MILLENNIUM
CHALLENGE CORPORATION
UNITED STATES OF AMERICA

Fiscal Year 2018 (FY18) Data Notes

Political Rights

Source: Freedom House

Freedom House publishes a 1-7 scale (where 7 is "least free" and 1 is "most free") for Political Rights. Since its *Freedom in the World 2006* report, Freedom House has also released data using a 0-40 scale for Political Rights (where 0 is "least free" and 40 is "most free"). The Political Rights indicator is based on a 10 question checklist grouped into the three subcategories: Electoral Process (3 questions), Political Pluralism and Participation (4 questions), and Functioning of Government (3 questions). Points are awarded to each question on a scale of 0 to 4, where 0 points represents the fewest rights and 4 represents the most rights. The only exception to the addition of 0 to 4 points per checklist item is Additional Discretionary Question B in the Political Rights Checklist, for which 1 to 4 points are *subtracted* depending on the severity of the situation. The highest number of points that can be awarded to the Political Rights checklist is 40 (or a total of up to 4 points for each of the 10 questions). Table 1 illustrates how the 1-7 scale used prior to Fiscal Year 2007 (FY07) corresponds to the new 0-40 scale.

Table 1: Political Rights

New Scale	Old Scale
36-40	1
30-35	2
24-29	3
18-23	4
12-17	5
6-11	6
0-5	7

MCC adjusts the years on the x-axis of the Country Scorecards to correspond to the period of time covered by the *Freedom in the World* publication. For instance, FY18 Political Rights data come from *Freedom in the World 2017* and are labeled as 2016 data on the scorecard (the year Freedom House is

reporting on in its 2017 report.)

Civil Liberties

Source: Freedom House

Freedom House publishes a 1-7 scale (where 7 is "least free" and 1 is "most free") for Civil Liberties. Since its *Freedom in the World 2006* report, Freedom House has also released data using a 0-60 scale (where 0 is "least free" and 60 is "most free") for Civil Liberties. The Civil Liberties indicator is based on a 15 question checklist grouped into four subcategories: Freedom of Expression and Belief (4 questions), Associational and Organizational Rights (3 questions), Rule of Law (4 questions), and Personal Autonomy and Individual Rights (4 questions). Points are awarded to each question on a scale of 0 to 4, where 0 points represents the fewest liberties and 4 represents the most liberties. The highest number of points that can be awarded to the Civil Liberties checklist is 60 (or a total of up to 4 points for each of the 15 questions). Table 2 illustrates how the 1-7 scale used prior to FY07 corresponds to the new 0-60 scale.

Table 2: Civil Liberties

New Scale	Old Scale
53-60	1
44-52	2
35-43	3
26-34	4
17-25	5
8-16	6
0-7	7

MCC adjusts the years on the x-axis of the Country Scorecards to correspond to the period of time covered by the *Freedom in the World* publication. For instance, FY18 Civil Liberties data come from *Freedom in the World 2017* and are labeled as 2016 data on the scorecard (the year Freedom House is reporting on in its 2017 report.)

Control of Corruption, Government Effectiveness, Rule of Law, and Regulatory Quality

MCC Normalized Score = WGI Score + median score

Source: World Bank/Brookings Institution

For ease of interpretation, MCC has adjusted the median for low income countries (LICs) and lower-middle income countries (LMICs) to zero for all of the Worldwide Governance Indicators. Country scores are calculated by taking the difference between actual scores and the median. For example, the unadjusted median for LICs on Control of Corruption is -0.81 in FY18. In order to set the median at zero, we simply add 0.81 to each country's score. Therefore, as an example, São Tomé and Príncipe's FY18 Control of Corruption score, which was originally -0.06, has been adjusted to 0.75.

The FY18 scores come from the 2017 update of the Worldwide Governance Indicators dataset and largely reflect performance in calendar year 2016. Since the release of the 2006 update of the Worldwide Governance Indicators, the indicators are updated annually [1] . Each year, the World Bank and Brookings Institution also make minor backward revisions to the historical data.

