> | 0.310     | 0.374     |
| Pound sterling     | 0.120     | 0.113     |
| US dollar          | 0.410     | 0.419     |
| Yen                | 0.120     | 0.094     |

Source: International Monetary Fund, staff calculations.

One clear feature of the threshold levels is that they have declined relative to average world GNI per capita (current US\$, Atlas). This is of course expected, since the thresholds are adjusted for inflation only, and not for economic growth. One question is whether the decline has been at an appropriate pace.

Table 6 provides some additional analysis of the thresholds relative to average world GNI per capita (Figure 3 also illustrates the same trends). The low/middle income threshold to world GNI per capita declined from 16 percent in 1982 to 10 percent in 2014, while the lower middle/upper middle threshold to the world average fell from 65 percent to 38 percent. Another way to illustrate the trend is that if the ratio of the threshold for low income countries to world GNI per capita in 2014 had remained at its 1997 (fiscal year 1999) level (that is, about 14 percent), the threshold for FY16 (2014 data) would have been around US\$1,500 rather than US\$1,045. As a result, about 12 countries classified in the lower middle income category would have remained in the low income category.

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<sup>14</sup> Prior to the introduction of the Euro on January 1, 1999, the Deutsche mark and French franc were represented in the basket; their relative shares were 0.19 and 0.12, respectively.

**Table 6: Decline in thresholds relative to world GNI per capita (current US\$, Atlas method), FY84–FY16**

|  |       |       |       |       |        |        |
|--|-------|-------|-------|-------|--------|--------|
| Bank fiscal year   | 1978  | 1984  | 1989  | 1999  | 2009   | 2016   |
| Calendar year of data  | 1976  | 1982  | 1987  | 1997  | 2007   | 2014   |
| <b>Upper bound thresholds for income groupings, GNI per capita</b> |       |       |       |       |        |        |
| Low  | 250   | 410   | 480   | 785   | 935    | 1,045  |
| Lower middle   | ..    | 1,670 | 1,940 | 3,125 | 3,705  | 4,125  |
| Upper middle   | ..    | ..    | 6,000 | 9,655 | 11,455 | 12,735 |
| World GNI per capita   | 1,623 | 2,567 | 3,290 | 5,491 | 8,294  | 10,779 |
| <b>Ratio of threshold to World GNI per capita</b>                  |       |       |       |       |        |        |
| Low  | 0.15  | 0.16  | 0.15  | 0.14  | 0.11   | 0.10   |
| Lower middle   | ..    | 0.65  | 0.59  | 0.57  | 0.45   | 0.38   |
| Upper middle   | ..    | ..    | 1.82  | 1.76  | 1.38   | 1.18   |

*Source:* <http://siteresources.worldbank.org/DATASTATISTICS/Resources/OGHIST.xls>, World Bank (1978), and *World Development Indicators*, accessed November 30, 2015 (series NY.GNP.PCAP.CD)

In recent years, inflation rates in many countries have tended to be higher than in those countries included in the SDR. It can perhaps be argued that the inflation adjustment factor (that is, the SDR deflator) does not fully reflect inflation experienced by low and middle income countries, resulting in thresholds that are too low and push countries into higher income groups prematurely. For instance, between 2000 and 2011, the adjustment applied to the thresholds on the basis of the SDR deflator was 36 percent. During the same period the change in the G20 GDP deflator was about 57 percent (in US dollar terms), while the comparable US dollar GDP deflator for the world increased 60 percent.

Furthermore, when the SDR deflator was first used for the operational guidelines in 1983, the economies represented in the SDR made up 56 percent of world GNI (using exchange rates as conversion factors). By 2012 their share had fallen to 51 percent, and the trend has been downward.<sup>15</sup> The decline would likely be sharper if the SDR basket had not been expanded to include the Euro in 1999. In other words, the countries used to calculate the SDR deflator have

<sup>15</sup> *Source:* *World Development Indicators*, accessed May 30, 2014 (series NY.GNP.MKTP.CD).

become less representative of the global economy than when the SDR deflator was first conceived (it should be noted that the IMF has recently decided to include the Chinese Renminbi in the SDR currency basket).<sup>16</sup> If a measure of international or world inflation is considered to be the most appropriate mechanism for adjusting the thresholds, then this historical performance might indicate that the SDR deflator may not be the most appropriate choice.

For most years, the SDR deflator in US dollars has increased and the income thresholds have moved up. However, in a number of years, the US dollar appreciated against the SDR, and as a result the thresholds were adjusted downward despite the fact that all countries except Japan experienced inflation. On the other hand, increased volatility in international financial markets in some years and periods of strong depreciation caused the SDR deflator to increase relatively sharply. So despite the various adjustments and the three-year moving average scheme used to reduce volatility in GNI estimates, the SDR deflator has itself introduced some unintended volatility.

A related issue is the weight of the US dollar in the SDR deflator. Although it is relatively large it may not reflect the significance of the US dollar in international transactions: in 2008, for example, the currencies of more than 100 countries were linked to the US dollar (fully dollarized, pegged, or a managed float with dollar as reference currency), and the US dollar accounted for more than 86 percent of all foreign exchange market turnovers. In addition, US dollar holdings make up a large share of official foreign exchange reserves (the foreign currency deposits and bonds maintained by central banks and monetary authorities) and international trade; the dollar continues to be widely used for invoicing and settling import and export transactions around the world (Goldberg, 2010; Lin, Fardoust, and Rosenblatt, 2012). Additionally, at least some element of “international inflation” is reflected in national GNI deflators through the “pass-through” effect of prices of imported commodities as well as goods and services. Thus, there could also be some double counting of international inflation.

