# FORDHAM'S POPE FRANCIS GLOBAL POVERTY REPORT





FORDHAM UNIVERSITY

GRADUATE PROGRAM IN INTERNATIONAL POLITICAL ECONOMY AND DEVELOPMENT

2023

*"To enable these real men and women to escape from extreme poverty, we must allow them to be dignified agents of their own destiny.* 

At the same time, government leaders must do everything possible to ensure that all can have the minimum spiritual and material means needed to live in dignity.

In practical terms, this absolute minimum has three names: lodging, labor, and land; and one spiritual name: spiritual freedom, which includes religious freedom, the right to education and other civil rights."

> -- Pope Francis in his Address to the United Nations on September 25, 2015



# FORDHAM FRANCIS GLOBAL POVERTY SCORECARD

or the year 2023, the Global Poverty Gap is 25.6%, a slight improvement over 2022. The world may be starting to rebound from the effects of the COVID Pandemic. We observe some limited improvements in people's access to water, housing, and religious freedom. Employment has also improved, but not yet to pre-COVID levels. Unfortunately, we also observe a decline in access to education and gender equity. And access to food is declining at an accelerating pace.

The Global Poverty Gap is simply the global average of the relevant world populations that lack access to the seven basic human needs fundamental to human dignity identified by Pope Francis in his 2015 address to the United Nations General Assembly. Pope Francis' Seven Primary Indicators include four indicators of material welfare — access to water, food, housing, and employment. — and three indicators of spiritual freedom — access to education, gender equity, and religious freedom.

Based on the most recently available data in early 2022 we learned that:

### Water

8.8% of the world's population lack access to water in 2022, leaving roughly 700 million people without basic access to an improved drinking water source such as a well with a collection time not exceeding 30

minutes.

#### Food

9.3% of the world's population were unable to obtain their minimal nutritional needs in 2020, leaving about 726 million people who were undernourished.

### Housing

14.8% of the world's population lived in substandard housing in 2021, leaving approximation 1.2 billion people living in housing where roofs, walls, or floors were either lacking or made from substandard materials such as cardboard, dung or earth.

### FORDHAM FRANCIS GLOBAL POVERTY SCORECARD (2023)

MATERIAL WELFARE GAPS						
Water Food Housing Employment	8.8% 9.3% 14.8% 22.2%					
SPIRITUAL FREEDOM GAPS	SPIRITUAL FREEDOM GAPS					
Education Gender Equity Religious Freedom	13.2% 53.8% 57.0%					
OVERALL GLOBAL POVERTY GAP	25.6%					

### Employment

22.2% of the world's labor force lacked adequately remunerated employment in 2022, leaving approximately 790 million workers without work or employed at a wage below the poverty wage of \$3.20 per day.

### Education

13.2% of the world's adult population were illiterate in 2021, leaving close to 777 million adults who cannot read, write, or comprehend a simple statement about their daily life.

### **Gender Equity**

53.8% of women and girls in the world in 2022 resided in societies that severely discriminate against them, leaving roughly 2.1 billion women and girls living in counties where their health and survival are threatened.

### **Religious Freedom**

57.0% of the world's population in 2020 resided in countries where religious freedom is severely restricted, leaving close to 4.5 billion people living in societies that face severe government restrictions such as banning particular faiths, prohibiting conversion, or giving preferential treatment to one or more religious groups.

For more details, please consult Part I of this report on Pope Francis' Primary Indicators (page 5).





#### About the Logo:

The logo illustrates the seven primary elements that are considered in the Fordham Francis Index. The four elements on the left side represent the Material Well-being components of Water, Food, Housing, and Employment. The remaining three on the right side comprise the Spiritual Freedom components of Education, Gender Equity, and Religious Freedom. Logo design by Armand Aquino, IPED 2017.

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Special thanks to all the participants at the **2022 World Day of the Poor Side Event at the United Nations** where we publicly released last year's *Fordham's Pope Francis Global Poverty Index*. We are grateful for the many insightful questions and comments we received and, in particular, we want to thank His Excellency, Archbishop Gabrielle Caccia, Apostolic Nuncio and Permanent Observer of the Holy See to the UN for his welcoming remarks, our keynote speaker, Mr. Bill O'Keefe, Executive VP of Catholic Relief Services for his insights on the "Global Climate Crisis," and our moderator, Ms. Brianna Fitzpatrick, the UN Liaison of *Caritas Internationalis*. Thank you to Ms. Maureen McCullough, Esq. who, along with her team at Catholic Relief Services, greatly assisted us in organizing the event.

We want to acknowledge the U.S. branch of the Vatican Foundation Centesimus Annus Pro Pontifice. The Foundation's request for us to present our ideas at their 2016 international conference on "Pope Francis' Call for Escaping Poverty" is what led to the creation of this index. Thanks to His Eminence Cardinal Pietro Parolin, Vatican Secretary of State, for his kind words of support in 2019, as well as His Excellency, Archbishop Bernardito Auza, formerly the Permanent Observer of the Holy See to the UN, for his unfailing availability. Special thanks are due to Mr. Joseph Cornelius Donnelly, now retired from Caritas Internationalis, for his support in promoting the report at the United Nations Headquarters in New York. We are indebted to many of our readers who have provided us with suggestions over the last seven years on ways to improve the index. We are grateful to Fr. Elias D. Mallon, SA, PhD of the Catholic Near East Welfare Association (CNEWA) for his comments on religious freedom; Mr. Timothy Herrmann, formerly of the Holy See Mission to the U.N. for his comments on the global migration crisis; Dr. Christian Oldiges, formerly of Oxford University's Poverty and Human Development Institute for his helpful comments on measuring adequate housing as well as on the value of multi-dimensional poverty indicators in general; Mr. Tom Slaymaker of UNICEF/WHO's Joint Programme on Water Supply and Sanitation for his comments on measuring basic access to water; Mr. Robert Nalewajek, of CAPP-USA for his careful reading of our reports, Ms. Bea Lumanas of UNICEF for her insights on education in emergency situations; Dr. Andrew Simmons of Fordham University for his insights on global food security; Dr. Robert Brent of Fordham University for various insights on aggregation; and Dr. Hrishikesh Vinod of Fordham University for comments on measuring correlations. We also want to thank participants at the 2022 Conference on Integral Ecology at the Gregorian University in Rome, the 2022 Conference on Catholic Social Teaching at the Catholic University of America, the 2023 Catholic Social Tradition Conference at the University of Notre Dame, and our colleagues at Notre Dame's Pulte Institute for Global Development for stimulating discussions.

We wish to acknowledge the many responses we have received from the Vatican Secretary of State, the Congregation for the Evangelization of Peoples, the Dicastery for Integral Human Development, the Archdioceses of Manila, New York and Newark; the Diocese of Bridgeport; the Eparchy of St. Maron of Brooklyn; as well as the many Papal Nuncios from around the world including Australia, Austria, Belgium, Canada, Czech Republic, Ghana, India, Ireland, Italy, Japan, Kenya, the Netherlands, New Zealand, Philippines, Portugal, UN Headquarters in New York, Spain, the United Kingdom, and the United States. And finally we want to thank Fordham University's Graduate Program in International Political Economy and Development (IPED) for their official sponsorship and the Cassamarca Foundation for their financial support. All remaining errors and omissions are solely the responsibility of the authors.

### Table of Contents

Fordham Francis Global Poverty Scorecard	iii
Foreword	3
PART I: POPE FRANCIS' PRIMARY INDICATORS	5
Material Well-being Indicators	6
Water	7
Food	9
Housing	11
Employment	13
Spiritual Freedom Indicators	16
Education	17
Gender	19
Religious Freedom	21
Correlation Matrix	23
PART II: THE UN SUSTAINABLE DEVELOPMENT GOALS	25
PART III: FORDHAM FRANCIS INDEX	31
Material Well-being Index	33
Spiritual Freedom Index	37
Fordham's Pope Francis Global Poverty Index	41
2023 Fordham Francis Index Country Rankings	45
Appendices	50
Appendix A: 20223 Fordham Francis Index - Alphabetical Listing of All Countries	
Appendix B: Variables Definitions and Sources	57
Appendix C: Technical Notes	63
Appendix D: Photo Credits	71
Appendix E: Pope Francis Quote Sources	72
Research Team	73

# FOREWORD

e invite you to explore the 2023 edition of Fordham's Pope Francis Global Poverty Index Report (FFI). In response to Pope Francis' address to the UN General Assembly in 2015, faculty and students at Fordham University's Graduate Program in International Political Economy and Development (Fordham IPED) have devised a unique and innovative measure of integral human development that focuses not only on material poverty but also on spiritual poverty. Each year our research teams document the extreme poverty that hundreds of millions of our sisters and brothers suffer from around the world. In contrast to other measures of economic growth and human development, the Fordham Francis Index (FFI) is more pro-poor with its emphasis on basic human needs and more profreedom with its emphasis on civil liberties.

For a brief overview of our results, a quick look at the **Fordham Francis Global Poverty Scorecard** on page iii should suffice. For a more detailed explanation about the Fordham Francis Index (FFI), you may wish to explore Parts I, II, and III of this report.

**Part I** — **Pope Francis' Primary Indicators** — describes in more detail the seven primary indicators of global poverty used by the Fordham Francis Index (FFI). Each statistic we use to measure lack of access to water, food, housing, employment, education, gender equity, and religious freedom are defined and justified. For each measure, recent trends are

graphed, the global geographical distribution of human needs is mapped, and the ten countries suffering the most deprivation are listed.

**Part II — UN Sustainable Development Goals** explores the statistical relationships between Pope Francis' seven primary indicators of basic human needs and various targets of the UN Sustainable Development Goals (SDGs). There appears to be significant alignment between many of Pope Francis' Primary Indicators and the UN's SDGs. However, some of the UN Sustainable Development Goals (SDGs) may not be as focused on the most pressing needs of the world's marginalized. And the UN's SDGs do not appear to focus as much on the importance of civil liberties. There is also some evidence indicating a trade off between poverty reduction and the use of green energy.

**Part III** — Fordham Francis Index — aggregates the data from the seven primary indicators into a Material Welfare Index (MWI), a Spiritual Freedom Index (SFI) and an overall composite, the Fordham Francis Index (FFI). We rank individual countries on the basis of the Fordham Francis Index. And from among developing counties with complete data we identify the top ten countries. In addition to ranking individual countries we also compare the Fordham Francis Index (FFI) with the United Nations Development Programme's Human Development Index (HDI) and a measure of Per Capita Income. We are able to demonstrate that the Fordham Francis Index (FFI) is a more pro-poor index with its

### Fordham Francis Index & Integral Human Development

#### Measuring Global Access to both Material and Spiritual Basic Human Needs



Star Chart: Each spoke represents a critical human need. The length of each spoke represents the percentage of the relevant global population that has access to that basic human need.

emphasis on the basic material human needs of the most marginalized and that it is a more pro-freedom index with its incorporation of civil liberties into its measure of spiritual freedom. Hence, we are able to argue that Fordham's Pope Francis Global Poverty Index is a more complete and integral measurement of human development.

We welcome and invite your comments and critiques. At your convenience, please contact us through email

#### at iped@fordham.edu.

Sincerely,

### Professor Henry Schwalbenberg

Editor, Fordham Francis Index (FFI)

Director, Graduate Program in International Political Economy and Development, Fordham University, Bronx, New York 10458, USA. ope Francis identified seven basic human needs that are essential for a minimal level of both material well-being and spiritual freedom. Francis sees water, food, housing, and employment as essential for material well-being. He also sees education, religious freedom, and other civil rights, such as gender equity, as essential for spiritual freedom.

The researchers at Fordham carefully evaluated various statistics that could be appropriate measures for each of these seven basic human needs. Our selection criteria followed a robust yet straightforward approach. First, we wanted a statistic that best captured Pope Francis' views of each of these seven basic human needs. In particular, we chose statistics that measure the welfare of the most marginalized people. Next we needed the data to be public and easily accessible so that our results could be reproduced anywhere in the world. An important concern was geographical coverage and obtaining as many observations as possible. Finally, we were concerned about the consistency, reliability, and credibility of the data and sought to use data collected and distributed by respected international organizations, such as the United Nations and the World Bank.

In the following sections, we provide a more detailed definition, identification, and justification for each of our seven chosen measures. For each statistical measure of a primary indicator, we graph its global trend, map the most recently available data to better visualize geographical disparities around the world, and identify the ten countries who most lacked that particular basic human need.



### **Material Well-being Indicators**

In this section we will review each of Pope Francis' four indicators of material wellbeing: water, food, housing, and employment. In the classical tradition, human material needs are both physical and social. Water and food are representative of basic human physical goods needed to sustain the body, while housing and employment are representative of basic human social goods needed to sustain families and communities.

Marginalized people can not be denied the basic material goods they need to live a genuinely human life, where they can contribute the common good and become "dignified agents of their own destiny."

We will describe the choice of statistics we used to measure each indicator, describe recent global trends, and identify those areas of the world most lacking these basic material needs.

### WATER

"For us believers 'sister' water is not a commodity: it is a universal symbol and a source of life and health - Pope Francis, World Water Day 2021

We estimate that in 2022 roughly 700 million people, or 8.8% of the world's population, lack basic access to drinking water. Graph 1 shows continued improvement since 2013 until 2022 in the percentage and number of people who lack basic access to drinking water compared to previous years.

Pope Francis includes access to drinking water as a basic human need because it is fundamental to sustaining human life. He argues that it is not enough for the marginalized to have access to any type of water. The water should be clean and accessible enough to be obtained when needed, and without undue burden.

We chose the percentage of a nation's population with basic access to drinking water services from an improved drinking water source as the best statistic to measure Pope Francis' understanding of the fundamental human need for clean water. This statistic measures a population's access to drinking water from improved sources with collection time not exceeding 30 minutes for a roundtrip including queuing. Improved drinking water sources are those that have the potential to deliver safe water by the nature of their design and construction and include: piped water, boreholes or tubewells, protected dug wells, protected springs, rainwater and packaged or delivered water. The latest data available from the WHO/UNICEF Joint Monitoring Programme (JMP) water and sanitation database was from 2022. For 2022, data was available for 207 countries.



### Global Trend

Graph 1 shows the number and percentage of the world population without access to an improved water source. These numbers have been on a steady decline since 2013.

### International Distribution of Needs

Table 1 lists the ten countries whose populations have the least basic access to drinking water. The country

# Table 1: Ten most deprived nations with respect toaccess to an improved drinking water source

Rank	Country	% No access (2022)	Population affected (in millions)	
1	Democratic Republic of the Congo	64.9	63.2	
2	Central African Republic	63.7	3.5	
3	South Sudan	58.8	6.4	
4	Niger	51.1	13.1	
5	Burkina Faso	50.5	11.3	
6	Papua New Guinea	49.8	5.0	
7	Ethiopia	48.5	59.1	
8	Chad	48.0	8.4	
9	Madagascar	46.5	13.6	
10	Angola	42.3	14.8	
	WORLD	8.8	700.3	



with the least access to improved water sources is the Democratic Republic of the Congo. As the table shows, nine of the ten countries most deprived of access to drinking water are in Africa, while the third most deprived country—Papua New Guinea— is in Oceania. country's population without basic access to drinking water from an improved source, with darker colors indicating increased levels of deprivation. The map shows that water deprivation is heavily concentrated in Sub-Saharan Africa with sporadic deprivation in the Middle East and Asia.