Freedom of Information

MCC FOI Score = (Press) – (FOIA in place) + (Key Internet Controls)

Source: Freedom House, Centre for Law and Democracy / Access Info Europe

This indicator uses a country's score on Freedom House's Freedom of the Press index (Press) as the base. In FY18, MCC uses Freedom of the Press 2017, which covers events in 2016. A country's base score may improve based on data from the Global Right to Information Rating. In FY18, MCC uses Centre for Law and Democracy / Access Info Europe's Global Right to Information Rating (RTI) from 2017. A country's score is improved by 4 points if they have a Freedom of Information law enacted. Data from the Freedom House's Key Internet Controls is used to penalize some countries' base scores. A country's score is penalized 1 point for each internet control in place, for a total penalty of up to 9 points. For FY18, MCC used Key Internet Control data from the 2017 Freedom of the Net report produced by Freedom House.

On this index, lower is better.

Health Expenditures

Source: WHO

This indicator measures public expenditure on health as a percent of gross domestic product (GDP). MCC relies on the World Health Organization (WHO) for data on public health expenditure. The WHO estimates general government health expenditure (GGHE) — the sum of outlays by government entities to purchase health care services and goods — in million national currency units (million NCU) and in current prices. GDP data are primarily drawn from the United Nations National Accounts statistics.

In 2017, the WHO updated the methodology of how health expenditures are defined, based on the System of Health Accounts 2011. Due to these methodological changes, WHO has delayed publication of the 2015 dataset. As a result, MCC is using the latest update of 2014 GGHE data.

Countries receive an FY18 score only if 2014 expenditure data were available to the WHO. As better data become available, the WHO makes backward revisions to its historical data.

Primary Education Expenditures

MCC uses the most recent data point in the past six years

Source: UNESCO Institute of Statistics

This indicator measures public expenditure on primary education as a percent of GDP. MCC relies on the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute of Statistics as its source. For FY18, MCC first determined if a country has a value reported by UNESCO for 2011-2016. If so, the most recent data available within those years were used. If a country did not have UNESCO data for 2011-2016, it did not receive an FY18 score.

For UNESCO data, the GDP estimates used in the denominator are provided to UNESCO by the World Bank. As better data become available, UNESCO makes backward revisions to historical data.

Immunization Rates

MCC Immunization Rate = [0.5 x DPT3] + [0.5 x MCV]

Source: WHO/UNICEF

MCC relies on official WHO/United Nations Children's Fund (UNICEF) estimates for all immunization data. MCC uses the simple average of the 2016 DPT3 coverage rate and the 2016 measles (MCV) coverage rate to calculate FY18 country scores. If a country is missing data for either DPT3 or Measles, it does not receive an index value. The same rule is applied to historical data. As better data become available, WHO/UNICEF make backward revisions to the historical data.

Girls' Primary Education Completion [2]

MCC uses the most recent data point in the past six years

Source: UNESCO Institute of Statistics

MCC draws upon data from UNESCO's Institute of Statistics as its exclusive source of data for this indicator. To receive an FY17 score, countries must have a 2011–2016 UNESCO value. MCC uses the most recent year available. As better data become available, UNESCO makes backward revisions to its historical data.

Girls' Primary Education Completion is measured as the gross intake ratio in the last grade of primary, which is the total number of female students enrolled in the last grade of primary (regardless of age), minus the number of female students repeating the last grade of primary, divided by the total female population of the entrance age of the last grade of primary. This indicator was selected since data limitations preclude adjusting the girls' primary education completion rate for students who drop out during the final year of primary school. Therefore, UNESCO's estimates should be taken as an upper-bound estimate of the actual female primary completion rate. Because the numerator may include late entrants and over-age children who have repeated one or more grades of primary school but are now graduating, as well as children who entered school early, it is possible for the primary completion rate to exceed 100 percent.

Girls' Secondary Education Enrollment [3]

MCC uses the most recent data point in the past six years

Source: UNESCO

MCC draws upon data from UNESCO's Institute of Statistics as its exclusive source of data. To receive an FY18 score, countries must have a 2011–2016 UNESCO value on "gross enrolment ratio, lower secondary (female)." MCC uses the most recent year available. As better data become available, UNESCO makes backward revisions to its historical data.