There are many choices for an alternative deflator to maintain thresholds in constant prices. For this paper, the performance of a number of candidates have been examined briefly,

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<sup>16</sup> See <https://www.imf.org/external/np/sec/pr/2015/pr15540.htm>

including the US GDP (or GNI) deflator, which is the most obvious candidate if the thresholds and GNI per capita estimates are to use US dollars as their common numeraire. Other candidates reviewed include average measures based on G20 countries, average global measures, and measures which represent the countries close to the thresholds—as suggested in a previous review (World Bank, 1983b). Different options for producing average measures have been used, include commonly used simple medians, unweighted and weighted arithmetic means, and the geometric mean. Weights can be based on relevant macroeconomic variables, such as the size of currency reserves, the size of exports, GDP, or population size. In all, for this review, 12 different candidate deflators have been examined.

Detailed results are presented in Annex 1. Overall, World unweighted-mean and population-weighted deflators are more sensitive to changes in lower income economies; inflation in many lower income economies has been higher than in higher income economies in the past few years, so these measures tend to provide a much higher measure of inflation for the period tested than the SDR deflator. Similar results hold when using the average and median deflators based on countries in bands close to each threshold for the low/middle and lower middle/upper thresholds. The middle/high threshold deflator follows a similar pattern to the SDR, US, G20 and GDP-weighted World deflators. Only very small differences are observed in the World deflator when using weights derived from the SDR weighting method (the value of reserves held by other governments, plus exports, in US\$) or straightforward exchange-rate based GDP, partly because reserves and exports are converted with market exchange rates.

The deflators with the lowest overall tendency for volatility (i.e., relatively large numbers of countries changing classification each year) are the SDR, US, G20 and World (GDP weighted) deflators, reflecting the relative stability over the period reviewed. Deflators that are based on medians rather than weighted means show the lowest annual variability; the deflators that use the SDR averaging method, the World unweighted average, or the countries in the threshold “bands” appear to show the highest volatility. In some cases, more than 10 countries changed category compared with the previous year.

An alternative approach to adjusting thresholds over time and using current price series would be to use constant price estimates, with some specified base year. In this case, thresholds would be set at a constant level, eliminating the need for estimating “international” inflation.

While this seems attractive, a significant problem with this approach is that a reliable GNI deflator is needed for all countries. Another is that the choice of base year may affect the country classification in undesirable ways.

In our view, the results from this simple examination tend to point to a return to the US GDP (or GNI) deflator as the preferred adjustment factor for the thresholds. Over the period reviewed, it has been relatively stable, which was one of the key issues for making the change to the SDR basket. It also avoids the difficulty of interpretation: the use of the SDR deflator means, effectively, that the thresholds are maintained in SDR units rather than US dollars but then converted to US dollars for communication purposes. It would also eliminate the need for the use of the SDR deflator in the Atlas method, which is another source of confusion; instead, exchange rates would be adjusted using the ratio of local inflation rates to US inflation. In any case, since this change would impact the calculation of thresholds and GNI per capita estimates used for World Bank Group operational purposes, this proposal will need to be further discussed.

## **7. Redefining the thresholds, and other approaches**

If the main purpose of an analytic classification is to provide a mechanism for grouping and aggregating countries for comparison purposes, then a scheme based purely on the ranking of countries is a simple and attractive option. An obvious candidate is to divide countries into four quartiles, based on their relative GNI per capita estimates. This has many advantages: it is simple to understand; it can be constructed easily from the GNI per capita estimates used for the Bank's operational decision-making; the number of each countries in each group is stable, by design; it does not require the selection of thresholds or procedures to update them each year; and it is more difficult to make use of the classification for "non-analytic" purposes, such as aid allocation.

One major disadvantage is that it requires estimates for all countries, or at least a "range" estimate, since any missing data will affect the position of other countries in the ranking. However, even in the current system, range estimates are made for all countries, so this drawback is relatively easy to accommodate. A second problem is that the classification would be relatively volatile; changes in growth rates of one country compared with another may result in reclassification of either country. A solution to this would to use a "buffer": for example,

countries would not change classification immediately, but would only be placed in the new category for two or three years. But the biggest obstacle would appear to be that which affects all rankings: when one country becomes high income (for example), another country must become middle income. Some current users of the classification set policy on the basis of gaining a higher classification status; a ranking based on quartiles may be less fit for this particular purpose than the current methodology – though it can, of course, be argued that this use is not the intended analytic purpose of the income classification.

Another approach that would avoid these problems would be to rank countries by quartiles at a point in time (say for data relating to 2014, i.e. FY16), and set the upper bound of each group as the new graduation thresholds. Thresholds recalibrated in this way to the current period would initially include around 50 countries in each income category, and could then be updated for inflation every year. Changes in country classification would continue from 2016 as in the current system. Based on current data for the 2014 calendar year, the thresholds would need to be set around \$2,000, \$7,000 and \$21,000.