The map in Figure 1 shows the percentage of each





### Food

"The struggle against hunger urgently demands generous financing, the abolition of trade barriers and, above all, greater resilience in the face of climate change, economic crises and warfare"

- Pope Francis, World Food Day 2018

We estimate that in 2020 about 726 million people, or 9.3% of the world's population, are undernourished. In 2020 we see an escalating rise in both the number and the percentage of people suffering from undernourishment.

Pope Francis' selection of access to adequate food as another primary indicator is based on the belief that every individual has a right to life. In 2013, he called the inexplicable presence of hunger and food insecurity endured by nearly one billion people "a global scandal". Thus we need to choose a measure that explicitly captures the number of individuals regularly experiencing food insecurity.

We chose the *prevalence of undernourishment* as the best statistic to measure access to food. It captures food insecurity across an entire population by placing the emphasis on meeting individual energy requirements. The prevalence of undernourishment is defined as the percentage of a population who are continuously unable to consume enough food to meet dietary energy requirements. The data for prevalence of undernourishment is obtained from the UN Food and Agriculture Organization (FAO). The FAO reports the data as three-year moving averages, with the latest data coming from 2020. For 2020, data was available for 168 countries.



### Global Trend

Graph 2 shows the number and percentage of the world population that are undernourished from 2013 until 2020. A troubling trend since 2017 is the accelerating increases in the number of people who are undernourished.

## Table 2: Ten most deprived nations with respect to adequate nourishment

		% Without Adequate	Population
Rank	Country	Nourishment (2020)	(in millions)
1	Somalia	53.1	8.8
2	Central African Republic	52.2	2.8
3	Madagascar	48.5	13.7
4	Haiti	47.2	5.3
5	Korea, Dem. People's Rep.	41.6	10.8
6	Yemen	41.4	13.4
7	Democratic Republic of the Congo	39.8	37.0
8	Liberia	38.3	1.9
9	Rwanda	35.8	4.7
10	Lesotho	34.7	0.8
	World	9.3	725.9



### International Distribution of Need

Table 2 lists the ten countries whose populations have the highest prevalence of undernourishment. The country with the least access to adequate nourishment is Somalia. As the table shows, seven of the ten countries most deprived of nourishment are in Africa. The map in Figure 2 shows the prevalence of undernourishment, with the darker colors of the map indicating increased levels of deprivation. The map shows that the prevalence of undernourishment is concentrated in Sub-Saharan Africa, Asia, and parts of Latin America and the Caribbean.



Figure 2: Map of the percentage of the population without adequate access to food (2020)

### HOUSING

"Hospitality means to open the door, the door of our house and the door of our heart, and to allow the person who knocks to come in."

- Pope Francis, World Day of the Poor (2021)

We estimate that in 2021, close to 1.2 billion people, or 14.8% of the world's population, live in substandard housing.

Pope Francis includes housing as one of his four primary indicators of material well-being. People require adequate physical space in order to create safe, secure, and nurturing homes for their families. Adequate housing with secure tenure can also provide households with regular access to basic sewage, safe drinking water, garbage collection, and electricity.

We chose the *percentage of population living in inadequate housing* as the best measure for the housing indicator. Housing is inadequate if the floor is made of natural materials such as earth, mud, or dung, or if a dwelling has no roof or walls, or if either the roof or walls are constructed using natural or rudimentary materials. The data for inadequate housing is obtained from the



Global Multidimensional Index Report produced by the Oxford Poverty & Human Development Initiative (OPHI) in partnership with UNDP's Human Development Report Office. Their database was started in 2010 and contains data ranging back to 2000. Data used for each country is the most recent available. For 2021, the OPHI database has data for 128 countries.

### Global Trend

Graph 3 compares the number and percentage of the world population who live in inadequate housing structures from 2013 to 2021. We are hesitant to comment on the global trend over the last nine years due to possible measurement errors as well as due to a change in the definition of inadequate housing in 2016.

# Table 3: Ten most deprived nations withrespect to adequate housing

Rank	Country	% Inadequate Housing (2021)	Population (In millions)
1	South Sudan	90.8	9.8
2	Niger	88.9	22.5
3	Chad	80.4	13.8
4	Central African Republic	75.5	4.1
5	Burkina Faso	71.7	15.9
6	Somalia	71.0	12.1
7	Burundi	70.6	8.9
8	Mauritania	69.5	3.2
	Mozambique	69.5	22.3
9	Ethiopia	67.5	81.2
	World	14.8	1,172



### International Distribution of Need

Table 3 is a list of the ten most deprived nations with respect to access to adequate housing. The country with the least adequate housing is South Sudan. All ten countries are located in Sub-Saharan Africa. Figure 3 maps the percentage of a population without access to adequate housing. It can be seen that housing deprivation is highly concentrated in Sub-Saharan Africa.



### Figure 3: Map of the percentage of individuals with inadequate housing (2021)

### EMPLOYMENT

"Work is not only a means of earning a living: it is also a place where we express ourselves, feel useful, and learn the great lesson of concreteness, which helps keep the spiritual life from becoming spiritualism"

- Pope Francis, Weekly Audience (12 January 2022)

We estimate that in 2022, close to 790 million adults, or about 22.2% of the world's labor force lack paid employment above subsistence level wages. The global employment situation continues to improve since the COVID year of 2020, but has not yet returned to pre-pandemic levels.

The last material indicator selected by Pope Francis is employment. During his address to the UN in 2015, Pope Francis lists "dignified and properly remunerated employment" as one of the indicators representing "essential material and spiritual goods." Employment with adequate compensation is required "to enable these real men and women to escape from extreme poverty [and become] dignified agents of their own destiny. "

We chose the *Distressed Labor* Rate as the best statistic to measure Pope Francis' understanding of the basic human need for dignified employment. The *Distressed Labor* Rate takes the total number of unemployed plus



the total number of employed earning less than \$3.20 per day, and divides that sum by the total number in the labor force. The labor force includes the employed and the unemployed still looking for work. Following the practice of the International Labour Organization (ILO), we use a salary of \$3.20 per day to define the threshold for poverty wages. The ILO considers that a minimum salary of \$3.20 per day will allow an individual's continued existence without assistance. Without assistance from community members, NGOs, or governments, the lives of individuals earning less than \$3.20 per day may be at risk. The minimum salary of \$3.20 per day is based on Purchasing Power Parity (PPP), and takes into account the consumption and price differences among countries.

The data needed to construct the *Distressed Labor Rate* is available from the ILO. The latest data available is for 2022 and covers 114 countries.

### Global Trend

Graph 4 shows a downward trend in both the Distressed Labor Rate as well as in the world's

#### Table 4 : Ten most deprived nations with respect to adequately remunerated employment.

Rank	Country Distressed Labor Rate (2022)		Total Distressed Labor (in millions)
1	Burundi	93.8%	5.2
2	Madagascar	91.7%	14.2
3	Malawi	89.4%	7.1
4	Democratic Republic of the Congo	85.8%	30.1
5	Somalia	85.3%	2.7
6	Congo	84.3%	2.0
7	Central African Republic	82.7%	1.7
8	Yemen	82.3%	6.4
9	Mozambique	81.2%	11.9
10	Liberia	78.9%	1.9
	World	22.2	790.1



population that lacks access to adequately remunerated employment from 2013 to 2019. However, we observe a spike in 2020, most likely brought about by the Covid-19 pandemic. The data shows a still recovering labor market since 2021.

### International Distribution of Needs

Table 4 lists the ten countries in the world with the highest *Distressed Labor Rates*. The country with the

highest distressed labor rate is Burundi. Nine of the worst performing countries are located in Sub-Saharan Africa.

Figure 4 maps the lack of access to adequately remunerated employment. The map shows that higher distressed labor rates are concentrated in Sub-Saharan Africa.



Figure 4: Map of Lack of Access to Adequately Remunerated Employment (2022)

### **Spiritual Freedom Indicators**

In this section, we will review each of Pope Francis' three indicators of spiritual freedom: education, civil rights — such as gender equity, and religious freedom. In the classical tradition, the human spirit consists of an intellect, a will, and a conscience. Education should enable the human intellect to pursue the true. Civil liberties should free the human will to choose the good. And religious freedom should empower a morally formed human conscience to be passionately committed to the beautiful.

Marginalized people can not be denied the spiritual freedoms they need to live a genuinely human life, where they can contribute to the common good and become "dignified agents of their own destiny."

We will describe the choice of statistics we used to measure each indicator, map its recent global trend, and then identify those areas of the world most lacking these basic spiritual freedoms.

### EDUCATION

"Education is above all a matter of love and responsibility handed down from one generation to another"

- Pope Francis, Meeting on the Global Compact on Education, October 2020

We estimate that close to 777 million adults, or roughly 13.2 percent of the world's adult population, were illiterate in 2021. Long term progress against illiteracy seems to have been halted in 2020 with the advent of the COVID pandemic.

Pope Francis chose education as one of his primary indicators of spiritual freedom because of its benefits for society and for the poor. Education can enable the poor to better contribute to the common good of society. It can also empower the poor to be "dignified agents of their own destiny."

We chose the *adult literacy rate* as our statistic to measure a basic minimum level of education that should be available to all. The Adult Literacy Rate is defined as the percentage of the population age 15 and above who can read, write, and comprehend a simple statement about their everyday life. It measures the actual impact of the education provided, and captures how many individuals received a basic education that can enable them to



#### Table 5: Ten most deprived nations with respect to education

Rank	Country	Illiteracy Rate (2021)	Affected Adults (in millions)	
1	Chad	73.2	6.6	
2	Mali	69.2	8.0	
3	South Sudan	65.5	3.9	
4	Afghanistan	Afghanistan 62.7		
5	Niger	62.7	8.1	
6	Central African Republic	62.5	1.8	
7	Guinea	54.7	4.3	
8	Benin	54.2	4.0	
9	Burkina Faso	54.0	6.7	
10	Sierra Leone	52.3	2.7	
	WORLD	13.2	777	

participate in the formal economy. The UN Educational, Scientific, and Cultural Organization (UNESCO) and the World Bank collect and monitor the reliability and accuracy of this measure. Data used for each country is the most recent available between 2011-2021. A total of 150 countries had data for this time period from UNESCO's database.

### Global Trend

Graph 5 shows the global trend in literacy rates from 2013 to 2021. With the arrival of the COVID pandemic, progress in reducing the illiteracy rate halted in 2020. And in 2021 the absolute number of illiterate adults have increased compared to the previous two years.

### International Distribution of Needs

Table 5 lists the ten countries with the lowest rates of adult literacy. The country with the lowest literacy rate is Chad. Nine out of the ten countries with the lowest rates of adult literacy are in Africa.



Afghanistan is the only country on this list located in Asia.

rates appear to be concentrated in Africa, and in Central and South Asia.

Figure 5 shows a map of adult literacy rates around the world in 2021. Countries with the lowest literacy



### Figure 5: Map of Adult Literacy Rates (2021)

### GENDER

"I like to think that if women could enjoy full equality of opportunity, they could contribute substantially to the necessary change towards a world of peace, inclusion, solidarity and integral sustainability" - Pope Francis's Preface for "More Women's Leadership for a Better World"

For the year 2022, we estimate that 53.8% of women in the world or 2.1 billion women live in countries with severe discrimination against women. There has been a continuous rise in global gender discrimination against women since 2014.

In promoting civil rights to life, dignity, and development, Pope Francis emphasized that access to these rights must be inclusive. In his 2015 address to the UN, Pope Francis specifically stressed that girls should not be excluded from education. It is through exclusion and marginalization that many women continue to suffer in poverty today.

We chose the *Health and Survival Index (HSI)* to measure gender discrimination against women. It is presented in *The Global Gender Gap Report* produced by the World Economic Forum. This Index aggregates two components: sex ratio at birth, and the gender gap in healthy life expectancy. Sex ratio at birth captures the phenomenon of "missing women"



prevalent in many countries with a strong preference for male children. The healthy life expectancy estimates the gap in the number of years that women and men can expect to live in good health, accounting for the years lost to violence, disease, malnutrition and other relevant factors. An index value of 0.98 indicates that a country has closed the gender gap. The latest data available for the Health and Survival Index was from 2022. For 2022, data was available for 145 countries.

### Global Trend

In 2013, 80% of all countries had a score greater than 0.9658 on the Health and Survivor Index. We use this score as a benchmark. Women living in countries with scores at or below 0.9658 faced severe gender inequality by our definition.

Graph 6 plots the trend in global gender inequity from 2013 to 2022 (no 2019 data available). There was some improvement in 2014. But since 2014 there has been a continuous rise in the percentage and number of women who live in countries that have a significant lag in health and survival rates compared to men.

# Table 6: Ten most deprived nations with respectto gender equality (2022)

Rank	Country	Health and Survival Index		
1	India	0.937		
2	China	0.940		
3	Azerbaijan	0.941		
4	Pakistan	0.944		
5	Qatar	0.947		
6	Vietnam	0.950		
7	Afghanistan	0.952		
8	Armenia	0.954		
9	Albania	0.956		
9	Maldives	0.956		
10	Jordan	0.957		
	Women Experiencing Gender Gap	2.1 Billion women		



**Graph 6: Female Population Experiencing Gender Inequality** 

### International Distribution of Needs

Table 6 lists the ten countries that experienced the widest gender equity gaps. The country with the biggest gap is India. As the table shows, most of the countries with the largest gender gaps are in Asia and the Middle East.

The map in Figure 6 shows the health and survival

gap between women and men, with darker colors indicating stronger preference for male children and/or greater survival of male children relative to female children. The map shows that deprivation in gender equity is concentrated in Asia, the Middle East and North Africa.



Figure 6: Map of health and survival gap between women and men (2022).

### **RELIGIOUS FREEDOM**

Religious freedom certainly means the right to worship God, individually and in community, as our consciences dictate. But religious liberty, by its nature, transcends places of worship and the private sphere of individuals and families."

- Pope Francis, Meeting for Religious Liberty (Sept 2015)

We estimate that in 2020 close to 4.5 billion people lived in countries where religious freedom is severely restricted. Roughly 57.0% of the world's population live in countries that severely restrict religious freedom.