The Girls' Secondary Education Enrollment Ratio indicator measures the number of female pupils enrolled in lower secondary school (regardless of age), expressed as a percentage of the total female population of the standard age of enrolment for lower secondary education. Lower secondary school is defined as a program typically designed to complete the development of basic skills and knowledge which began at the primary level. Because the numerator may include late entrants and over-age children, as well as children who entered school early, it is possible for the primary completion rate to exceed 100 percent.

Natural Resource Protection

Source: CIESIN/YCELP

In creating the indicator used for the FY18 data, Columbia University's Center for International Earth Science Information Network (CIESIN) and the Yale Center for Environmental Law and Policy (YCELP) relied on 2017 eco-region protection data from United Nations Environment Programme-World

Conservation Monitoring Center. As better data become available, CIESIN and YCELP make backward revisions to historical data.

Child Health

CIESIN/YCELP's Child Health Score = [0.33 x Child Mortality] + [0.33 x Access to Water] + [0.33 Access to Sanitation]

Source: CIESIN/YCELP

In creating the index used for the FY18 data, Columbia University's Center for International Earth Science Information Network (CIESIN) and the Yale Center for Environmental Law and Policy (YCELP) relied on 2015 child (ages 1-4) mortality data, 2015 water access data, and 2015 sanitation access data. If no 2015 updates were available, previous data were applied. Each of the three components (child mortality, access to water, and access to sanitation) is equally weighted (33.3%) in the overall index. Country scores are reported on the FY18 MCC Country Scorecards as 2017 data. As better data become available, CIESIN and YCELP make backward revisions to historical data.

Fiscal Policy

MCC's Fiscal Policy Score = [0.33 x 2014] + [0.33 x 2015] + [0.33 x 2016]

Source: IMF

MCC relies exclusively on the International Monetary Fund's (IMF) World Economic Outlook (WEO) database for Fiscal Policy data. The fiscal policy indicator measures general government net lending/borrowing as a percent of GDP, averaged over a three year period. Net lending / borrowing is calculated as revenue minus total expenditure. The FY18 score averages the annual data of 2014, 2015 and 2016. As better data become available, the IMF makes backward revisions to its historical data.

The IMF published the net lending/borrowing series for the first time in the 2010 WEO database.

Inflation

Source: IMF

MCC relies exclusively on the IMF's WEO database for inflation data. WEO inflation data reflect annual percentage change averages for the year, not end-of-period data. FY18 data refer to the 2016 inflation rate.

As better data become available, the IMF makes backward revisions to its historical data.

Trade Policy

Source: Heritage Foundation

MCC relies on the Trade Freedom component of the Heritage Foundation's annual *Index of Economic Freedom* for its Trade Policy indicator. The Heritage Foundation scale ranges from 0 to 100, where 0 represents the highest level of protectionism and 100 represents the lowest level of protectionism. FY18 data come from the *2018 Index of Economic Freedom* and are treated as 2016 values on the scorecard [4] . As better data become available, the Heritage Foundation makes backward revisions to its historical data.

The equation used to convert tariff rates and non-tariff barriers (NTB) into the 0-100 scale is presented below:

Heritage Foundation's Trade Policy_i*Score* = $\{[(\text{Tariff}_{max}\text{-Tariff}_i) \div (\text{Tariff}_{max} - \text{Tariff}_{min})] \times 100\} - \text{NTBi}$

Trade Policy_i represents the trade freedom in country i, Tariff_{max} and Tariff_{min} represent the upper and lower bounds (50 and 0 percent respectively), and Tariffi represents the weighted average tariff rate in country i. The result is multiplied by 100 to convert it to a percentage. If applicable to country i, an NTB penalty of 5, 10, 15, or 20 points is then subtracted from the base score, depending on the pervasiveness of NTBs.

Business Start-Up

MCC's Business Start-up Score = [0.5 x (Normalized Days to Start a Business)] + [0.5 x (Normalized Cost to Start a Business)]

Source: International Finance Corporation

The Business Start-Up index is calculated as the average of two indicators from the International Finance Corporation's (IFC) *Doing Business* survey:

- Days to Start a Business: This component measures the number of calendar days it takes to comply with all procedures that are officially required for male and female entrepreneurs to start up and formally operate an industrial or commercial business. These include obtaining all necessary licenses and permits and completing any required notifications, verifications or inscriptions for the company and employees with relevant authorities.
- Cost of Starting a Business: This component measures the cost of starting a business as a percentage of country's per capita income. The IFC records all procedures that are officially required for an entrepreneur to start up and formally operate an industrial or commercial business.