As well as the analytical classification, the World Bank also classifies countries for operational lending purposes; this classification is published as part of Operational Policy 3.10,<sup>17</sup> and categorizes borrowing countries according to their lending eligibility: IDA, IBRD, and Blend. A further operational classification used by the World Bank is the list of countries in Fragile and Conflict Affected Situations.<sup>18</sup> Aggregates and groupings for these categories are already available in the *World Development Indicators* database for analytic purposes and may be more appropriate for analyzing policy questions of interest, such as the multiple facets of fragility and resilience of countries. One option is to align the *income* thresholds for low income and IDA graduation (US\$1,045 and US\$1,215 GNI per capita, as of July 1, 2015). At present, many within and outside the World Bank mistakenly assume them to be synonymous and this confusion can be avoided by linking them. It can also lend clarity to the Bank's operational cutoff.

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<sup>17</sup> <http://go.worldbank.org/2DXSXPUD80>.

<sup>18</sup> <http://siteresources.worldbank.org/EXTLICUS/Resources/511777-1269623894864/FY15FragileSituationList.pdf>.

Several other approaches have been suggested for setting new thresholds so that they provide a better basis for policy analysis. One idea, derived from the use of the income classification for aid allocation purposes, is to define low income countries as those that cannot eliminate absolute poverty by relying on their own resources. Ravallion (2012) estimates that most countries with per capita incomes of more than US\$4,000 (2005 PPP) would conceivably be able to eradicate extreme poverty (defined as living on less than US\$1.25 a day in 2005 PPP terms) without recourse to external assistance. This equates to a per capita income of almost US\$2,300 using market exchange rates, or roughly double the value of the current low income threshold.

Another idea, suggested by the AIDS Healthcare Foundation (AHF), is to raise the low income threshold to \$10-\$15 per day.<sup>19</sup> Their argument is that many countries classified as middle income have poor health outcomes and a high burden of diseases such as AIDS, TB and malaria, but they lose access to preferential pricing for certain medicines or to financial support because some agencies use the low income classification threshold in their resource allocation models: for example, the Global Fund to Fight AIDS, TB and Malaria. There are suggestions for adjusting the value of the high income cutoff as well. Pritchett (2006) argues that a plausible upper-bound poverty line is about US\$10 a day (2005 PPP), and according to Kenny (2011), any country in which average incomes are five times that level—about US\$18,250 (2005 PPP)—could be defined as rich. This turns out to be quite close to current practice: countries near that level have an average Atlas GNI per capita of about US\$11,800, compared with the high income threshold of US\$12,735 in 2014. A conclusion from this is that there are widely differing views on appropriate threshold levels, and they largely depend on their intended purpose.

A challenge with any of the new approaches described above is that a number of countries would be reclassified on the basis of a methodology change, rather than as a result of growth or changes in per capita income. This is not problematic if the classification is used purely for analytical purposes, but this review has shown that its use extends into resource allocation models and into policy development. For this reason, any adjustments to the

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<sup>19</sup> See <http://raisethemic.org>.



classification methodology will need to be introduced carefully, perhaps alongside existing methods.

Other classification schemes have been proposed, for example using cluster analysis techniques, or using methods based on the construction or use of appropriate indices to replace or supplement the use of GNI per capita. For example, Nielsen (2011) and Vázquez and Sumner (2012 and 2014) consider the use of measures of poverty, inequality, and human development. Other candidates proposed include the Human Development Index of the United Nations Development Program and the Multidimensional Poverty Index of the Oxford Poverty and Human Development Initiative. However, some of these composite indicators and methods also attract criticism, including the arbitrariness in weighting patterns, the implicit trade-offs between components, and their practicality when based on indicators with poor geographic coverage and update frequency. Analyses of these alternatives have not been attempted here, though it can be argued that they can also produce abrupt or inexplicable changes in classifications from one period to the next. It is also important to note that classifications based on such approaches would “decouple” the analytical classification of countries from the Bank’s operational guidelines.

Different classification schemes are already in use by other international agencies; selected groupings are presented in Annex 2, including those used in the Human Development Report of UNDP, the World Economic Outlook of the IMF, and the World Economic Situation and Prospects report of the United Nations. The UN statistical convention of developing and developed regions and the UN operational categories of Least Developed Countries, Land Locked Development Countries, and Small Island Developing States are also listed, since these are commonly used.

## **8. Conclusion**

This paper reviews the methodological details of the current income classification of the World Bank, highlighting its pros and cons. A classification based on GNI per capita covers almost all countries in the world and can be updated on an annual basis. While critics argue that the thresholds of the Bank’s income classification are dated and yet used by many for policy purposes, it should be emphasized that many also utilize the main benefit of the analytical

categories: they provide a useful way of organizing thoughts about development, and the absolute nature of the thresholds help to track progress over time. Staff interviewed emphasized that if changes are introduced, it would be important to maintain continuity with the current system for research and other purposes. Users also stress the need for transparent, easily understood methodologies.

This paper argues that the use of the SDR deflator to update thresholds should be reconsidered. Future work can explore evaluating the thresholds themselves and it may be appropriate to convene a forum for an open discussion of options. The paper presents a few options for alternative thresholds that provide a basis for further discussion.