Pope Francis specifies that religious freedom is also among the absolute minimum requirements needed to live in dignity. Governments must protect the religious freedom of their citizens. Creating an environment suitable for religious freedom means ensuring each person, consistent with the common good, has the opportunity to act in accordance with his or her conscience. Religious freedom, similar to education and other civil rights such as gender equity, may be an important component in empowering the marginalized "to be dignified agents of their own destiny."



We chose the *Government Restrictions Index (GRI)* from the Pew Research Center as our metric to measure religious freedom. We found this measure to be most suitable because it also accounts for the role of government institutions in promoting or deterring religious freedom. The Pew Research Center compiles 20 measures of restrictions, including efforts by government to ban particular faiths, prohibit conversion, limit preaching, or give preferential treatment to one or more religious groups. The latest data available for the GRI from the Pew Research Center was from 2020. For 2020, data was available for 198 countries.

### Global Trend

In 2013, 80% of all countries had a score less than 5.2 on the government restriction index. We use this score as a benchmark. People in countries with scores at or above 5.2 face severe government restrictions on their religious freedom by our definition.

Graph 7 plots the trend in the world population experiencing severe restrictions in religious freedom

# Table 7: Ten most deprived nations with respect to religious freedom

Rank	Country	Government Restrictions Index (2020)
1	China	9.3
4	Malaysia	8.5
3	Algeria	8.4
4	Iran	8.2
	Russia	8.2
5	Indonesia	7.9
6	Myanmar	7.8
7	Syria	7.5
	Tajikistan	7.5
8	Egypt	7.3
	Affected World Population	4.5 Billion people



#### **Graph 7: World Population Experiencing Religious Restriction**

from 2013 to 2020. The number and the percentage of people affected by religious restrictions rose significantly in 2017 to over half of the world's population, and has remained at that high level.

#### International Distribution of Needs

Table 7 lists the 10 countries with the lowest levels of religious freedom. The country with the most severe level of government restriction on religious freedom is China. As the table shows, most restricted countries are in Asia, Middle East and North Africa.

The map in Figure 7 shows an international mapping of religious freedom, with darker colors indicating increasing absence of religious freedom. The map shows that deprivation in religious freedom is concentrated in North Africa, the Middle East and in large parts of Asia.



### Figure 7: Map of Religious Freedom (2020)

### **Correlation Matrix**

An important consideration in the use of indicators in the construction of a multidimensional poverty index is how strongly the various indicators are correlated with each other. We calculated the correlation coefficients for each pair of primary indicators in the Fordham Francis Index (FFI). The results are presented in the correlation matrix given in Table 8. Correlation coefficients can range from a -1 to a +1 with +1 meaning 100% positive correlation, -1 meaning 100% negative correlation, and 0 meaning zero percent or no correlation between the two statistical measures. As a rule of thumb, a correlation coefficient with an absolute value of 60% (0.60) or more means that the two indicators are correlated, either positively or negatively.

The results of our calculations are presented in the correlation matrix given in Table 8. Boxes highlighted in yellow contain correlation coefficients that exceed the absolute value of 60% (0.60).

We have three correlations at 80% or above. These high correlations at 80% or above show that access to water is closely related to housing and employment, while food security is also closely related to employment. Achieving success in one measure is significantly correlated with achieving success in the other measure. For example, solving the problems of housing and employment may make a significant contribution to access to water and to food.

High correlations also mean that we could simplify the composite Fordham Francis Index (FFI) by dropping one or two of these indicators from the compositive index. The index would still track the same general level of extreme poverty with only a loss of information in the range of 17 to 19%.

On the other hand, Gender Equity and Religious Freedom are not correlated with each other or with any of the other primary indicators. These two indicators therefore represent two entirely different perspectives on human development and the measurement of global poverty. This result is important because one of the characteristics that makes the FFI unique is its inclusion and emphasis on civil rights, such as religious freedom and gender equity, as a means of measuring development. Other development indexes, such as economic income or the UN Human Development Index (HDI), exclude religious freedom and other political dimensions that are included in the FFI. By including religious freedom and other civil rights such as gender equity important indicators of integral human as development, Pope Francis is urging us to study an under-explored area of analysis into the drivers of poverty and underdevelopment.

	Water Access to Water	Food Under- nourishment	Housing Inadequate Housing	Employment Distressed Labor Rate	Education <i>Literacy</i> <i>Rate</i>	Gender Health & Survival Index	Religious Freedom Govt Restrictions Index
Water Access to Water	1						
Food Undernourishment	-0.76	1					
Housing Inadequate Housing	-0.82	0.64	1				
Employment Distressed Labor Rate	-0.83	0.81	0.68	1			
Education Literacy Rate	0.72	-0.64	-0.76	-0.65	1		
Gender Health and Survival Index	-0.18	0.01	-0.02	0.13	0.16	1	
Religious Freedom Govt Restrictions Index	0.09	-0.13	-0.10	-0.18	0.06	-0.41	1

### Table 8: Correlation Matrix – Correlation Coefficients of the Seven Primary Indicators in the FFI (2022)

# PART II UN Sustainable Development Goals

wis the Fordham Francis Index (FFI) related to the UN Sustainable Development Goals (SDGs)? Table 9 below gives the correlations between the FFI's seven primary indicators and many of the targets of the UN's Sustainable Development Goals (SDGs). Statistically significant correlations of 60% or more are highlighted in yellow on the table.



**First**, we find that our material wellbeing indicators — water, food, housing, and employment — as well as one spiritual freedom indicator — education — are strongly correlated with many of the UN Sustainable Development Goals.

**Second**, there appears to be a negative trade off between achieving various goals related to poverty reduction while trying to increase reliance on renewable energy sources. And finally, the UN Sustainable Development Goals may neglect the importance of civil freedoms such as gender equity and religious freedom

We found the following significant relationships:

### WATER

Basic access to water is statistically correlated with the following 10 SDG's targets: lower poverty rates, lower incidence of anemia among women, reduced maternal and infant mortality rates, less domestic violence, increased access to sanitation, more electrification, a lower consumption share of renewable energy sources, increased access to financial institutions, and more access to the internet.

### FOOD

**Undernourishment** is statistically correlated with the following 6 SDG's targets: higher **poverty rates**, increased **maternity** and **infant mortality rates**, increased **domestic violence**, less **electrification**, and less access to the **internet**.

### HOUSING

**Inadequate housing** is statistically correlated with the following 7 SDG's targets: higher **poverty rates**, increased **maternal** and **infant mortality rates**, more **domestic violence**, less **electrification**, higher

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consumption share of **renewable energy** sources, and less access to the **internet**.

### EMPLOYMENT

The Distressed Labor Rate is statistically correlated with the following 8 SDG's targets: higher poverty rates, increased maternal and infant mortality rates, more domestic violence, reduced access to sanitation, less electrification, a higher consumption share of renewable energy sources, and less access to the internet.

#### **GENDER**

We did not find any significant correlations between the **health and survival gap** between males and females and the 23 SDG targets we have investigated so far.

#### **RELIGIOUS FREEDOM**

We also did not find any significant statistical relationships between the **Government Restrictions Index** and the 23 SDG targets we have investigated to date.

In future reports we hope to eventually document the correlations between all seven of our primary indicators with all the targets within the UN Sustainable Development Goals (SDGs) framework.

#### **EDUCATION**

The Adult Literacy Rate is statistically correlated with the following 9 SDG's targets: lower poverty rates, lower incidence of anemia among women, reduced maternal and infant mortality rates, increased primary school completion, more electrification, lower consumption share of renewable energy sources, increased access to financial institutions, and increased access to the internet.



Table 9: Correlation Coefficients between the seven indicators of the FFI and several targets of the UN Sustainable Development Goals (based on most recent available data in 2022) \* *Strong correlations above 60% are highlighted in yellow.* 

Primary Indicators							
SDG Targets	Water	Food	Housing	Employment	Education	Gender	Religious Freedom
Targets)	Access to Water	Undernourishment	Inadequate Housing	Distressed Labor Rate	Literacy Rate	Health & Survival Index	Govt Restrictions Index
		SI	DG 1: No Po	verty			
1.1.1 Percent of Population below the Poverty Line	-0.84	0.78	0.78	0.88	-0.63	0.17	-0.11
		SD	G 2: Zero H	unger			
2.2.3 Prevalence of Anemia in Women	-0.64	0.53	0.02	-0.42	-0.69	-0.12	-0.14
		SDG 3: G	ood Health &	& Well-Being			
3.1.1 Maternal Mortality	-0.79	0.64	0.77	0.70	-0.81	0.02	-0.11
3.2.1 Infant Mortality	-0.82	0.69	0.79	0.76	-0.80	0.03	-0.08
3.3.2 Incidence of TB	-0.52	0.53	0.40	0.44	-0.35	0.13	-0.15
		SDG -	4: Quality Ed	ducation			
4.1.1b Primary School Completion	0.01	-0.52	0.03	-0.22	0.63	-0.02	-0.02
4.3.1 Gender Parity in Education	0.46	-0.46	-0.34	-0.26	0.39	-0.24	-0.15
SDG 5: Gender Equality							
5.2.1 Proportion of Partnered Women Subject to Violence	-0.72	0.69	0.70	0.73	-0.57	0.00	-0.08
5.5.1 Proportion of Women in Parliament	0.09	-0.17	-0.05	-0.07	0.08	0.05	-0.03

### (Table 9 continued)

	Primary Indicators						
SDG Targets (or Suggested	Water	Food	Housing	Employment	Education	Gender	Religious Freedom
Targets)	Access to Water	Undernourishment	Inadequate Housing	Distressed Labor Rate	Literacy Rate	Health & Survival Index	Govt Restrictions Index
		SDG 6: Cle	ean Water ai	nd Sanitation			
6.2.1 Access to Sanitation	0.62	-0.57	-0.56	-0.62	0.55	-0.05	0.10
		SDG 7: Affe	ordable and	Clean Energy	/		
7.1.1 Electricity (% of population)	0.91	-0.74	-0.88	-0.88	0.78	-0.14	0.13
7.2.1 Renewable Energy Share	-0.73	0.54	0.70	0.69	-0.61	0.18	-0.19
		SDG 8: Decent	t work and E	conomic Gro	wth		
8.1.1 GDP per capita Growth Rate	0.09	-0.36	-0.14	-0.22	0.04	-0.01	0.05
8.6.1 Proportion of youth not in education, employment or training	-0.28	0.35	0.13	0.10	-0.38	-0.00	0.00
8.10.2 Percentage of population with an account at a financial institution	0.61	-0.56	-0.54	-0.50	0.61	0.03	-0.15
		SDG 10	: Reduced Ir	nequalities			
10.4.1 Labor Share of GDP (Income Inequality)	0.34	-0.33	-0.24	-0.19	0.20	0.07	-0.25

### (Table 9 continued)

	Primary Indicators						
SDG Targets	Water	Food	Housing	Employment	Education	Gender	Religious Freedom
	Access to Water	Undernourishment	Inadequate Housing	Distressed Labor Rate	Literacy Rate	Health & Survival Index	Govt Restrictions Index
SDG 13: Climate Action							
13.1.1 Number of People Affected by Disaster	-0.00	0.05	0.03	0.03	-0.06	-0.31	0.11
SDG 15: Life On Land							
15.5.1 Red List Index of Threatened Species	-0.09	-0.03	0.08	0.18	-0.16	-0.01	0.09
SDG 16: Peace, Justice, and Strong Institutions							
Corruption Index (0-100, 100 very clean)	0.50	-0.52	-0.43	-0.38	0.40	-0.08	-0.24
Press Freedom (0-100, 100 less free)	0.04	0.02	0.05	0.05	-0.01	-0.09	-0.02
Deaths due to Conflict	-0.06	0.18	-0.03	0.04	-0.23	-0.14	-0.19
16.3.2 Unsentenced detainees as a proportion of overall prison population	-0.26	0.35	0.24	0.30	-0.33	-0.12	-0.15
SDG 17: Sustainable development through global partnerships							
17.8.1 Percentage of population using the internet	0.75	-0.70	-0.77	-0.79	0.71	-0.10	0.01
# PART III Fordham Francis Index

n Part III we will explain how we aggregate our seven primary indicators to form Fordham's Pope Francis Global Poverty Index (Fordham Francis Index, FFI), and its two subcomponents: the Material Well-Being Index and the Spiritual Freedom Index. We then examine how the Fordham Francis Index (FFI) compares to other commonly used measures of global poverty such as Per Capita Income and the Human Development Index (HDI). Finally, we calculate the Fordham Francis Index (FFI) for individual countries and produce a country ranking.

Our approach to computing the Fordham Francis Index (FFI) is identical to the methodology employed by the United Nations Development Program in their calculation of the Human Development Index (HDI). Using the same approach assures that different implications between the indices are due to substantial differences in their components, such as our focus on basic needs both material and spiritual, and not simply due to technical differences in how we aggregated the various components.

Initially, we inverted our measures of food (from percent undernourished to percent nourished), housing (from percent deprived to percent living in good housing conditions), employment (from distressed labor rate to adequately remunerated employment rate), and religious freedom (from a score that indicates the degree of government restrictions to a score that indicates the degree of freedom from government restrictions on religious practices). We do this so that a higher value in all seven of our measures would represent a better outcome.

	Water Food*		Housing*	Employment*	Education	Gender	Religion*	
	At least Basic Access (%)	Nourished (%)	Adequate Housing (%)	Adequately Remunerated Employment (%)	Literacy Rate (%)	Health & Survival Index	Inverse of Govt Restrictions Index	
Maximum	Multiple Countries	Multiple Countries,	Multiple Countries	Thailand	Multiple Countries	Multiple Countries	Multiple Countries	
	Multiple Years	Multiple Years	Multiple Years	2015	Multiple Years	Multiple Years	Multiple Years	
	99.0	97.5	100	99.2	100	0.980	10	
Minimum	Ethiopia	Somalia	South Sudan	Burundi	Chad	China	China	
	2000	Multiple Years	2018	2021	1993	2018	Multiple Years	
	19.0	29.1	9.2	6.2	10.9	0.915	0.7	

Table 10: Maximum and Minimum Historical Values of Each Indicate	r
--	---

\*Indicators whose values were flipped so that higher numbers would indicate a better outcome

Then we standardized our seven primary statistical indicators of water, food, housing, employment, education, gender, and religious freedom so that they each yielded indices with values between 0 and 1 according to the following formula:

#### Primary Indicator Score =

## (Actual Value – Min Historical Value)

#### (Max Historical Value — Min Historical Value)

In line with best practice, the maximum values were set to the historical maximum observed within each dataset of the respective indicator. Meanwhile, the minimum values were set to the lowest observed value for each indicator within the existing dataset from 1990. (See Table 10 for countries, years, and values.)

Next, we created a Material Well-being Index (MWI) by computing the geometric mean of the four normalized indices of water, food, housing, and employment according to the following formula:

#### Material Well-being Index =

#### Water 1/4 \* Food 1/4 \* Housing 1/4 \* Employment 1/4

It is important to note that equal weight was given to all four components when computing the Material Well-being Index (MWI).