These include obtaining all necessary licenses and permits and completing any required notifications, verifications or inscriptions for the company and employees with relevant authorities.

Since the two sub-components of the Business Start-Up index have different scales, MCC normalizes the indicators to create a common scale for each of them.

MCC Methodology to Normalize Days or Cost to Start a Business:

- *Normalized Days (or Cost) to Start a Business*= (*Maximum observed value – Country X's raw score*) ÷ (*Maximum observed value –Minimum observed value*)

For example, to calculate Mozambique's normalized score on the Days to Start a Business indicator, we would first subtract Mozambique's raw score (19) from the maximum observed value (230) [5] . We would then divide the difference between those two numbers (211) by the difference between the maximum observed value (230) and the minimum observed value (0.5). This yields a normalized "days to start a business" score of 0.919. After both of the two sub-components were transformed into a common scale, MCC calculated the Business Start-Up Index using the following formula:

Business Start-Up = 0.5(IFC Days to Start a Business) + 0.5(IFC Cost of Starting a Business)

In Mozambique's case, its normalized Days to Start a Business score (0.919) is given a 50% weight and its Cost of Starting a Business score (0.949) is given a 50% weight. This yields a Business Start-Up index value of 0.934

FY18 data refer to the 2018 values reported in the IFC's *Doing Business 2018* report and are labeled as 2017 on the scorecard. As better data become available, the IFC makes backward revisions to its historical data.

In 2015, IFC's *Doing Business Report* added a second city of analysis for Bangladesh, Brazil, China, India, Indonesia, Japan, Mexico, Nigeria, Pakistan, Russia, and the United States. As a result, these countries scores from 2014 to 2018 (displayed as 2013 to 2017 on the MCC scorecard) are an average across two cities. Due to this change, these countries' data from 2014 to 2018 are not comparable to previous year's data.

In 2017, IFC's *Doing Business Report* disaggregated data for both Cost and Days to Start a Business by gender. MCC utilizes the simple average of the disaggregated data to represent scores for every country covered in the report. Because IFC historically revised its dataset with gender dis-aggregations, current year data is comparable to previous year's data.

Access to Credit

MCC's Access to Credit Score = [12 x (Depth of Credit) + 8 x (Strength of Legal Rights)] / 2

Source: IFC

This indicator measures the depth of available credit information and the effectiveness of collateral and bankruptcy laws in facilitating lending. It is a composite indicator made up of two indicators from the *Doing Business* report: *Depth of Credit Information* and *Strength of Legal Rights*. The depth of credit information index measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau. A score of 1 is assigned for each of 8 features of the public credit registry or private credit bureau (or both) and the total is summed for the final score. The strength of legal rights index measures the extent to which bankruptcy and collateral laws protect the rights of borrowers and lenders to facilitate lending. It contains 12 aspects related to legal rights in collateral law and two aspects in bankruptcy law. A score of 1 is assigned for each of the 12 features of the laws and the total is summed for the final score.

In order to give equal weight to each index, MCC multiplies the *Depth of Credit Information* score by 12 and the *Strength of Legal Rights* score by 8 and then takes the average.

In the *2015 Doing Business Report*, IFC made a number of methodological changes to the Access to Credit sub-indicators, including adding new and more challenging standards for a number of the sub-indicators. The IFC therefore revised a number of countries' scores in accordance to the new standards. These revised scores were applied to the 2015 and 2014 data (reflected on MCC's scorecard as 2014 and 2013 data) but not to previous years. As a result, data from prior to 2014 is not comparable to data after 2014.

Gender in the Economy

Note: the current version of the Gender in the Economy indicator has been used for calculating scorecard passage rates in FY18. However, this version of the indicator will be revised with a new version beginning in FY19. See below for a description of the different methodologies used for each version.

MCC adds the number of legal restrictions against women.

Source: IFC/World Bank

This indicator measures the government's commitment to promoting gender equality by providing women and men with the same legal ability to interact with the private and public sector. This data comes from the Accessing Institutions section of the World Bank's Women, Business, and the Law Report. In FY18, MCC used 2016 data from the Women, Business, and the Law website.