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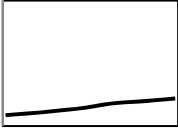


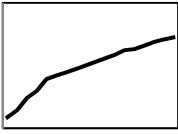
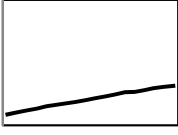
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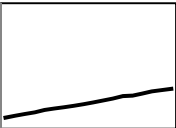

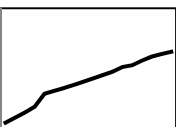

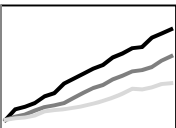
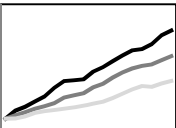
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## Annex 1. Empirical review of alternative deflators

| Deflator name           | Description  | Strengths   | Weaknesses  | Trend 1996-2013<br>(log scale, 1996=100)  |
|-------------------------|--|---|---|---|
| 1 SDR                   | A weighted mean of GDP deflators of countries represented in the IMF Special Drawing Rights  | Composition reflects a large part of global trade and GDP (50% of global economy, 35% of global exports and 93% of world currency reserves held by foreign governments)   | Relatively complex to compute and understand; not representative of inflation in emerging and developing economies  |    |
| 2 US GDP                | US GDP deflator  | Data are readily available, historically relatively stable, represents US\$ which is used in global trade and is the common numeraire for the GNP per capita estimates  | Risk of volatility because dependent on a single economy, no representation of emerging and developing economies, US GNP deflator may be more appropriate |    |
| 3 G20 GDP, SDR method   | Weighted mean of GDP deflators of G20 countries; weights are the currency reserves held by foreign government plus exports, in US dollars (these weights reflect the composition of the SDR) | Representative of a large part of global trade or GDP, including emerging economies (e.g. BRICs). G20 85% of the global economy, 80% of global exports and 99% of world currency reserves held by foreign governments; stable over time | Complex to compute and understand; data may not be readily available to compute thresholds by May each year   |    |
| 4 G20 GDP median        | Median GDP deflator of G20 countries, using 2013 composition of G20  | As other G20 deflators, but data are readily available, deflator is simple to compute and understand, is stable over time and less influenced by outliers than measures based on the mean   | Questionable theoretical basis for use of median compared to mean   |  |
| 5 World GDP mean        | Simple unweighted mean of GDP deflators of all countries   | Data are readily available for many countries, deflator is simple to compute and understand, includes all economies equally   | Tendency to be very volatile; influenced by outliers and small economies, which may not be desirable  |  |
| 6 World GDP, SDR method | Weighted mean of GDP deflators of all countries. The weights are the currency reserve held by foreign governments plus exports, in US dollars  | Represents all economies in proportion to the impact of each on the global economy in trade and transactions; represents all economies  | Complex to compute and understand; data may not be readily available to compute thresholds by May each year   |  |

| Deflator name                           | Description   | Strengths   | Weaknesses  | Trend 1996-2013<br>(log scale, 1996=100)  |
|---|---|---|---|---|
| 7 World GDP, US\$<br>GDP weighted mean  | Weighted mean of GDP deflators of all countries; weights are the size of GDP in US\$ (exchange rate based)  | Represents all economies in proportion to the size of each economy; data are readily available, deflator is very simple to compute and understand         | Does not represent the significance of economies/currencies in world trade transactions   |    |
| 8 World GDP, PPP\$<br>GDP weighted mean | Weighted mean of GDP deflators of all countries; weights are the size of GDP in PPP\$   | Represents all economies in proportion to the size of each economy, deflator is very simple to compute and understand                                     | Does not represent the significance of economies/currencies in world trade transactions; revision of PPP at each ICP benchmark could have large impact that is difficult to explain to users                        |    |
| 9 World GDP, population weighted mean   | Weighted mean of GDP deflators of all countries; weights are the size of population   | Data are readily available; includes all the economies  | Tendency to be very volatile; gives large weight to large population countries; does not represent the significance of currencies in world trade and transactions   |    |
| 10 World GDP median                     | Median GDP deflator of all countries  | Data are readily available; represents all economies equally; robust to outliers and volatility   | Could be affected by the change in the number of countries included   |   |
| 11 Threshold panel GDP mean             | Unweighted mean of the GDP deflators of ten countries – those five above and below each threshold each year; country composition is not fixed each year | May better represent price inflation of those countries likely affected by the thresholds   | Tendency to be very volatile, heavily affected by composition of the panel; typically reflects only a small portion of global trade or GDP; if panel has high variance may still not be representative              |  |
| 12 Threshold panel GDP median           | Median of GDP deflators of ten countries - those five above and below each threshold each year; country composition is not fixed each year              | May better represent price inflation of those countries likely affected by the thresholds; less volatile than mean (more resistant to impact of outliers) | Tendency to be very volatile still exists, heavily affected by composition of the panel; typically reflects only a small portion of global trade or GDP; if panel has high variance may still not be representative |  |