Similarly, we created a Spiritual Freedom Index (SFI) by computing the geometric mean of the three normalized indices of education, gender equity, and religious freedom according to the following formula:

#### Spiritual Freedom Index =

#### Education<sup>1/3</sup> \* Gender<sup>1/3</sup> \* Religious Freedom<sup>1/3</sup>

As was the case with the Material Well-being Index, we gave equal weight to all three components when computing the Spiritual Freedom Index.

Finally, we computed Fordham's Pope Francis Global Poverty Index by calculating the geometric mean of the Material Well-being Index and the Spiritual Freedom Index according to the following formula:

#### Fordham Francis Index =

## Material Well-being Index<sup>1/2</sup> \* Spiritual Freedom Index<sup>1/2</sup>

Again, we gave equal weight to both the Material Well -being Index and the Spiritual Freedom Index.

Data collected for each indicator were the latest available data for each indicator. The Employment variable was the most limiting variable with only 117 observations which consequently limits the dataset for our Material Well-being Index and subsequently for the Fordham Francis Index.

# Material Well-being Index

Our results indicate a strong statistical relationship between our Material Well-being Index (MWI) and two conventional measures of economic development: Per Capita Gross Domestic Product (Per Capita GDP) and the Human Development Index (HDI) (Table 11). The Human Development Index (HDI) expands our measurement of human welfare beyond income by including an indicator of health (measured by life expectancy) and an indicator of knowledge (measured by the mean of actual and expected years of schooling). It also includes an indicator of economic income (measured by Per Capita Gross Domestic Product). To demonstrate these relationships, we regress the Material Well-being Index (MWI) separately on the logarithm of Per Capita GDP, and on the Human Development Index (HDI).

### Per Capita GDP

There is a strong positive relationship between our Material Well-being Index (MWI) and the log of Per Capita Gross Domestic Product (Per Capita GDP). An interpretation of the R<sup>2</sup> found in Table 11,

# Table 11: Ordinary least squares regression results of theMWI and two commonly used poverty measures

	Material Well-being		Economic		
Variables	Regression Coefficient	R <sup>2</sup>	Interpretation		
Economic Well-being (GDP per Capita in log form)	0.46 (13.9)	0.69	A 1% increase in per capita income is associated with a 0.46% increase in the MWI		
Human Development Index	1.71 (18.6)	0.80	An increase in the HDI by .01 is associated to an increase of 0.0171 in the MWI		

indicates that the log of Per Capita GDP explains 69% of the changes in the Material Well-being Index. Other factors, such as public policy, can explain the remaining 31%.

In Figure 8, we have plotted the relationship between the Material Well-Being Index and the log of Per Capita GDP. Transforming the data of the Per Capita

Rank	Country	MWI	Water	Food	Housing	Employment
1	Madagascar	0.18	0.43	0.33	0.32	0.02
2	Niger	0.18	0.37	0.75	0.02	0.20
3	Central African Republic	0.19	0.22	0.27	0.17	0.12
4	Somalia	0.22	0.49	0.26	0.22	0.09
5	Democratic Republic of the Congo	0.23	0.20	0.45	0.35	0.09
6	Chad	0.29	0.41	0.56	0.11	0.26
7	Mozambique	0.31	0.55	0.56	0.23	0.14
8	Yemen	0.34	0.53	0.43	0.50	0.12
9	Malawi	0.35	0.66	0.78	0.61	0.05
10	Burkina Faso	0.39	0.38	0.77	0.21	0.39

Table 12: Ten Lowest Ranking Countries: Material Well Being Index (MWI) 2023

GDP into a logarithmic scale allows us to run a linear regression analysis. Interestingly, there are countries with low Per Capita GDP that have a high Material Well Being Index score. For example, Gambia and the Niger have similar levels of income, yet there is a large difference in their Material Well-being Index (MWI) scores (0.78 and 0.18, respectively). Niger has significantly lower scores in water, housing and employment compared to Gambia, even though both have similar levels of income. The Fordham Francis



Figure 8: Regression results of the Material Well-being Index (MWI) and the log of GDP per capita

Figure 9: Regression results of the Material Well-being Index (MWI) and the Human Development Index (HDI)



Index ranks countries who use their economic resources to meet basic material needs higher than countries who may have the same level of resources but decide not to focus on the basic human needs of water, food, housing, and employment.

#### Human Development Index

Similar to economic well-being, there is an even stronger positive relationship between our Material Well-being Index (MWI) and the UN Human Development Index (HDI), as implied by the R<sup>2</sup> of 80% (Table 11).

Interestingly, as plotted in Figure 9, there are countries which are categorized in the Human Development Index (HDI) as low but may have high Material Well-being Index scores because of the higher priority they place on providing clean water, adequate food, basic housing, and employment. Take for example Gambia which has a low Human Development Index (HDI) score of 0.50 but a Material Well-being Index of 0.78. Compare this to Madagascar which has similar levels of HDI (0.50) but has a low Material Well-being Index (MWI) score of 0.18. Madagascar's low level of Material Wellbeing Index (MWI) score is primarily due to its lower levels of housing, food, water and employment.

#### **Geographical Distribution**

The map in Figure 10 highlights the geographical distribution of the Material Well-being Index scores across the sample of 90 countries. The lowest scores are largely distributed across Sub-Saharan Africa.



#### Figure 10: Material Well-being Index (2023)

# **Spiritual Freedom Index**

While our results indicate a statistically significant positive relationship between our Spiritual Freedom Index (SFI) and the two conventional measures of economic development, they also show that these measures play only a minor role in explaining any variation in the Spiritual Freedom Index. To demonstrate these relationships, we regress the Spiritual Freedom Index (SFI) separately on the logarithm of Per Capita GDP, and on the Human Development Index (HDI).

#### Per Capita GDP

There is a statistically significant positive relationship between our Spiritual Freedom Index (SFI) and the log of Per Capita Gross Domestic Product (Per Capita GDP). An interpretation of the R<sup>2</sup> found in Table 13, indicates that the log of Per Capita GDP explains only 6% of the changes in the Spiritual Freedom Index. Other social, cultural and political factors may explain the remaining 94%.

In Figure 11, we have plotted the relationship between the Spiritual Freedom Index and the log of Per Capita GDP. Transforming the data of the Per Table 13: Ordinary least squares regression results ofthe SFI and two commonly used poverty measures

	Spiritual Fre	edom	Economic			
Variables	Regression Coefficient	R <sup>2</sup>	Interpretation			
	(t-stat)					
Economic			A 1% increase in			
Well-being	0.07		Per Capita GDP is			
(GDP per	(0.00)	0.06	associated with			
Capita in log	(2.63)		a .07% increase in			
form)			the SFI			
Human	0.00		A .01 increase in			
Development	0.26	0.05	HDI is associated			
Index	(2.54)	0.00	with a 0.0026 increase in SFI			

Capita GDP into a logarithmic scale allows us to run a linear regression analysis. Interestingly, there are countries with low Per Capita GDP that have high Spiritual Freedom Index scores. For example, the Philippines and Egypt have similar levels of per capita GDP, but have very different scores on our Spiritual Freedom Index (SFI) (0.93 and 0.38 respectively). The Dominican Republic is an example of a country that does much better than countries with the same level of income, while China's overall score is pulled down primarily by its low score on the

		<b>J</b>			
Rank	Country	Spiritual Index	Education	Gender	<b>Religious Freedom</b>
1	China	0.15	0.97	0.38	0.01
2	Afghanistan	0.36	0.30	0.57	0.27
3	Algeria	0.37	0.79	0.66	0.10
4	Malaysia	0.41	0.94	0.88	0.09
5	Pakistan	0.42	0.53	0.45	0.31
6	Iran	0.43	0.87	0.75	0.12
7	Chad	0.44	0.18	0.85	0.58
8	India	0.45	0.71	0.34	0.38
9	Azerbaijan	0.46	1.00	0.40	0.25
10	Mali	0.48	0.22	0.68	0.73

Table 14: <sup>-</sup>	Ten Lowest	Ranking	Countries: S	piritual I	Freedom	Index (	SFI)	2023
							/	





Figure 12: Regression results of Freedom Index (SFI) and the Human Development Index





Figure 13: Map of Spiritual Freedom Index (2023)

gender and religious freedom indicators. The results imply that high income does not necessarily translate into high spiritual freedom.

#### Human Development Index

Similar to economic well-being, there is a statistically significant positive relationship between our Spiritual Freedom Index (SFI) and the UN Human Development Index (HDI). The R<sup>2</sup> (Table 13) indicates that 5% of the variation in in the Spiritual Freedom Index can be explained by changes in the Human Development Index. The large unexplained variations in our Spiritual Freedom Index (SFI) can be attributed to the additional dimensions of gender and religious freedom not considered by the Human Development Index.

Interestingly, as plotted in Figure 12, there are countries which are ranked low by the Human Development Index (HDI) that exhibit a high measure of spiritual freedom, while many countries ranked high or very high by the HDI exhibit a low measure of spiritual freedom. Burundi for instance, has a low HDI score, mainly because of its low per capita income, life expectancy and education indicators, but has a high Spiritual Freedom Index (SFI) score because of its high scores in education (as measured by literacy rate), gender and religious freedom. Conversely, Algeria has a high HDI score, but is doing poorly in terms of its Spiritual Freedom Index (SFI) score. While Algeria is performing well in terms of per capita income, life expectancy and education, they are among the top countries with limited religious freedom.

## **Geographical Distribution**

The map in Figure 13 highlights the geographical distribution of Spiritual Freedom Index scores across our sample of 119 countries. Our mapping shows that low SFI scores are largely concentrated around Asia, North and West Africa and the Middle East.

# Fordham's Pope Francis Global Poverty Index

The Fordham Francis Index (FFI) represents an equally weighted aggregation of the Material Wellbeing Index (MWI) and the Spiritual Freedom Index (SFI). Our results indicate a statistically significant positive relationship of the Fordham Francis Index (FFI) with two conventional measures of economic development: *Per Capita Gross Domestic Product (Per Capita GDP)* and the *Human Development Index (HDI)* (Table 15). To demonstrate these relationships, we regress the Fordham Francis Index (FFI) separately on the logarithm of Per Capita GDP, and on the Human Development Index (HDI).

#### Per Capita GDP

There is a strong statistical relationship between the Fordham Francis Index (FFI) and the log of Per Capita GDP. An interpretation of the  $R^2$  found in Table 15, indicates that the log of Per Capita GDP explains 55% of the changes in the Fordham Francis

# Table 15: Regression results of the FFI and twocommonly used poverty measures

Voriables	Fordham Fr Index	ancis	Economic Interpretation			
variables	Coefficient	<b>D</b> <sup>2</sup>				
	(t-stat)	N				
Economic Well- being	0.29 (9.45)	0.55	A 1% increase in the log GDP per capita is associated with a 0.29% increase in Fordham Francis Index			
HDI	1.00 (9.47)	0.55	A .01 increase in HDI is associated with a 0.0100 increase in Fordham Francis Index			

Index. Social, cultural and political factors may explain the remaining 45%.

In Figure 14, we have plotted the positive relationship between the Fordham Francis Index and the log of Per Capita GDP. Transforming the data of the Per Capita GDP into a logarithmic scale allows us to run

Table 16: Ten Lowest Ranking Countries: Fordham Freedom Index (FFI) 2023

Country	FFI	MWI	SWI	Water	Food	Housing	Employment	Education	Gender	Religion
Niger	0.30	0.18	0.50	0.37	0.75	0.02	0.20	0.30	0.75	0.57
Chad	0.36	0.29	0.44	0.41	0.56	0.11	0.26	0.18	0.85	0.58
Madagascar	0.36	0.18	0.74	0.43	0.33	0.32	0.02	0.74	0.78	0.70
China	0.39	0.97	0.15	0.98	1.00	0.96	0.94	0.97	0.38	0.01
Democratic Republic of the Congo	0.43	0.23	0.82	0.20	0.45	0.35	0.09	0.78	0.94	0.75
Mozambique	0.49	0.31	0.75	0.55	0.56	0.23	0.14	0.59	1.00	0.72
Burkina Faso	0.50	0.39	0.65	0.38	0.77	0.21	0.39	0.39	0.97	0.71
Ethiopia	0.51	0.43	0.60	0.41	0.67	0.26	0.47	0.46	0.86	0.56
Liberia	0.52	0.42	0.63	0.71	0.48	0.60	0.16	0.42	0.72	0.84
Malawi	0.52	0.35	0.78	0.66	0.78	0.61	0.05	0.63	1.00	0.76



Figure 14: Regression results of the Fordham Francis Index and the log of real GDP per capita

a linear regression analysis. One can notice countries with almost equal levels of economic well-being, that, nonetheless, have very different scores on the Fordham Francis Index (FFI). Looking closely at some of these pairs, we see that the variation between scores measured by the Fordham Francis Index (FFI) and Per Capita GDP primarily stem from the divergence in the spiritual freedom indicators. For example, the Philippines and Algeria have similar high levels of income, but have different scores on our Fordham Francis Index (FFI) (0.90 and 0.59 respectively). The Philippines is an example of a country that does much better on the FFI than other countries with the same level of income. Algeria's rank is pulled down primarily by its low scores on gender and religious freedom indicators.

Additionally, for countries at lower levels of economic well-being, there is also a divergence caused by differences in the material primary indicators of basic access to drinking water, adequate nutrition, adequate housing, and access to adequately remunerative employment. Some countries with the same level of economic resources focus more of their limited resources on providing basic needs such as clean water and adequate housing to the poorer groups in their society and therefore score significantly higher on the Fordham Francis Index (FFI). For example, Kyrgyzstan and Tanzania have similar levels of per capita GDP, but have very different scores on our Fordham Francis Index (FFI) (0.82 and 0.54 respectively). Tanzania's overall score is pulled down primarily by its low scores on housing, employment, and religious freedom. The results imply that income levels do not necessarily translate into similar Fordham Francis Index scores.

#### Human Development Index

Similar to economic well-being, there is a strong positive relationship between our Fordham Francis Index (FFI) and the UN Human Development Index



Figure 15: Regression results of the Fordham Francis Index and Human Development Index

(HDI). As implied by the R<sup>2</sup> of 55% (Table 15), the HDI explains roughly half of the variations in the FFI. The remaining half is due to the additional dimensions captured in the Fordham Francis Index (FFI). These additional dimensions represent its value added and are what makes this new index innovative, namely its focus on basic human needs as well as its inclusion of basic spiritual needs.

The graph in Figure 15 represents the relationship between the Fordham Francis Index (FFI) and the Human Development Index (HDI). There are countries with almost equal scores on the Human Development Index (HDI) that have significantly different scores on the Fordham Francis Index (FFI). Looking closely at some of these pairs, we see that much of the difference between the Fordham Francis Index (FFI) and the Human Development Index (HDI) is due to the inclusion of the spiritual freedom indicators of gender and religious freedom, as well as the inclusion of material well-being indicators that have a strong pro-poor bias.