This indicator looks at whether married and unmarried women have the same legal rights as married and unmarried men to participate in 10 economic activities: getting a job, registering a business, signing a contract, opening a bank account, choosing where to live, getting passports, travelling domestically and

abroad, passing on citizenship to their children, and becoming heads of households. For the purposes of this indicator, women have the same capacity as men if they are legally able to perform these activities in the same way as men. Women are considered to have less capacity to act if they have fewer rights than men in the areas examined. When conducting the assessments it is assumed that women have reached the legal age of majority; are sane, competent, in good health, and without a criminal record; and where married, are involved in a monogamous relationship.

MCC sums the total number of restrictions, which then represents a country's score in the scorecard. For LICs, the median is 'one' in FY18. Countries must score below the median to pass this indicator. Therefore, LICs must have no restrictions to pass this indicator in FY18. The median for LMICs is 'zero' in FY18. Since it is not possible to have fewer than zero restrictions on women, LMICs who score on the median are considered passing on this indicator in FY18.

As better data become available, the World Bank makes backward revisions to its historical data.

Revised Gender in the Economy Indicator (to be used on the scorecards beginning in FY19 – published as an annex to the scorecards in FY18 for informational purposes only)

MCC's new Gender in the Economy Score = [number of legal restrictions against women] + [0.5 x (number of legal restriction against married women)] + [0.5 x (number of legal restrictions against unmarried women)]

Source: IFC/World Bank

MCC will continue to use the World Bank's Women, Business, and the Law Report but expand the number of areas looked at from the 10 economic activities examined in the current version of the indicator, to 40 questions in total from the Accessing Institutions (22 questions), Using Property (6 questions), Getting a Job (2 questions), Going to Court (1 question), and Protecting Women from Violence (9 questions) sections of the report. In FY18, MCC used 2016 data from the Women, Business, and the Law website.

The revised Gender in the Economy indicator measures the legislation that has both a direct and indirect impact on women's ability to earn an income, start a business, or get a job. The indicator looks at whether women have the same legal rights and necessary protections to participate in economic activities, namely: constitutional protection of nondiscrimination, getting a job, registering a business, signing a contract, opening a bank account, choosing where to live, getting national IDs, travelling domestically and abroad, passing on citizenship to their children, becoming heads of households, managing family finances, administering marital property, valuation of marital contributions, ownership rights to property, inheriting from parents, inheriting from spouses, testimony's evidentiary weight, working night hours, working the same jobs as men, domestic violence legislation, specialized domestic violence court, sexual harassment legislation, legal age of marriage, exceptions to age of marriage, explicit prohibition of child marriage, and penalties for child marriage [6] . When conducting the assessments it is assumed that women have reached the legal age of majority; are sane, competent, in good health, and without a criminal record;

and where married, are involved in a monogamous relationship.

MCC sums the total number of restrictions and absence of protections against violence, which then represents a country's score on the scorecard. All questions are equally weighted, with the exception of questions that are disaggregated between married and unmarried women. 22 of the 40 questions MCC uses from the WBL dataset are dis-aggregations between married and unmarried women, measuring 11 unique concepts. Because these 22 questions only measure 11 concepts and the remaining questions included in the indicator are not disaggregated by married and unmarried women, these 22 questions are given a weight of one half compared to the remaining 18 questions.

As better data become available, the World Bank makes backward revisions to its historical data.

On this indicator, lower is better.

Land Rights and Access

MCC's Land Rights and Access Score = [0.5 x Normalized IFAD] + [0.25 x (Normalized IFC Time)] + [0.25 x (Normalized IFC Cost)]

Source: IFAD, IFC

This index draws on 2013-2017 "Access to Land" data from the International Fund for Agricultural Development (IFAD) and 2013-2017 data from the IFC on the time and cost of property registration. Country scores are reported on the Scorecards as 2017 data.

Countries that received a "no practice" score on the IFC's Time to Register Property indicator were assigned the maximum observed value (i.e. the worst possible score) plus one additional day. Countries that received a "no practice" score on the Cost of Registering Property indicator were assigned the maximum observed value (i.e. the worst possible score) plus one additional percentage point of the property value [7] .