## Annex 2. Selected country classification schemes

| Concept, intended use           | Groupings                             | Institution  | Notes  |
|---------------------------------|---------------------------------------|--|--|
| Income, analytical              | Low, Lower-Middle, Upper-Middle, High | World Bank   | For FY16, low income economies are those with a GNI per capita (calculated using the World Bank Atlas method) of \$1,045 or less in 2014; middle-income economies are those with a GNI per capita of more than \$1,045 but less than \$12,736; high-income economies are those with a GNI per capita of \$12,736 or more. Lower-middle-income and upper-middle-income economies are separated at a GNI per capita of \$4,125.<br><br><a href="http://data.worldbank.org/about/country-and-lending-groups">http://data.worldbank.org/about/country-and-lending-groups</a> (July 2015)   |
| Human Development, analytical   | Very High, High, Medium, Low          | United Nations (Development Programme)                     | The 2014 Human Development Report defines four categories of human development achievements using fixed cut-off points of the Human Development Index. The cut-off values are obtained as the HDI values calculated using the quartiles of the distributions of component indicators. The cut-off points are 0.55, 0.7, and 0.8 and will be kept for at least five years and then revised.<br><br><a href="http://hdr.undp.org/en/faq-page/human-development-index-hdi#t292n40">http://hdr.undp.org/en/faq-page/human-development-index-hdi#t292n40</a> (July 2014)  |
| Development, analytical         | Developed and Developing Regions      | United Nations (Statistics Division)                       | There is no established convention for the designation of developed and developing countries or areas in the United Nations system, but in common practice, Japan in Asia, Canada and the United States in northern America, Australia and New Zealand in Oceania, and Europe are considered developed regions or areas. Countries emerging from the former Yugoslavia are treated as developing countries; and countries of eastern Europe and of the Commonwealth of Independent States in Europe are not included under either developed or developing regions. In international trade statistics, the Southern African Customs Union is also treated as a developed region and Israel as a developed country.<br><br><a href="http://unstats.un.org/unsd/methods/m49/m49regin.htm">http://unstats.un.org/unsd/methods/m49/m49regin.htm</a> (August 2015) |
| Economic conditions, analytical | Developed, Transition, Developing     | United Nations (Department of Economic and Social Affairs) | Used for analysis in the annual World Economic Situation and Prospects report. The composition of these groupings is intended to reflect basic economic country conditions. Several countries (in particular the economies in transition) have characteristics that could place them in more than one category; however, for purposes of analysis, the groupings have been made mutually exclusive.<br><br><a href="http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2015wesp_full_en.pdf">http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2015wesp_full_en.pdf</a> (August 2015)   |



| Concept, intended use    | Groupings   | Institution   | Notes  |
|--------------------------|---|---|--|
| Development, operational | Least Developed Countries (LDCs), Land Locked Developing Countries (LLDCs), Small Island Developing States (SIDS) | United Nations (Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States – OHRLLS) | <p>The list of 49 LDCs is based on three criteria: a three-year average estimate of GNI per capita; a human assets index (HAI); and an economic vulnerability index (EVI). Threshold levels are determined triennially; for 2015, the GNI per capita level for inclusion is \$1,035, and the level for graduation is \$1,242. To be included on the list of LDCs, a country must satisfy all three criteria, and the population must not exceed 75 million. To be eligible to graduate, a country must reach threshold levels for at least two of the three criteria, or its GNI per capita must exceed twice the graduation threshold level and be sustainable at that level. There are 31 LLDCs, generally among the poorest of the developing countries, with the weakest growth rates, and typically heavily dependent on a very limited number of commodities for their export earnings; 16 are also classified as LDCs. SIDS are a distinct group of 57 developing countries facing specific social, economic and environmental vulnerabilities; the UN recognizes the 38 Member States belonging to the Alliance of Small Island States (AOSIS); AOSIS also includes 19 other island entities that are non-UN Member States or are not self-governing or non-independent territories that are members of UN regional commissions; it excludes Bahrain.</p> <p><a href="http://unohrlls.org/about-ldcs/criteria-for-ldcs">http://unohrlls.org/about-ldcs/criteria-for-ldcs</a>;<br/> <a href="http://unohrlls.org/about-lldc">http://unohrlls.org/about-lldc</a>; <a href="http://unohrlls.org/about-sids">http://unohrlls.org/about-sids</a><br/> (August 2015)</p> |
| Economies, analytical    | Advanced, Emerging Market and Developing  | International Monetary Fund   | <p>The country classification used in the World Economic Outlook (WEO). It is not based on strict criteria, economic or otherwise, but instead has evolved over time to facilitate analysis by providing a reasonably meaningful organization of the data. Some countries are not included if they are not IMF members or because of data limitations. Other analytical country classifications are used in WEO, including source of export earnings, net debtor economies, and economies with arrears. Operational classifications are also used, including Low Income Developing Countries (LIDCs) (countries that were designated in 2013 as eligible for concessional financing from the Poverty Reduction and growth Trust and with per capita gross national income less than US\$2,390 in 2011, and Zimbabwe), and Highly Indebted Poor Countries (HIPC).</p> <p><a href="http://www.imf.org/external/pubs/ft/weo/2015/01/weodata/groups.htm">http://www.imf.org/external/pubs/ft/weo/2015/01/weodata/groups.htm</a> (April 2015)</p>   |