For example, the Dominican Republic and China have similar high levels of HDI, but have very different scores on our Fordham Francis Index (FFI) (0.94 and 0.39 respectively). China's rank is pulled down primarily by it's low scores on gender and religious freedom indicators.

But there are some countries at the lower levels of human development index where the variation in FFI scores is driven not primarily by differences in religious freedom, but by differences in the provision of basic goods needed by the poor such as clean water, adequate nourishment, adequate housing, and adequately remunerative employment. For example, Senegal and Madagascar have similar HDI scores but very different FFI scores of 0.75 and 0.36 respectively. Madagascar's low FFI score is primarily



#### Figure 16: Map of the Fordham Francis Index (2023)

due to its low levels of water, food, housing, employment and gender.

#### **Geographical Distribution**

The map in Figure 16 highlights the geographical distribution of the Fordham Francis Index scores across the sample of 75 countries. The lowest scores are largely concentrated in Africa and Asia.

# 2023 Fordham Francis Index Country Rankings

#### FFI as Pro-Poor and Pro-Freedom

Unlike previous measures of human well-being, such as per capita GDP or the Human Development Index (HDI), the Fordham Francis Index (FFI) places a much larger emphasis on satisfying the basic material needs of the poor, as well as a stronger value on political freedoms and in particular religious freedom and gender equity. The calculations of the Fordham Francis Index (FFI) for individual countries and their rankings are given in Table 17.

As shown in Table 17, of the top 10 developing countries, eight are from the Caribbean and Latin America, one is from Asia, and one is from Eastern Europe. All these countries consistently scored well in providing basic human needs and protecting civil liberties.

Rank	Country	FFI	Material Index	Water	Food	Housing	Employment	Spiritual Index	Education	Gender	Religion
1	Uruguay	0.97	0.98	1.00	1.00	1.00	0.92	0.95	0.99	1.00	0.88
2	Dominican Republic	0.94	0.96	0.97	0.94	1.00	0.93	0.93	0.95	1.00	0.85
3	Paraguay	0.92	0.95	1.00	0.91	0.96	0.92	0.90	0.94	0.92	0.83
4	Brazil	0.92	0.96	1.00	0.98	0.99	0.86	0.88	0.94	1.00	0.73
5	Colombia	0.91	0.92	0.98	0.92	0.96	0.83	0.91	0.95	0.92	0.85
6	El Salvador	0.91	0.95	0.99	0.92	0.93	0.94	0.87	0.89	1.00	0.75
7	Costa Rica	0.91	0.96	1.00	0.99	1.00	0.88	0.85	0.98	0.89	0.71
8	Bosnia and Herzegovina	0.90	0.95	0.96	1.00	1.00	0.86	0.86	0.98	0.92	0.70
9	Guyana	0.90	0.94	0.96	0.96	0.98	0.84	0.86	0.87	1.00	0.73
10	Philippines	0.90	0.90	0.95	0.96	0.95	0.77	0.89	0.96	0.98	0.75
11	Serbia	0.90	0.96	0.96	0.99	1.00	0.90	0.83	0.99	0.88	0.67
12	Suriname	0.89	0.87	0.99	0.92	0.99	0.64	0.91	0.94	0.89	0.90
13	Mongolia	0.89	0.90	0.81	0.98	0.93	0.90	0.88	0.99	1.00	0.68
14	Montenegro	0.88	0.96	1.00	1.00	1.00	0.84	0.81	0.99	0.88	0.61
15	Ecuador	0.87	0.91	0.96	0.81	0.99	0.87	0.84	0.94	0.82	0.78
16	Moldova	0.87	0.96	0.91	0.94	0.99	0.98	0.80	1.00	1.00	0.51
17	Bolivia	0.87	0.89	0.94	0.83	0.92	0.88	0.85	0.93	0.72	0.90
18	Georgia	0.87	0.91	0.95	0.93	1.00	0.79	0.82	1.00	0.97	0.58
19	Albania	0.87	0.95	0.95	0.98	1.00	0.88	0.79	0.98	0.63	0.80

#### Table 17: 2023 Fordham Francis Index Country Rankings

## Table 17 (Continued)

Rank	Country	FFI	Material Index	Water	Food	Housing	Employment	Spiritual Index	Education	Gender	Religion
20	South Africa	0.86	0.82	0.94	0.94	0.95	0.54	0.90	0.94	0.98	0.77
21	Jamaica	0.86	0.90	0.90	0.94	0.90	0.87	0.82	0.87	0.80	0.78
22	Ghana	0.86	0.86	0.87	0.98	0.85	0.75	0.86	0.78	0.97	0.83
23	Guatemala	0.85	0.84	0.95	0.80	0.75	0.87	0.86	0.81	1.00	0.80
24	Thailand	0.85	0.98	1.00	0.91	1.00	1.00	0.74	0.93	0.97	0.45
25	Peru	0.84	0.84	0.95	0.92	0.66	0.88	0.84	0.94	0.75	0.83
26	Belarus	0.84	0.99	1.00	1.00	1.00	0.96	0.71	1.00	0.95	0.38
27	Armenia	0.82	0.95	1.00	0.99	1.00	0.83	0.71	1.00	0.60	0.60
28	Sri Lanka	0.82	0.93	0.88	0.99	0.98	0.86	0.73	0.91	1.00	0.42
29	Kyrgyzstan	0.82	0.92	0.90	0.96	1.00	0.84	0.73	1.00	1.00	0.39
30	Botswana	0.81	0.76	0.92	0.72	0.90	0.56	0.87	0.85	1.00	0.78
31	Namibia	0.81	0.71	0.84	0.77	0.65	0.59	0.92	0.91	1.00	0.86
32	Honduras	0.80	0.80	0.96	0.81	0.75	0.70	0.80	0.87	0.75	0.78
33	Côte d'Ivoire	0.78	0.75	0.67	0.97	0.73	0.67	0.81	0.89	0.69	0.86
34	Türkiye	0.78	0.96	0.98	1.00	0.98	0.90	0.63	0.96	0.78	0.33
35	Jordan	0.78	0.89	1.00	0.79	1.00	0.81	0.67	0.98	0.65	0.48
36	Mexico	0.78	0.73	1.00	0.95	0.33	0.89	0.83	0.95	0.92	0.65
37	Eswatini	0.77	0.68	0.68	0.88	0.90	0.40	0.86	0.88	1.00	0.72
38	Tunisia	0.76	0.95	0.98	0.99	1.00	0.83	0.61	0.81	0.83	0.33
39	Cambodia	0.75	0.71	0.74	0.94	0.76	0.49	0.80	0.82	1.00	0.62
40	Senegal	0.75	0.78	0.84	0.93	0.75	0.64	0.72	0.51	0.80	0.90
41	Gambia	0.74	0.78	0.83	0.72	0.90	0.67	0.71	0.53	0.82	0.84
42	Cameroon	0.73	0.67	0.63	0.94	0.59	0.56	0.80	0.76	0.97	0.71
43	Laos	0.73	0.81	0.83	0.96	0.87	0.62	0.65	0.85	0.92	0.35
44	Lesotho	0.73	0.60	0.69	0.53	0.82	0.44	0.88	0.79	1.00	0.86
45	Togo	0.72	0.67	0.65	0.76	0.73	0.57	0.77	0.62	0.98	0.73
46	Bangladesh	0.72	0.81	0.99	0.87	0.74	0.69	0.63	0.72	0.72	0.48
47	Nepal	0.72	0.80	0.90	0.96	0.82	0.59	0.64	0.68	0.77	0.49
48	Tajikistan	0.69	0.87	0.79	0.91	0.94	0.84	0.54	1.00	0.83	0.19
49	Timor-Leste	0.69	0.59	0.85	0.65	0.54	0.39	0.80	0.66	0.89	0.88
50	Egypt	0.67	0.92	1.00	0.96	0.99	0.74	0.50	0.70	0.82	0.22
51	Azerbaijan	0.67	0.98	0.98	1.00	0.98	0.95	0.46	1.00	0.40	0.25
52	Indonesia	0.67	0.91	0.94	0.94	0.99	0.78	0.50	0.96	0.85	0.15

## Table 17 (Continued)

Rank	Country	FFI	Material Index	Water	Food	Housing	Employment	Spiritual Index	Education	Gender	Religion
53	Vietnam	0.66	0.79	0.99	0.95	0.45	0.93	0.55	0.95	0.54	0.33
54	Benin	0.65	0.64	0.60	0.93	0.53	0.56	0.67	0.39	0.89	0.86
55	Kenya	0.65	0.53	0.55	0.64	0.59	0.38	0.79	0.80	0.92	0.66
56	Zambia	0.61	0.45	0.62	0.58	0.56	0.21	0.83	0.86	1.00	0.66
57	Rwanda	0.61	0.50	0.58	0.51	0.95	0.23	0.74	0.73	0.91	0.60
58	Nigeria	0.60	0.58	0.76	0.85	0.64	0.28	0.63	0.57	0.80	0.54
59	India	0.60	0.81	0.93	0.80	0.98	0.59	0.45	0.71	0.34	0.38
60	Algeria	0.59	0.95	0.95	1.00	1.00	0.88	0.37	0.79	0.66	0.10
61	Angola	0.58	0.44	0.48	0.73	0.51	0.20	0.77	0.69	0.94	0.70
62	Pakistan	0.56	0.74	0.90	0.79	0.66	0.63	0.42	0.53	0.45	0.31
63	Tanzania	0.54	0.43	0.52	0.71	0.48	0.19	0.67	0.80	0.85	0.45
64	Sierra Leone	0.53	0.44	0.58	0.64	0.56	0.19	0.62	0.41	0.78	0.75
65	Mali	0.52	0.57	0.81	0.89	0.33	0.45	0.48	0.22	0.68	0.73
66	Malawi	0.52	0.35	0.66	0.78	0.61	0.05	0.78	0.63	1.00	0.76
67	Liberia	0.52	0.42	0.71	0.48	0.60	0.16	0.63	0.42	0.72	0.84
68	Ethiopia	0.51	0.43	0.41	0.67	0.26	0.47	0.60	0.46	0.86	0.56
69	Burkina Faso	0.50	0.39	0.38	0.77	0.21	0.39	0.65	0.39	0.97	0.71
70	Mozambique	0.49	0.31	0.55	0.56	0.23	0.14	0.75	0.59	1.00	0.72
71	Democratic Republic of the Congo	0.43	0.23	0.20	0.45	0.35	0.09	0.82	0.78	0.94	0.75
72	China	0.39	0.97	0.98	1.00	0.96	0.94	0.15	0.97	0.38	0.01
73	Madagascar	0.36	0.18	0.43	0.33	0.32	0.02	0.74	0.74	0.78	0.70
74	Chad	0.36	0.29	0.41	0.56	0.11	0.26	0.44	0.18	0.85	0.58
75	Niger	0.30	0.18	0.37	0.75	0.02	0.20	0.50	0.30	0.75	0.57

# **APPENDICES**

# APPENDIX A: 2023 FORDHAM FRANCIS INDEX - ALPHABETICAL LISTING OF ALL COUNTRIES WITH COMPLETE OR PARTIAL DATA

Country	FFI Rank	FFI	MWI	Water	Food	Housing	Employment	SWI	Education	Gender	Religion
Afghanistan				0.79	0.60	0.40		0.36	0.30	0.57	0.27
Albania	19	0.87	0.95	0.95	0.98	1.00	0.88	0.79	0.98	0.63	0.80
Algeria	60	0.59	0.95	0.95	1.00	1.00	0.88	0.37	0.79	0.66	0.10
American Samoa											
Andorra				1.00							0.74
Angola	61	0.58	0.44	0.48	0.73	0.51	0.20	0.77	0.69	0.94	0.70
Anguilla											
Antigua and Barbuda				0.99					0.99		0.91
Argentina					0.98	0.51	0.92	0.90	0.99	0.95	0.76
Armenia	27	0.82	0.95	1.00	0.99	1.00	0.83	0.71	1.00	0.60	0.60
Aruba									0.98		
Australia				1.00	1.00					0.82	0.80
Austria				1.00	1.00					0.85	0.52
Azerbaijan	51	0.67	0.98	0.98	1.00	0.98	0.95	0.46	1.00	0.40	0.25
Bahamas											0.63
Bahrain				1.00						0.68	0.32
Bangladesh	46	0.72	0.81	0.99	0.87	0.74	0.69	0.63	0.72	0.72	0.48
Barbados				0.99	0.99	1.00		0.86	1.00	0.82	0.78
Belarus	26	0.84	0.99	1.00	1.00	1.00	0.96	0.71	1.00	0.95	0.38
Belgium				1.00	1.00					0.82	0.65
Belize			0.87	0.99	0.93	0.97	0.65			1.00	0.84
Benin	54	0.65	0.64	0.60	0.93	0.53	0.56	0.67	0.39	0.89	0.86
Bermuda				1.00							
Bhutan				1.00		0.66	0.85	0.62	0.67	0.72	0.48
Bolivia	17	0.87	0.89	0.94	0.83	0.92	0.88	0.85	0.93	0.72	0.90
Bonaire, Sint Eustatius and Saba				1.00							
Bosnia and Herzegovina	8	0.90	0.95	0.96	1.00	1.00	0.86	0.86	0.98	0.92	0.70
Botswana	30	0.81	0.76	0.92	0.72	0.90	0.56	0.87	0.85	1.00	0.78
Brazil	4	0.92	0.96	1.00	0.98	0.99	0.86	0.88	0.94	1.00	0.73
British Virgin Islands				1.00							
Brunei Darussalam				1.00	0.95			0.56	0.97	0.78	0.23
Bulgaria				1.00	0.99			0.79	0.98	0.98	0.52
Burkina Faso	69	0.50	0.39	0.38	0.77	0.21	0.39	0.65	0.39	0.97	0.71
Burundi				0.54		0.22	0.01	0.79	0.72	0.98	0.70
Cabo Verde				0.89	0.78		0.78	0.87	0.90	0.82	0.90
Cambodia	39	0.75	0.71	0.74	0.94	0.76	0.49	0.80	0.82	1.00	0.62
Cameroon	42	0.73	0.67	0.63	0.94	0.59	0.56	0.80	0.76	0.97	0.71
Canada				1.00	1.00					0.89	0.78