Since each of the three sub-components of this index have different scales, MCC created a common scale for each of the indicators by normalizing them. Please see equations below. Due to the fact that high scores on the IFC indicators represent low levels of performance and high scores on the IFAD indicator represents high levels of performance, it was also necessary to invert either the IFAD normalized scale or the IFC normalized scales. MCC chose to invert the IFAD scale by subtracting each country's normalized value from 1.

MCC Methodology to Normalize IFAD and IFC Data:

- *Normalized IFAD = 1 –* (*Maximum observed value– Country X's raw score*) ÷ (*Maximum observed value –Minimum observed value*)

- *Normalized Days (or Cost) to Register a Property*= (*Maximum observed value – Country X's raw score*) ÷ (*Maximum observed value –Minimum observed value*)

For example, to calculate Moldova's normalized score on the IFC Days to Register Property indicator, we would first subtract the maximum observed value (514) from Moldova's raw score (5.5). We would then divide the difference between those two numbers (508.5) by the difference between the maximum observed value (514) and the minimum observed value (1). This yields a normalized "days to register property" score of 0.9912. After each of the three sub-components was transformed into a common scale, MCC calculated the Land Rights and Access Index using the following formula:

MCC's Land Rights and Access Score = [0.5 x Normalized IFAD] + [0.25 x (Normalized IFC Time)] + [0.25 x (Normalized IFC Cost)]

In Moldova's case, its normalized IFAD score (0.8264) is given a 50% weight, its IFC Time to Register Property score is given a 25% weight (0.9912), and its IFC Cost of Registering Property score (0.9691) is given a 25% weight. This yields a Land Rights and Access index value of 0.901.

FY18 data on the time and cost of registering property are drawn from the 2018 data in the IFC's *Doing Business 2018* Report. FY18 index values also rely upon the most recent year available from IFAD's 2013 – 2017 "Access to Land" data. Historical time series data was constructed using a lag structure that assigns an index value to a country only if that country has data from both IFAD and IFC for the year of interest or the most recent prior year if no data were available for the year of interest [8] . No index value is assigned if data from one source exists for a given year, but data from the other source exists only for years after the year of interest.

In 2015, IFC's *Doing Business Report* added a second city of analysis for Bangladesh, Brazil, China, India, Indonesia, Japan, Mexico, Nigeria, Pakistan, Russia, and the United States. As a result, these countries scores for 2014 and 2015 (displayed as 2013 and 2014 on the MCC scorecard) are an average across two cities. Due to this change, these countries data for 2014 and 2015 are not comparable to previous year's data.

Note on Calculating Medians

In calculating medians for indicators, MCC does not include scores of countries which do not report data (earning an N/A score) for median or percentile rank calculations. For example, if there are 55 countries in the candidate pool and only 50 report data, MCC uses only the 50 reporting data in calculating the median and percentile ranks.

Endnotes

1. Prior to 2006, the World Bank released data every two years (1996, 1998, 2000, 2002 and 2004). With the 2006 release, the World Bank moved to an annual reporting cycle and provided additional historical data for 2003 and 2005.
2. Girls Primary Education Enrolment is used to assess countries with LIC scorecards.
3. Girls Secondary Education Enrolment is used to assess countries with LMIC scorecards.
4. The Index of Economic Freedom is typically released in January, and before FY09, MCC had relied on the most recent of these data for its Trade Policy indicator. However, beginning in September of 2008, the Heritage Foundation has released a preview of the Trade Freedom scores for the upcoming Index of Economic Freedom in early November. The FY18 Trade Policy scores come from the *2018 Index of Economic Freedom*.
5. The minimum observed value is the minimum of all 189 countries covered by the Doing Business 2018 report. The maximum observed value is the maximum of all 189 countries covered by the Doing Business 2018 report plus one (day or percentage point) to account for the "no practice" values.
6. Countries are penalized for a legal age of marriage below 18.
7. As described in the Doing Business in 2007 report, "[w]hen an economy has no laws or regulations covering a specific area — for example bankruptcy — it receives a 'no practice' mark. Similarly, if regulation exists but is never used in practice, or if a competing regulation prohibits such practice, the economy receives a 'no practice' mark. This puts it at the bottom of the ranking" (World Bank 2006: 74).
8. As better data become available, the IFC makes backward revisions to its historical data.