### Annex 3. Economies and their classification by selected schemes<sup>20</sup>

| Economy             | WBG          | UN – HDR  | UN – Statistics | UN – WESP  | UN –OHRLLS              | IMF WEO                      |
|---------------------|--------------|-----------|-----------------|------------|-------------------------|------------------------------|
| Afghanistan         | Low          | Low       | Developing      |            | Least Developed*        | Emerging Market & Developing |
| Åland Islands       |              |           | Developed       |            |                         |                              |
| Albania             | Upper Middle | High      | Developed       | Transition |                         | Emerging Market & Developing |
| Algeria             | Upper Middle | High      | Developing      | Developing |                         | Emerging Market & Developing |
| American Samoa      | Upper Middle |           | Developing      |            | Small Island Developing |                              |
| Andorra             | High         | Very High | Developed       |            |                         |                              |
| Angola              | Upper Middle | Low       | Developing      | Developing | Least Developed         | Emerging Market & Developing |
| Anguilla            |              |           | Developing      |            |                         |                              |
| Antigua and Barbuda | High         | High      | Developing      |            | Small Island Developing | Emerging Market & Developing |
| Argentina           | High         | Very High | Developing      | Developing |                         | Emerging Market & Developing |
| Armenia             | Lower Middle | High      | Developing      | Transition | Land Locked Developing  | Emerging Market & Developing |
| Aruba               | High         |           | Developing      |            | Small Island Developing |                              |
| Australia           | High         | Very High | Developed       | Developed  |                         | Advanced                     |
| Austria             | High         | Very High | Developed       | Developed  |                         | Advanced                     |
| Azerbaijan          | Upper Middle | High      | Developing      | Transition | Land Locked Developing  | Emerging Market & Developing |
| Bahamas, The        | High         | High      | Developing      |            | Small Island Developing | Emerging Market & Developing |
| Bahrain             | High         | Very High | Developing      | Developing |                         | Emerging Market & Developing |
| Bangladesh          | Lower Middle | Medium    | Developing      | Developing | Least Developed         | Emerging Market & Developing |
| Barbados            | High         | High      | Developing      | Developing | Small Island Developing | Emerging Market & Developing |

<sup>20</sup> Naming conventions follow those used by the World Bank's income classification; economies and territories that are not classified by the World Bank follow the naming conventions of the United Nations. Classification as at the dates indicated in Annex 2. \* indicates economies that are classified as both Least Developed Countries and Land Locked Developing Countries, \*\* indicates economies that are classified as both Least Developed Countries and Small Island Developing States.

| <b>Economy</b>                   | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|----------------------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Belarus                          | Upper Middle | High            | Developed              | Transition       |                         | Emerging Market & Developing |
| Belgium                          | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Belize                           | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Benin                            | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Bermuda                          | High         |                 | Developed              |                  |                         |                              |
| Bhutan                           | Lower Middle | Medium          | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Bolivia                          | Lower Middle | Medium          | Developing             | Developing       | Land Locked Developing  | Emerging Market & Developing |
| Bonaire, Sint Eustatius and Saba |              |                 | Developing             |                  |                         |                              |
| Bosnia and Herzegovina           | Upper Middle | High            | Developed              | Transition       |                         | Emerging Market & Developing |
| Botswana                         | Upper Middle | Medium          | Developing             | Developing       | Land Locked Developing  | Emerging Market & Developing |
| Brazil                           | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| British Virgin Islands           |              |                 | Developing             |                  |                         |                              |
| Brunei Darussalam                | High         | Very High       | Developing             | Developing       |                         | Emerging Market & Developing |
| Bulgaria                         | Upper Middle | High            | Developed              | Developed        |                         | Emerging Market & Developing |
| Burkina Faso                     | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Burundi                          | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Cabo Verde                       | Lower Middle | Medium          | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Cambodia                         | Low          | Medium          | Developing             |                  | Least Developed         | Emerging Market & Developing |
| Cameroon                         | Lower Middle | Low             | Developing             | Developing       |                         | Emerging Market & Developing |
| Canada                           | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Cayman Islands                   | High         |                 | Developing             |                  |                         |                              |
| Central African Republic         | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Chad                             | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |

| <b>Economy</b>     | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|--------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Channel Islands    | High         |                 | Developed              |                  |                         |                              |
| Chile              | High         | Very High       | Developing             | Developing       |                         | Emerging Market & Developing |
| China              | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Colombia           | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Comoros            | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Congo, Dem. Rep.   | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Congo, Rep.        | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Costa Rica         | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Cook Islands       |              |                 | Developing             |                  |                         |                              |
| Côte d'Ivoire      | Lower Middle | Low             | Developing             | Developing       |                         | Emerging Market & Developing |
| Croatia            | High         | Very High       | Developed              | Developed        |                         | Emerging Market & Developing |
| Cuba               | Upper Middle | Very High       | Developing             | Developing       | Small Island Developing |                              |
| Curaçao            | High         |                 | Developing             |                  |                         |                              |
| Cyprus             | High         | Very High       | Developing             | Developed        |                         | Advanced                     |
| Czech Republic     | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Denmark            | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Djibouti           | Lower Middle | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Dominica           | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Dominican Republic | Upper Middle | High            | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Ecuador            | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Egypt, Arab Rep.   | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| El Salvador        | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Equatorial Guinea  | High         | Medium          | Developing             | Developing       | Least Developed         | Emerging Market & Developing |