Country	FFI Rank	FFI	MWI	Water	Food	Housing	Employment	SWI	Education	Gender	Religion
Cayman Islands				0.96					0.99		
Central African Republic			0.19	0.22	0.27	0.17	0.12		0.30		0.71
Chad	74	0.36	0.29	0.41	0.56	0.11	0.26	0.44	0.18	0.85	0.58
Chile				1.00	1.00		0.92	0.87	0.97	0.85	0.82
China	72	0.39	0.97	0.98	1.00	0.96	0.94	0.15	0.97	0.38	0.01
China, Hong Kong SAR				1.00	1.00						0.80
China, Macao SAR				1.00	0.97				0.97		0.91
China, Taiwan Province of China					0.99		0.97				0.84
Colombia	5	0.91	0.92	0.98	0.92	0.96	0.83	0.91	0.95	0.92	0.85
Comoros					0.74	0.74	0.59	0.62	0.57	0.82	0.51
Congo					0.57	0.79	0.10		0.78		0.84
Cook Islands				1.00							
Costa Rica	7	0.91	0.96	1.00	0.99	1.00	0.88	0.85	0.98	0.89	0.71
Côte d'Ivoire	33	0.78	0.75	0.67	0.97	0.73	0.67	0.81	0.89	0.69	0.86
Count											
Croatia					1.00	1.00			0.99		0.69
Cuba				0.95	1.00	0.99			1.00		0.40
Curaçao											
Cyprus				1.00	1.00			0.87	0.99	0.97	0.69
Czechia				1.00	1.00	1.00				0.97	0.75
Democratic People's Republic of Korea				0.94	0.43						
Democratic Republic of the Congo	71	0.43	0.23	0.20	0.45	0.35	0.09	0.82	0.78	0.94	0.75
Denmark				1.00	1.00					0.75	0.53
Djibouti				0.71	0.84	0.68					0.55
Dominica					0.94						0.76
Dominican Republic	2	0.94	0.96	0.97	0.94	1.00	0.93	0.93	0.95	1.00	0.85
Ecuador	15	0.87	0.91	0.96	0.81	0.99	0.87	0.84	0.94	0.82	0.78
Egypt	50	0.67	0.92	1.00	0.96	0.99	0.74	0.50	0.70	0.82	0.22
El Salvador	6	0.91	0.95	0.99	0.92	0.93	0.94	0.87	0.89	1.00	0.75
Equatorial Guinea											0.56
Eritrea									0.74		0.28
Estonia				1.00	1.00	1.00		0.93	1.00	0.95	0.85
Eswatini	37	0.77	0.68	0.68	0.88	0.90	0.40	0.86	0.88	1.00	0.72
Ethiopia	68	0.51	0.43	0.41	0.67	0.26	0.47	0.60	0.46	0.86	0.56
Falkland Islands (Malvinas)											
Faroe Islands				1.00							
Fiji				0.96	0.95		0.77			0.88	0.70
Finland				1.00	1.00					0.85	0.65
France				1.00	1.00					0.85	0.42
French Guiana				0.94							
French Polynesia				1.00	0.98						
Gabon			0.81	0.85	0.79	0.90	0.73		0.84		0.87
Gambia	41	0.74	0.78	0.83	0.72	0.90	0.67	0.71	0.53	0.82	0.84

Country	FFI Rank	FFI	MWI	Water	Food	Housing	Employment	SWI	Education	Gender	Religion
Georgia	18	0.87	0.91	0.95	0.93	1.00	0.79	0.82	1.00	0.97	0.58
Germany				1.00	1.00					0.88	0.65
Ghana	22	0.86	0.86	0.87	0.98	0.85	0.75	0.86	0.78	0.97	0.83
Gibraltar				1.00							
Greece				1.00	1.00			0.76	0.98	0.78	0.58
Greenland				1.00							
Grenada									0.98		0.78
Guadeloupe				1.00							
Guam				1.00							
Guatemala	23	0.85	0.84	0.95	0.80	0.75	0.87	0.86	0.81	1.00	0.80
Guinea				0.66		0.57	0.38	0.58	0.39	0.78	0.65
Guinea-Bissau			0.43	0.53	0.57	0.30	0.38		0.47		0.96
Guyana	9	0.90	0.94	0.96	0.96	0.98	0.84	0.86	0.87	1.00	0.73
Haiti			0.50	0.61	0.35	0.67	0.43		0.57		0.74
Holy See											
Honduras	32	0.80	0.80	0.96	0.81	0.75	0.70	0.80	0.87	0.75	0.78
Hungary				1.00	1.00	0.99		0.87	0.99	1.00	0.67
Iceland				1.00	1.00					0.75	0.61
India	59	0.60	0.81	0.93	0.80	0.98	0.59	0.45	0.71	0.34	0.38
Indonesia	52	0.67	0.91	0.94	0.94	0.99	0.78	0.50	0.96	0.85	0.15
Iran (Islamic Republic of)				0.98	0.98		0.88	0.43	0.87	0.75	0.12
Iraq			0.88	0.99	0.80	0.99	0.76		0.84		0.35
Ireland				0.96	1.00					0.75	0.89
Isle of Man				1.00							
Israel				1.00	1.00					0.75	0.30
Italy				1.00	1.00			0.81	0.99	0.77	0.69
Jamaica	21	0.86	0.90	0.90	0.94	0.90	0.87	0.82	0.87	0.80	0.78
Japan				1.00	0.99					0.89	0.95
Jordan	35	0.78	0.89	1.00	0.79	1.00	0.81	0.67	0.98	0.65	0.48
Kazakhstan					1.00	1.00	0.95	0.62	1.00	0.95	0.25
Кепуа	55	0.65	0.53	0.55	0.64	0.59	0.38	0.79	0.80	0.92	0.66
Kiribati				0.71	0.98	0.79					0.88
Козоvо											0.70
Kuwait				1.00	1.00			0.66	0.96	0.82	0.37
Kyrgyzstan	29	0.82	0.92	0.90	0.96	1.00	0.84	0.73	1.00	1.00	0.39
Lao People's Democratic Republic	43	0.73	0.81	0.83	0.96	0.87	0.62	0.65	0.85	0.92	0.35
Latvia				1.00	1.00			0.90	1.00	0.98	0.74
Lebanon				0.92	0.88		0.87	0.77	0.94	0.86	0.56
Lesotho	44	0.73	0.60	0.69	0.53	0.82	0.44	0.88	0.79	1.00	0.86
Liberia	67	0.52	0.42	0.71	0.48	0.60	0.16	0.63	0.42	0.72	0.84
Libya				1.00		1.00					0.38
Liechtenstein				1.00							0.73

Country	FFI Rank	FFI	MWI	Water	Food	Housing	Employment	SWI	Education	Gender	Religion
Lithuania				0.99	1.00			0.91	1.00	1.00	0.75
Luxembourg				1.00	1.00					0.77	0.69
Madagascar	73	0.36	0.18	0.43	0.33	0.32	0.02	0.74	0.74	0.78	0.70
Malawi	66	0.52	0.35	0.66	0.78	0.61	0.05	0.78	0.63	1.00	0.76
Malaysia				0.98	1.00		0.97	0.41	0.94	0.88	0.09
Maldives				1.00		1.00	0.95	0.56	0.98	0.63	0.28
Mali	65	0.52	0.57	0.81	0.89	0.33	0.45	0.48	0.22	0.68	0.73
Malta				1.00	1.00			0.82	0.94	0.77	0.76
Marshall Islands				0.83					0.98		0.96
Martinique				1.00							
Mauritania			0.58	0.74	0.89	0.23	0.74		0.63		0.33
Mauritius				1.00	0.92		0.92	0.91	0.91	1.00	0.84
Mayotte				0.97							
Mexico	36	0.78	0.73	1.00	0.95	0.33	0.89	0.83	0.95	0.92	0.65
Micronesia (Federated States of)											0.96
Moldova	16	0.87	0.96	0.91	0.94	0.99	0.98	0.80	1.00	1.00	0.51
Monaco				1.00							0.73
Mongolia	13	0.89	0.90	0.81	0.98	0.93	0.90	0.88	0.99	1.00	0.68
Montenegro	14	0.88	0.96	1.00	1.00	1.00	0.84	0.81	0.99	0.88	0.61
Montserrat				0.99							
Morocco				0.85	0.95	0.96		0.56	0.73	0.71	0.33
Mozambique	70	0.49	0.31	0.55	0.56	0.23	0.14	0.75	0.59	1.00	0.72
Myanmar				0.79	0.99	0.61		0.52	0.88	1.00	0.16
Namibia	31	0.81	0.71	0.84	0.77	0.65	0.59	0.92	0.91	1.00	0.86
Nauru											0.83
Nepal	47	0.72	0.80	0.90	0.96	0.82	0.59	0.64	0.68	0.77	0.49
Netherlands				1.00	1.00					0.72	0.70
New Caledonia				1.00	0.94				0.98		
New Zealand				1.00	1.00					0.78	0.98
Nicaragua					0.76	0.85	0.87	0.82	0.80	0.97	0.71
Niger	75	0.30	0.18	0.37	0.75	0.02	0.20	0.50	0.30	0.75	0.57
Nigeria	58	0.60	0.58	0.76	0.85	0.64	0.28	0.63	0.57	0.80	0.54
Niue				0.98							
North Macedonia			0.95	0.99	0.99	1.00	0.83		0.98		0.76
Northern Mariana Islands				1.00							
Norway				1.00	1.00					0.75	0.67
Oman				0.92	0.89			0.66	0.95	0.71	0.43
Pakistan	62	0.56	0.74	0.90	0.79	0.66	0.63	0.42	0.53	0.45	0.31

Country	FFI Rank	FFI	MWI	Water	Food	Housing	Employment	SWI	Education	Gender	Religion
Palau				1.00					0.96		0.95
Palestine, State of				0.99		1.00	0.72		0.97		0.49
Panama				0.95	0.95		0.89	0.89	0.95	0.89	0.84
Papua New Guinea			0.49	0.39	0.72	0.42	0.47				0.84
Paraguay	3	0.92	0.95	1.00	0.91	0.96	0.92	0.90	0.94	0.92	0.83
Peru	25	0.84	0.84	0.95	0.92	0.66	0.88	0.84	0.94	0.75	0.83
Philippines	10	0.90	0.90	0.95	0.96	0.95	0.77	0.89	0.96	0.98	0.75
Poland				0.89	1.00			0.86	1.00	1.00	0.65
Portugal				1.00	1.00			0.93	0.96	0.89	0.94
Puerto Rico				1.00					0.91		
Qatar				1.00				0.54	0.93	0.49	0.35
Republic of Korea				1.00	1.00					0.94	0.74
Réunion				1.00							
Romania				1.00	1.00			0.75	0.99	1.00	0.43
Russian Federation				0.98	1.00	1.00			1.00		0.12
Rwanda	57	0.61	0.50	0.58	0.51	0.95	0.23	0.74	0.73	0.91	0.60
Saint Barthelemy				1.00							
Saint Helena				1.00							
Saint Kitts and Nevis											0.89
Saint Lucia				0.97		0.99					0.74
Saint Martin (French part)				1.00							
Saint Pierre and Miquelon											
Saint Vincent and the Grenadines					0.93						0.90
Samoa				1.00	0.97	1.00			0.99		0.88
San Marino				1.00							0.94
Sao Tome and Principe				0.73	0.84	0.99			0.93		0.90
Saudi Arabia				1.00	0.98			0.60	0.97	0.75	0.29
Senegal	40	0.75	0.78	0.84	0.93	0.75	0.64	0.72	0.51	0.80	0.90
Serbia	11	0.90	0.96	0.96	0.99	1.00	0.90	0.83	0.99	0.88	0.67
Seychelles				0.97		1.00			0.96		0.72
Sierra Leone	64	0.53	0.44	0.58	0.64	0.56	0.19	0.62	0.41	0.78	0.75
Singapore				1.00				0.57	0.97	0.74	0.26
Sint Maarten (Dutch part)											
Slovakia				1.00	0.98	1.00				1.00	0.70
Slovenia				1.00	1.00	1.00		0.92	1.00	0.95	0.81
Solomon Islands					0.77		0.40				0.88
Somalia			0.22	0.49	0.26	0.22	0.09				0.49
South Africa	20	0.86	0.82	0.94	0.94	0.95	0.54	0.90	0.94	0.98	0.77
South Sudan				0.28		(0.00)			0.27		0.66

Country	FFI Rank	FFI	MWI	Water	Food	Housing	Employment	SWI	Education	Gender	Religion
Spain				1.00	1.00			0.77	0.98	0.77	0.59
Sri Lanka	28	0.82	0.93	0.88	0.99	0.98	0.86	0.73	0.91	1.00	0.42
Sudan			0.53	0.57	0.85	0.43	0.38		0.56		0.38
Suriname	12	0.89	0.87	0.99	0.92	0.99	0.64	0.91	0.94	0.89	0.90
Sweden				1.00	1.00					0.74	0.67
Switzerland				1.00	1.00					0.75	0.74
Syrian Arab Republic				0.94		0.98	0.29				0.19
Tajikistan	48	0.69	0.87	0.79	0.91	0.94	0.84	0.54	1.00	0.83	0.19
Tanzania (United Republic of)	63	0.54	0.43	0.52	0.71	0.48	0.19	0.67	0.80	0.85	0.45
Thailand	24	0.85	0.98	1.00	0.91	1.00	1.00	0.74	0.93	0.97	0.45
Timor-Leste	49	0.69	0.59	0.85	0.65	0.54	0.39	0.80	0.66	0.89	0.88
Тодо	45	0.72	0.67	0.65	0.76	0.73	0.57	0.77	0.62	0.98	0.73
Tokelau				1.00							
Tonga				1.00		0.99			0.99		0.83
Trinidad and Tobago			0.97	1.00	0.93	1.00	0.96				0.89
Tunisia	38	0.76	0.95	0.98	0.99	1.00	0.83	0.61	0.81	0.83	0.33
Türkiye	34	0.78	0.96	0.98	1.00	0.98	0.90	0.63	0.96	0.78	0.33
Turkmenistan			0.97	1.00	0.99	1.00	0.91		1.00		0.34
Turks and Caicos Islands				1.00							
Tuvalu				1.00		1.00					0.78
Uganda				0.50		0.45	0.29	0.82	0.76	1.00	0.73
Ukraine				0.93	1.00	1.00		0.81	1.00	0.97	0.55
United Arab Emirates				1.00	0.95	1.00		0.65	0.98	0.74	0.39
United Kingdom				1.00	1.00					0.77	0.70
United States of America				1.00	1.00					0.85	0.71
United States Virgin Islands											
Uruguay	1	0.97	0.98	1.00	1.00	1.00	0.92	0.95	0.99	1.00	0.88
Uzbekistan			0.89	0.97	1.00	0.99	0.65		1.00		0.23
Vanuatu				0.90	0.86	0.67		0.89	0.88	0.94	0.86
Venezuela (Bolivarian Republic of)				0.93	0.70		0.37		0.97		0.69
Vietnam	53	0.66	0.79	0.99	0.95	0.45	0.93	0.55	0.95	0.54	0.33
Wallis and Futuna Islands				1.00							
Western Sahara											0.38
Yemen			0.34	0.53	0.43	0.50	0.12				0.38
Zambia	56	0.61	0.45	0.62	0.58	0.56	0.21	0.83	0.86	1.00	0.66
Zimbabwe				0.54		0.82	0.33	0.86	0.88	1.00	0.73

# **APPENDIX B: VARIABLE DEFINITIONS & SOURCES**

Variable	Definition	Source					
	Variables Used for the FFI Con	nputation					
Water Indicator: Percentage of population who drink improved drinking water.	Basic access to drinking water services refers to drinking water from an improved source, provided collection time is not more than 30 minutes for a roundtrip including queuing. Improved drinking water sources are those that have the potential to deliver safe water by nature of their design and construction, and include: piped water, boreholes or tube wells, protected dug wells, protected springs, rainwater, and packaged or delivered water	WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation https://washdata.org/data/downloads#WLD Accessed: July 12, 2023					
Food Indicator: Prevalence of Undernourishment	The percentage of the population that is continuously unable to consume enough food to meet dietary energy requirements	Food and Agriculture Organization (FAO) https://www.fao.org/faostat/en/#data Accessed: May 10, 2023					
Housing Indicator: Access to Adequate Housing	The percent of the population with access to adequate housing. The definition of inadequate housing is that the floor or the roof or both are made of rudimentary materials. Inadequate flooring is made of mud, clay, earth, sand or dung; while inadequate roofing occurs if a dwelling lacks a roof or wall or if either are constructed using rudimentary materials such as cane, mud, grass, thatch, bamboo, plastics, plywood, cardboard, etc.	Oxford Poverty & Human Development Initiative Multidimensional Poverty Index Report https://ophi.org.uk/multidimensional-poverty-index/ data-tables-do-files/ Accessed: February 5, 2023					
Employment Indicator: Distressed Labor Rate	The Distressed Labor Rate refers to the percentage of the working age population who are able to work but are unemployed or who are employed but earning less than \$3.20 PPP per day and are unlikely to meet their basic needs without assistance.	International Labor Organization https://ilostat.ilo.org/data/ Accessed: February 5, 2023					
Education Indicator: Adult Literacy Rate	The proportion of the adult population aged 15 years and over that is literate. This unit of measurement is expressed as a percentage (%). This indicator provides a measure of the stock of literate persons within the adult population who are capable of using written words in daily life and to continue to learn. It reflects the accumulated accomplishment of education in spreading literacy. Any shortfall in literacy would provide indications of efforts required in the future to extend literacy to the remaining adult illiterate population.	United Nations Educational, Scientific and Cultural Organization (UNESCO) Data collected from: https://databank.worldbank.org/reports.aspx? source=world-development-indicators# Accessed: June 24, 2023					

Variable	Definition	Source
Gender Indicator: Health and Survival Index	The Index is based on two different factors: sex ratio at birth (converted to female-over-male ratio) and ratio of female healthy life expectancy over male healthy life expectancy	Gender Gap Report of World Economic Forum Data downloaded from World Economic Forum dataset hosted on World Bank's website https://tcdata360.worldbank.org/indicators/e06df634? country=BRA&indicator=28163&viz=line_chart&year s=2006,2022 Accessed: June 14, 2023
Religious Freedom Indicator: Government Restrictions Index	The Government Restrictions Index (GRI) measures on a 10-point scale government laws, policies and actions that restrict religious beliefs or practices. The GRI is comprised of 20 measures of restrictions, including efforts by governments to ban particular faiths, prohibit conversions, limit preaching or give preferential treatment to one or more religious groups.	Pew Research Center <i>Data for 2007-2016 downloaded from:</i> https://www.pewresearch.org/religion/international- restrictions-on-religion-data/ Accessed: June 14, 2023 Data for 2017-2018 taken from: https://www.pewresearch.org/religion/wp-content/ uploads/sites/7/2020/11/ PF_20.10.28_Restrictions11_appendixC.pdf Data for 2019-2020 taken from: How Covid-19 Restrictions Affected Religious Groups Around the World in 2020 https://www.pewresearch.org/religion/interactives/ religious-restrictions-around-the-world/
Population Data	Total population Female Population Adult Population – population of those age 15 or older	UN Population Division, Department of Economic and Social Affairs <u>https://population.un.org/wpp/Download/Standard/</u> <u>Population/</u> Accessed May 10, 2023
GDP Per Capita	Gross Domestic Product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars.	World Bank https://data.worldbank.org/indicator/ NY.GDP.PCAP.CD Accessed: April 18, 2023

Variable	Definition	Source							
Human Development Index	A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living.	United Nations Development Progamme Human Development Reports https://hdr.undp.org/data-center/human- development-index#/indicies/HDI Accessed: April 8, 2023							
UN Sustainable Development Goals (SDG) Targets									
SDG 1.1.1 Level of Poverty	Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population): Poverty headcount ratio at \$1.90 a day is the percentage of the population living on less than \$1.90 a day at 2011 international prices. As a result of revisions in PPP exchange rates, poverty rates for individual countries cannot be compared with poverty rates reported in earlier editions.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022							
SDG 2.2.3 Prevalence of Anemia in Women	Prevalence of anemia among women of reproductive age (% of women ages 15-49) refers to the combined prevalence of both non-pregnant with haemoglobin levels below 12 g/dL and pregnant women with haemoglobin levels below 11 g/dL.	World Health Organization, Global Health Observatory Data Repository/World Health Statistics Data downloaded from World Bank Data https://data.worldbank.org/indicator/ SH.ANM.ALLW.ZS Accessed: April 10, 2023							
SDG 3.1.1 Maternal Mortality	Maternal mortality ratio is the number of women who die from pregnancy-related causes while pregnant or within 42 days of birth per 100,000 live births in a given year.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022							
SDG 3.2.1 Infant Mortality	Infant mortality rate is the number of infants dying before reaching one year of age, per 1,000 live births in a given year.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022							
SDG 3.3.2 Incidence of TB	Measured as the estimated incidence (all forms) per 100,000 population	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022							

Variable	Definition	Source
SDG 4.1.1b Primary School Completion	Primary completion rate, total (% of relevant age group), or gross intake ratio to the last grade of primary education, is the number of new entrants (enrollments minus repeaters) in the last grade of primary education, regardless of age, divided by the population at the entrance age for the last grade of primary education. Data limitations preclude adjusting for students who drop out during the final year of primary education.	UNESCO Institute for Statistics Data downloaded from World Bank Data https://data.worldbank.org/indicator/ SE.PRM.CMPT.ZS Accessed: April 5, 2023
SDG 4.3.1 Gender Parity in Education	Gender parity index for participation rate in formal and non-formal education and training, ratio Parity indices require data for the specific groups of interest. They represent the ratio of the indicator value for one group to that of the other. Typically, the likely more disadvantaged group (female) is placed in the numerator. A value of exactly 1 indicates parity between the two groups. Participation rate in formal and non-formal	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 5.2.1 Proportion of Partnered Women Subject to Violence	Proportion of ever-partnered women and girls subjected to physical and/or sexual violence by a current or former intimate partner in the previous 12 months, by age (%) (age 15+)	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 5.5.1 Proportion of Women in Parliament	The proportion of seats held by women in (a) national parliaments is currently measured as the number of seats held by women members in single or lower chambers of national parliaments, expressed as a percentage of all occupied seats.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 6.2.1 Access to Sanitation	Percentage of population who use an adequate/ improved sanitation facility. A sanitation facility is considered adequate/improved if it hygienically separates human excreta from human contact. The types of technology that are likely to meet this criterion are: flush to piped sewer system ; flush to septic tank; flush/pour flush to pit; composting toilet; ventilated improved pit (VIP) latrine; pit latrine with a slab	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022

Variable	Definition	Source
SDG 7.1.1 Electricity (% of Population)	Proportion of population with access to electricity	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 7.2.1 Renewable Energy Share	The renewable energy share in total final consumption is the percentage of final consumption of energy that is derived from renewable resources.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 8.1.1 GDP Per Capita Growth Rate	Annual growth rate of real Gross Domestic Product (GDP) per capita is calculated as the percentage change in the real GDP per capita between two consecutive years. Real GDP per capita is calculated by dividing GDP at constant prices by the population of a country or area. The data for real GDP are measured in constant US dollars to facilitate the calculation of country growth rates and aggregation of the country data.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 8.6.1 Proportion of youth not in education, employment or training	Proportion of youth not in education, employment or training, by sex and age (%)	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 8.10.2 Percent of Population with an account at a financial institution	Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile-money-service provider	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 10.4.1 Income Inequality	Labour share of GDP (%)	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022

Variable	Definition	Source
SDG 13.1.1 Affected by Disaster	Number of people affected by disaster (number)	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 15.5.1 Red List Index	The Red List Index measures change in aggregate extinction risk across groups of species. It is based on genuine changes in the number of species in each category of extinction risk on The IUCN Red List of Threatened Species (IUCN 2015) is expressed as changes in an index ranging from 0 to 1.	United Nations Department of Economic and Social Affairs, Statistics - SDG Indicators Database https://unstats.un.org/sdgs/dataportal/database Accessed: Aug 21, 2022
SDG 16 Corruption	Measured by Transparency International to rank countries by their perceived levels of corruption, as determined by expert assessments and opinion surveys. Measured from 0 (highly corrupt) to 100 (very clean).	Transparency International https://www.transparency.org/en/cpi/2021/index/ results Accessed: Aug 22, 2022
SDG 16 Press Freedom	Measured as 0 to 100, with 100 as worst/least free	Reporters Without Borders Source: https://rsf.org/en/index Accessed: Aug 22, 2022
SDG 16 Deaths due to Conflict	The total number of deaths in a five-year period of due to conflicts or events of organized violence (phenomena of lethal violence occurring at a given time and place	Uppsala Conflict Data Program https://ucdp.uu.se/downloads/index.html#ged_global Davies, Shawn, Therese Pettersson & Magnus Öberg (2023). Organized violence 1989-2022 and the return of conflicts between states?. Journal of Peace Research 60 (4). Sundberg, Ralph and Erik Melander (2013) Introducing the UCDP Georeferenced Event Dataset. Journal of Peace Research 50(4). Accessed: April 5, 2023
SDG 16.3.2 Unsentenced detainees as a proportion of overall prison to population	The total number of persons held in detention who have not yet been sentenced, as a percentage of the total number of persons held in detention, on a specified date.	United Nations Office on Drugs and Crime https://dataunodc.un.org/crime/unsentenced- detainees-as-proportion Accessed: Aug 21, 2022
SDG 17.8.1 Percent population using the internet	The indicator proportion of individuals using the Internet is defined as the proportion of individuals who used the Internet from any location in the last three months.	United Nations Office on Drugs and Crime https://dataunodc.un.org/crime/unsentenced- detainees-as-proportion Accessed: Aug 21, 2022

# APPENDIX C: TECHNICAL NOTES

## SOURCES AND DEFINITIONS

All data for this report were gathered from international organizations who have resources and expertise to collect and distribute national data on various development indicators.

Definitions of the indicators used for the report are listed in the preceding Appendix B.

### METHODOLOGY FOR 2023 REPORT

An important concern in producing this report was geographical coverage and obtaining as many observations as possible. Beginning the 2022 Report, we use national data for whichever is the latest year available for each indicator.

#### Water

Water data for access to water from an improved drinking source was taken from the World Health Organization-UNICEF Joint Monitoring Programme (JMP) water and sanitation database. The latest data available was from 2022, covering 207 countries.

The WHO-UNICEF JMP water and sanitation database shows some countries with percentage access to water as ">99". We list these values at 99% for the construction of our FFI water dataset.

To estimate the percent and number of people in the world who experience deprivation in access to clean water, we use WHO-UNICEF JMP's estimate for world access to clean water rates. We then multiply the percent of households without access to clean water by the world population for 2022 to get the number of adults who experience deprivation in access to clean water.

#### Food

The data for prevalence of undernourishment was obtained from the UN Food and Agriculture Organization (FAO). The FAO reports the data as three-year moving averages, , with the latest threeyear average for 2020. We take the data provided for the 3-year period 2019-2021 to represent data for 2020. For 2020, data was available for 168 countries.

FAO database shows some countries with percent prevalence of undernourishment as "<2.5". We list these values at 2.5% for the construction of our FFI food dataset.

To estimate the percent and number of people in the world who experience deprivation in food, we use FAO's estimate for global prevalence of undernourishment. We then multiply this rate to the total world population for 2020 to get the number of people in the world who experience deprivation in food.

#### Housing

Data for the housing indicator was obtained from the Oxford Poverty & Human Development Initiative which collects data that show different dimensions of poverty which they use to produce the Global Multidimensional Poverty Index in partnership with UNDP. The Global MPI was started in 2010 and contains data ranging back to 2000. Data for housing were taken from demographic health surveys, multiple indicator cluster surveys and other similar national surveys conducted by individual countries. The latest survey conducted for indicators used in the OPHI database was from the year 2021. Data used for each country for a particular year is based on the most recent survey data available for the country in reference to that year. We were able to get housing data for 128 countries.

It should be noted however, that there may be possible measurement errors for housing for certain countries. For example, we observe a huge a drop in the percentage of population in India who experience deprivation in housing. Based on data from India's DHS Survey in 2015-2016, the percentage of population living in deprived housing conditions was 23.64%. However, by the DHS Survey for 2019-2021, the percentage of population living in deprived housing was only at 1.38%. Inversely, we see a huge increase in Afghanistan's percentage of population living in deprived housing conditions. Based on the published results of Afghanistan's 2015-2016 DHS Survey on 2017, the percentage was at 6.41%. But in results published in 2018, the percentage of population living in deprived housing conditions was now at 54.48% - despite the results still being based on the same 2015-2016 DHS Survey. This disparity may be due to a change in the definition of inadequate housing in 2016.

One of the dimensions measured by the Global MPI is the percentage of households that have inadequate housing materials. This data is taken from various country demographic and health surveys and other similar national surveys that contain housing structure information. As such, years on when the surveys were conducted vary from country to country.

To estimate the percent and number of people in the world who experience deprivation in housing, we compute the total number of affected population from countries with observed data and divide that by the total number of population in these countries. This provides us with the estimated global rate. We then multiply this rate to the total world population for 2021 to get the number of people in the world who experience deprivation in housing.

#### Employment

Data used to compute for the distressed labor rate were sourced from the International Labor Organization Department of Statistics (ILOSTAT). The Distressed Labor Rate takes the total number of unemployed plus the total number of employed earning less than \$3.20 PPP per day and divides that sum by the total number in the labor force, which includes employed and unemployed still looking for work. Following the practice of the International Labor Office (ILO) we use a maximum salary of \$3.20 PPP per day to define employed workers who are receiving moderate and extreme poverty wages. It is argued that a minimum salary of \$3.20 PPP per day will allow an individual's continued existence without assistance. Without assistance from community members, NGOs, or governments the lives of individuals earning less than \$3.20 PPP per day may be at risk. The latest data available is for 2022 and covers 114 countries.