| <b>Economy</b>              | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|-----------------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Eritrea                     | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Estonia                     | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Ethiopia                    | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Faeroe Islands              | High         |                 | Developed              |                  |                         |                              |
| Falkland Islands (Malvinas) |              |                 | Developing             |                  |                         |                              |
| Fiji                        | Upper Middle | High            | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Finland                     | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| France                      | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| French Guiana               |              |                 | Developing             |                  |                         |                              |
| French Polynesia            | High         |                 | Developing             |                  | Small Island Developing |                              |
| Gabon                       | Upper Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Gambia, The                 | Low          | Low             | Developing             | Developing       | Land Locked Developing  | Emerging Market & Developing |
| Georgia                     | Lower Middle | High            | Developing             | Transition       |                         | Emerging Market & Developing |
| Germany                     | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Ghana                       | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Gibraltar                   |              |                 | Developed              |                  |                         |                              |
| Greece                      | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Greenland                   | High         |                 | Developed              |                  |                         |                              |
| Grenada                     | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Guam                        | High         |                 | Developing             |                  | Small Island Developing |                              |
| Guadeloupe                  |              |                 | Developing             |                  |                         |                              |
| Guatemala                   | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Guernsey                    |              |                 | Developed              |                  |                         |                              |

| <b>Economy</b>       | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|----------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Guinea               | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Guinea-Bissau        | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Guyana               | Lower Middle | Medium          | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Haiti                | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Holy See             |              |                 | Developed              |                  |                         |                              |
| Honduras             | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Hong Kong SAR, China | High         | Very High       | Developing             | Developing       |                         | Advanced                     |
| Hungary              | High         | Very High       | Developed              | Developed        |                         | Emerging Market & Developing |
| Iceland              | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| India                | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Indonesia            | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Iran, Islamic Rep.   | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Iraq                 | Upper Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Ireland              | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Isle of Man          | High         |                 | Developed              |                  |                         |                              |
| Israel               | High         | Very High       | Developing             | Developing       |                         | Advanced                     |
| Italy                | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Jamaica              | Upper Middle | High            | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Japan                | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Jersey               |              |                 | Developed              |                  |                         |                              |
| Jordan               | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Kazakhstan           | Upper Middle | High            | Developing             | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Kenya                | Lower Middle | Low             | Developing             | Developing       |                         | Emerging Market & Developing |

| <b>Economy</b>   | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Kiribati         | Lower Middle | Medium          | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Korea, Dem. Rep. | Low          |                 | Developing             |                  |                         |                              |
| Korea, Rep.      | High         | Very High       | Developing             | Developing       |                         | Advanced                     |
| Kosovo           | Lower Middle |                 |                        |                  |                         | Emerging Market & Developing |
| Kuwait           | High         | Very High       | Developing             | Developing       |                         | Emerging Market & Developing |
| Kyrgyz Republic  | Lower Middle | Medium          | Developing             | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Lao PDR          | Lower Middle | Medium          | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Latvia           | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Lebanon          | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Lesotho          | Lower Middle | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Liberia          | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Libya            | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Liechtenstein    | High         | Very High       | Developed              |                  |                         |                              |
| Lithuania        | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Luxembourg       | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Macao SAR, China | High         |                 | Developing             |                  |                         |                              |
| Macedonia, FYR   | Upper Middle | High            | Developed              | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Madagascar       | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Malawi           | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Malaysia         | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Maldives         | Upper Middle | Medium          | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Mali             | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Malta            | High         | Very High       | Developed              | Developed        |                         | Advanced                     |

| <b>Economy</b>        | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|-----------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Marshall Islands      | Upper Middle |                 | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Martinique            |              |                 | Developing             |                  |                         |                              |
| Mauritania            | Lower Middle | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Mauritius             | Upper Middle | High            | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Mayotte               |              |                 | Developing             |                  |                         |                              |
| Mexico                | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Micronesia, Fed. Sts. | Lower Middle | Medium          | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Moldova               | Lower Middle | Medium          | Developed              | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Monaco                | High         |                 | Developed              |                  |                         |                              |
| Mongolia              | Upper Middle | Medium          | Developing             |                  | Land Locked Developing  | Emerging Market & Developing |
| Montserrat            |              |                 | Developing             |                  |                         |                              |
| Montenegro            | Upper Middle | High            | Developed              | Transition       |                         | Emerging Market & Developing |
| Morocco               | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Mozambique            | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Myanmar               | Lower Middle | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Namibia               | Upper Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Nauru                 |              |                 | Developing             |                  |                         |                              |
| Nepal                 | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Netherlands           | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| New Caledonia         | High         |                 | Developing             |                  | Small Island Developing |                              |
| New Zealand           | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Nicaragua             | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Niger                 | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |



| <b>Economy</b>           | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|--------------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Nigeria                  | Lower Middle | Low             | Developing             | Developing       |                         | Emerging Market & Developing |
| Niue                     |              |                 | Developing             |                  |                         |                              |
| Norfolk Island           |              |                 | Developed              |                  |                         |                              |
| Northern Mariana Islands | High         |                 | Developing             |                  | Small Island Developing |                              |
| Norway                   | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Oman                     | High         | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Pakistan                 | Lower Middle | Low             | Developing             | Developing       |                         | Emerging Market & Developing |
| Palau                    | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Panama                   | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Papua New Guinea         | Lower Middle | Low             | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Paraguay                 | Upper Middle | Medium          | Developing             | Developing       | Land Locked Developing  | Emerging Market & Developing |
| Peru                     | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Philippines              | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Pitcairn                 |              |                 | Developing             |                  |                         |                              |
| Poland                   | High         | Very High       | Developed              | Developed        |                         | Emerging Market & Developing |
| Portugal                 | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Puerto Rico              | High         |                 | Developing             |                  | Small Island Developing |                              |
| Qatar                    | High         | Very High       | Developing             | Developing       |                         | Emerging Market & Developing |
| Réunion                  |              |                 | Developing             |                  |                         |                              |
| Romania                  | Upper Middle | High            | Developed              | Developed        |                         | Emerging Market & Developing |
| Russian Federation       | High         | High            | Developed              | Transition       |                         | Emerging Market & Developing |
| Rwanda                   | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Saint-Barthélemy         |              |                 | Developing             |                  |                         |                              |

| <b>Economy</b>            | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|---------------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Saint Pierre and Miquelon |              |                 | Developed              |                  |                         |                              |
| Samoa                     | Lower Middle | Medium          | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| San Marino                | High         |                 | Developed              |                  |                         | Advanced                     |
| São Tomé and Príncipe     | Lower Middle | Medium          | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Sark                      |              |                 | Developed              |                  |                         |                              |
| Saudi Arabia              | High         | Very High       | Developing             | Developing       |                         | Emerging Market & Developing |
| Senegal                   | Lower Middle | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Serbia                    | Upper Middle | High            | Developed              | Transition       |                         | Emerging Market & Developing |
| Seychelles                | High         | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Sierra Leone              | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Singapore                 | High         | Very High       | Developing             | Developing       | Small Island Developing | Advanced                     |
| Sint Maarten (Dutch part) | High         |                 | Developing             |                  |                         |                              |
| Slovak Republic           | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Slovenia                  | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Solomon Islands           | Lower Middle | Low             | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Somalia                   | Low          |                 | Developing             | Developing       | Least Developed         |                              |
| South Africa              | Upper Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| South Sudan               | Low          |                 | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Spain                     | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Sri Lanka                 | Lower Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| St. Helena                |              |                 | Developing             |                  |                         |                              |
| St. Kitts and Nevis       | High         | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| St. Lucia                 | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |

| <b>Economy</b>                 | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|--------------------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| St. Martin (French part)       | High         |                 | Developing             |                  |                         |                              |
| St. Vincent and the Grenadines | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Sudan                          | Lower Middle | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Suriname                       | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Svalbard and Jan Mayan Islands |              |                 | Developed              |                  |                         |                              |
| Swaziland                      | Lower Middle | Low             | Developing             |                  | Land Locked Developing  | Emerging Market & Developing |
| Sweden                         | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Switzerland                    | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Syrian Arab Republic           | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Taiwan, China                  | High         | Developing      |                        |                  |                         | Advanced                     |
| Tajikistan                     | Lower Middle | Medium          | Developing             | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Tanzania                       | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Thailand                       | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Timor-Leste                    | Lower Middle | Medium          | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Togo                           | Low          | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Tokelau                        |              |                 | Developing             |                  |                         |                              |
| Tonga                          | Upper Middle | High            | Developing             |                  | Small Island Developing | Emerging Market & Developing |
| Trinidad and Tobago            | High         | High            | Developing             | Developing       | Small Island Developing | Emerging Market & Developing |
| Tunisia                        | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Turkey                         | Upper Middle | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Turkmenistan                   | Upper Middle | Medium          | Developing             | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Turks and Caicos Islands       | High         |                 | Developing             |                  |                         |                              |
| Tuvalu                         | Upper Middle |                 | Developing             |                  | Least Developed*        | Emerging Market & Developing |

| <b>Economy</b>             | <b>WBG</b>   | <b>UN – HDR</b> | <b>UN – Statistics</b> | <b>UN – WESP</b> | <b>UN –OHRLLS</b>       | <b>IMF WEO</b>               |
|----------------------------|--------------|-----------------|------------------------|------------------|-------------------------|------------------------------|
| Uganda                     | Low          | Low             | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Ukraine                    | Lower Middle | High            | Developed              | Transition       |                         | Emerging Market & Developing |
| United Arab Emirates       | High         | Very High       | Developing             | Developing       |                         | Emerging Market & Developing |
| United Kingdom             | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| United States              | High         | Very High       | Developed              | Developed        |                         | Advanced                     |
| Uruguay                    | High         | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Uzbekistan                 | Lower Middle | Medium          | Developing             | Transition       | Land Locked Developing  | Emerging Market & Developing |
| Vanuatu                    | Lower Middle | Medium          | Developing             |                  | Least Developed*        | Emerging Market & Developing |
| Venezuela, RB              | High         | High            | Developing             | Developing       |                         | Emerging Market & Developing |
| Vietnam                    | Lower Middle | Medium          | Developing             | Developing       |                         | Emerging Market & Developing |
| Virgin Islands (U.S.)      | High         |                 | Developing             |                  | Small Island Developing |                              |
| Wallis and Fortuna Islands |              |                 | Developing             |                  |                         |                              |
| West Bank and Gaza         | Lower Middle | Medium          | Developing             |                  |                         |                              |
| Western Sahara             |              |                 | Developing             |                  |                         |                              |
| Yemen, Rep.                | Lower Middle | Low             | Developing             | Developing       | Least Developed         | Emerging Market & Developing |
| Zambia                     | Lower Middle | Medium          | Developing             | Developing       | Least Developed*        | Emerging Market & Developing |
| Zimbabwe                   | Low          | Low             | Developing             | Developing       | Land Locked Developing  | Emerging Market & Developing |