To estimate the percent and number of adults in the world labor force who experience deprivation in adequately remunerated work, we use ILO's world estimates for the unemployed, the working poor and the labor force.

We compute for the number of adults in the world labor force who experience deprivation in adequately remunerated work by getting the sum of the unemployed and number of employed individuals in the world earning less than \$3.20 PPP per day. We then divide that sum by the total world labor force to compute for the world distressed labor rate.

### Education

Data for adult literacy rate is taken from the UN Educational, Scientific, and Cultural Organization (UNESCO) and the World Bank who collect and monitor the reliability and accuracy of this measure.

Data for literacy rate is taken from various country demographic surveys, population census and other similar surveys. As such, the timing and frequency of the surveys vary from country to country.

Education data used for each country for the 2023 FFI Report is the most recent available within the 10 year period of 2011-2021. We use 10 years as the maximum period to extend out availability of literacy data given that the frequency of population/ demographic surveys vary within the 3-10 year range among different countries. We were able to generate education data from 150 countries for this time period from UNESCO's database.

To estimate the percent and number of adults who experience deprivation in education, we use UNESCO's estimate for world adult literacy rates. We then multiply the percent of illiterate adults by the world adult population for 2020 to get the number of adults who experience deprivation in education.

## Gender

For the gender indicator, we use the Health and Survival Index (HSI) reported in the *The Global Gender Gap Report* published by the World Economic Forum. The HSI is based on two different factors: the femaleover-male ratio at birth and the ratio of female-overmale healthy life expectancy. A value of 0.98 indicates that a country has closed the gender gap. The latest data available for the Health and Survival Index was from 2022. For 2022, data was available for 145 countries.

Given that the FFI was first started in 2013, we use 2013 data as a baseline for monitoring changes in our selected indicators. In 2013, 80% of all observed countries had a score greater than 0.9658 for the HSI. We use this score as a benchmark. Women living in countries with scores at or below 0.9658 faced severe gender inequality by definition.

To estimate the percent and number of women who experience deprivation in gender equity, we compute the total number of females who live in countries with an observed severe gender gap (below or at the threshold) and divide that by the total female population in all observed countries. This provides us with the estimated global rate of women who face a severe gender gap. We then multiply this rate to the total world female population for 2022 to get the number of women in the world who experience deprivation in gender equity.

## **Religious Freedom**

We use the Government Restrictions Index (GRI) from the Pew Research Center as the religious freedom indicator. We found this measure to be most suitable because it also accounts for the role of government institutions in promoting or deterring religious freedom. The Pew Research Center compiles 20 measures of restrictions, including efforts by government to ban particular faiths, prohibit conversion, limit preaching, or give preferential treatment to one or more religious groups. The Pew Research Center employs extensive data verification checks and obtains its data from various government and independent sources giving us confidence that the Government Restrictions Index (GRI) is reliable, consistent and comprehensive. The latest data available for the GRI from the Pew Research Center
was from 2020. For 2019, data was available for 198 countries.

The GRI is an index with value set between 0 to 10. Higher GRI scores indicate that countries face higher government restrictions. Similar to the gender indicator, we use 2013 as a baseline. In 2013, 80% of all countries had a score less than 5.2 on the government restriction index. We use this score as a benchmark. People in countries with scores at or above 5.2 face severe government restrictions on their religious freedom by definition.

To estimate the percent and number of people who experience deprivation in religious freedom, we compute the total number of people who live in countries with observed severe government restrictions (above or at the threshold) and divide that by the total population in all observed countries. This provides us with the estimated global rate of people who face severe restrictions on religious freedom. We then multiply this rate by the total world population for 2020 to get the number of people in the world who experience deprivation in religious freedom.

### INDEXATION

Our approach to computing the Fordham Francis Index is identical to the methodology employed by the United Nations Development Program in their calculation of the Human Development Index (HDI). Using the same approach assures that different implications between the indices are due to substantial differences in their components, such as our focus on basic needs both material and spiritual, and not simply due to technical differences in how we aggregated the various components.

Initially, we invert our measures of food (from percent undernourished to percent nourished),

housing (from % deprived to % living in good housing conditions), employment (from distressed labor rate to adequately remunerated employment rate), and religious freedom (from a score that indicates the degree of government restrictions to a score that indicates the degree of freedom from government restrictions on religious practices). These are done so that a higher number for all seven of our measures would represent a better outcome.

We then standardize our seven primary statistical indicators of water, food, housing, employment, education, gender, and religious freedom so that they each yield indices with values between 0 and 1 according to the following formula:

#### Primary Indicator Score =

(X – Min Theoretical Value of Statistic)

(Max Value of Statistic — Min Theoretical Value of Statistic)

#### Determination of Maximum & Minimum Threshold for Index Computation

In line with best practice, the maximum and minimum values for each indicator were set to the historical maximum and minimum observed values within each dataset since 1990 (see appendix D for countries and year). 1990 was selected as the base year because the period between 1990 to 2021 can be seen as a period representing a generation. However, only UNESCO's dataset on adult literacy rate have data extending back to 1990 (and beyond). FAO's data for undernourishment only begins in 2001. OPHI's earliest data for housing is from the year 2000. Earliest ILO data for employment is for the year 2010. The World Economic Forum's data for the health and survival index only begins in 2006. The Pew Research Center's data for the GRI only begins in 2007.

# Indexation for Countries Whose Values for the Year are the Historical Minimum

For countries whose indicator value is the historical minimum for that indicator, we assign an index score of 0.01. For the 2022 report, this did not occur for any of the indicators.

#### Computation for the Indices for Material Well Being, Spiritual Freedom and Fordham's Pope Francis Global Poverty

We create the Material Well-being Index (MWI) by computing the geometric mean of the four normalized indices of water, food, housing, and employment according to the following formula:

#### Material Well-being Index =

#### Water 1/4 \* Food 1/4 \* Housing 1/4 \* Employment 1/4

It is important to note that equal weight was given to all four components when computing the Material Well-being Index (MWI).

Similarly, we created a Spiritual Freedom Index (SFI) by computing the geometric mean of the three normalized indices of education, gender equity, and religious freedom according to the following formula:

#### Spiritual Freedom Index =

#### Education<sup>1/3</sup> \* Gender<sup>1/3</sup> \* Religious Freedom<sup>1/3</sup>

As was the case with the Material Well-being Index, we gave equal weight to all three components when computing the Spiritual Freedom Index.

Finally, we computed Fordham's Pope Francis Global Poverty Index by calculating the geometric mean of the Material Well-being Index and the Spiritual Freedom Index according to the following formula:

#### Fordham Francis Index =

```
Material Well-being Index<sup>1/2</sup> * Spiritual Freedom Index<sup>1/2</sup>
```

Again, we gave equal weight to both the Material Well -being Index and the Spiritual Freedom Index.

## Computation for the Global Scores

The global scores is based on the percentage of global population who receive or experience adequate levels of the seven basic material and spiritual needs. These are the inverses of the computed percentage world population of experience deprivation for each of the seven primary indicators. The global score is computed by getting the average of these global adequacy percentage scores.

## CHANGES IN INDICATORS SINCE 2016 Report

We continue to overcome caveats in previous years' reports by identifying and updating our measures for some of our indicators. Over the years, we have changed the indicators used for housing, employment and gender equity in order to improve on the robustness of the FFI.

## Changes in Housing

In the 2016 Fordham Francis Index publication, the "measure of access to improved sanitation facilities" was used as a proxy for adequate housing. This measure of sanitation was found to be highly correlated at nearly 80% with another material index measure, access to improved drinking water. Since our measure of housing was more or less simply replicating what we would know from our measure of water we decided to consider alternative indicators to represent adequate housing

Ultimately, the decision was taken to select *Access to Adequate Flooring* to be the new proxy for adequate housing. The definition of flooring is that if the flooring material used in a house is made up of dirt,

dung, or sand, the home is considered not to meet minimum standards. The reasons for selecting this measure are three-fold. First, flooring is much less correlated with other measures of material wellbeing. Second, it is fairly simple to walk into a house and determine whether or not the floor is made of dirt, dung, or sand, making it a reliable measure. Thirdly, the quality of flooring indicates an ability to provide a secure and healthy home environment for its members. We obtained our data on access to adequate flooring from the Oxford Poverty & Human Development Initiative (OPHI) database.

By the 2019 report, we changed our housing indicator to Access to Adequate Housing, following the lead of OPHI. OPHI, in partnership with UNDP, updated their measure for the Global Multipoverty Index to using a new indicator, *Access to Adequate Housing*. The definition of inadequate housing is that the floor or the roof or both are made of rudimentary materials. Inadequate flooring is made of mud, clay, earth, sand or dung; while inadequate roofing occurs if a dwelling lacks a roof or wall or if either are constructed using rudimentary materials such as cane, mud, grass, thatch, bamboo, plastics, plywood, cardboard, etc. Since 2019, *Access to Adequate Housing* has been the housing indicator in the FFI.

#### **Changes in Employment**

In previous years' reports beginning 2016, we used the *unemployment rate* as the employment indicator. Unemployment is defined as the percent of the labor force that is not employed but actively seeking employment and willing to work, as our indicator.

However, we were not satisfied with the use of the unemployment rate, for two reasons. First, we have found that so far it simply did not correlate well with other measures of the UN's Sustainable Development Goals (SDGs). Second, we were concerned that it did not adequately reflect the focus of Pope Francis on the most marginalized. In his UN Address, he was not only concerned with the availably of jobs but also with the quality of employment.

In 2019, in order to better meet the intention of the Pope for workers to also have properly remunerated work, we have combined the unemployment rate with the poverty employment rate to create what we call the *Distressed Labor Rate*. The *distressed labor rate* captures not only the unemployed but also those employed at below poverty wages and are therefore unable to sustain a decent standard of living. Our new measure of employment is more in line with Pope Francis's intentions and is correlated with a number of SDGs' targets.

The *Distressed Labor* Rate takes the total number of unemployed plus the total number of employed earning less than \$3.20 PPP per day and divides that sum by the total number in the labor force, which includes employed and unemployed still looking for work. Following the practice of the International Labor Office (ILO) we use a maximum salary of \$3.20 PPP per day to define employed workers who are receiving moderate and extreme poverty wages. It is argued that a minimum salary of \$3.20 PPP per day will allow an individual's continued existence without assistance. Without assistance from community members, NGOs, or governments the lives of individuals earning less than \$3.20 PPP per day may be at risk.

Since 2019, *Distressed Labor Rate* has been the employment indicator in the FFI.

#### **Changes in Gender**

In the 2016 Fordham Francis Index Report, we used the *Youth Gender Parity Index* metric as our gender indicator. The reason why this was selected was because Pope Francis had previously stressed gender equity, specifically in education, to foster integral human development. Furthermore, if a country is preventing one gender from accessing education, that may also indicate exclusion from other sectors of society, as well as discrimination against other social groupings. The Youth Gender Parity Index measures the ratio of female youth literacy rates to male youth literacy rates between the ages of 15 and 24. This statistic indicates the disparity in outcomes of access to basic education between males and females. The data was sourced from the World Bank. For our analysis we calculated a four-year average to increase the number of available observations.

Unfortunately this measure of female inclusion in education was closely correlated with our measure of education, adult literacy. In fact we found that our gender indicator was nearly 90% correlated with our education indicator, meaning that our gender measure simply duplicated our education measure for the most part, adding very little additional information to the Fordham Francis Index.

In 2017, we then attempted to use a statistic that measures women's political participation at the national level. We used the *proportion of seats held by women in national parliaments*. Women's access to the political process and policy-making may be key for the representation and empowerment of women. Many feel that women's empowerment is conducive for development and growth. The political inclusion of women fits in very well with Pope Francis' vision of creating a world where no one is marginalized and all have the ability to become "dignified agents of their own destiny." Data for this was sourced from the Inter-Parliamentary Union.

Again we were not satisfied with this measure since we felt that it did not adequately express Pope Francis' vision on basic human needs and rights. We felt that it was more a measure of elite welfare and perhaps not directly reflective of the welfare of women living at the margins of our societies.

In early 2018, Pope Francis spoke out on violence against women, calling it "a plague" that needs to be combated across the globe. He furthermore said "I'm calling on you to fight against this source of suffering including legislation and a culture that rejects every type of violence." We therefore decided that for the 2018 report, we would look at violence against women as a more fundamental measure of human spiritual poverty than the lack of political participation. We chose the percentage of women who agree that a husband/partner is justified in beating his wife/partner under certain circumstances. A climate of violence against women can clearly marginalize and exclude women from their rights to life, dignity, and development. We obtained data for this measure from the Organization for Economic Cooperation and Development (OECD).

We liked this measure very much. Unfortunately, this data is not available on a regular basis. In 2019, we chose the Health and Survival Index reported in *The Global Gender Gap Report* produced by the World Economic Forum. The Index is based on two different factors: the female-over-male ratio at birth and the ratio of female-over-male healthy life expectancy. A value of 0.98 indicates that a country has closed the gender gap

We chose this index as it provides an overview of the differences between women's and men's health. Sex ratio at birth captures the phenomenon of "missing women", prevalent in many countries with a strong preference for boy children. The life expectancy measure provides an estimate of the number of years that women and men can expect to live in good health, taking into account the years lost to violence, disease, malnutrition and other relevant factors. Since 2019, the *Health and Survival Index* has been the gender indicator in the FFI. However, this indicator had no significant correlations with any of the SDGs' targets that we have so far considered. We are not sure if we should consider another measure of gender disparity for the FFI moving forward or perhaps the SDGs do not adequately address violence against women.

### **GLOBAL POVERTY SCORECARD**

To compute for the global poverty scorecard, we use the percentage of the population that lack access to the seven basic human needs fundamental to human dignity. The global poverty scorecard is computed by taking the average of the world deprivation rates estimated for each of the seven indicators.

For the global poverty score trend, we compute for the global poverty score for each of the FFI reports published, using the available data at that time. As such, the global poverty scores for 2016, 2017, 2018, 2019, 2020 and 2021 were computed using 2013, 2014, 2015, 2016, 2017 and 2018 data respectively, similar to the data used in the those FFI reports. Meanwhile, the global poverty scores for the 2022 and 2023 reports were computed using data from the most recent year available at the time of writing of their respective reports. As such, for the global poverty score of 2022, data used was from 2019 for the food and religious freedom indicators, 2020 for water, food and housing indicators, and 2021 for employment and gender indicators. For 2023, the global poverty score was computed using data from 2020 for the food and religious freedom indicators, 2021 for the housing and education indicators, and 2022 for the water, employment and gender indicators.

#### **COMPARABILITY ACROSS REPORTS**

Because of the updates we have made in the indicators used for the FFI, and because national and international agencies continually improve on their data collection and methodology, the index computation and the FFI ranks, as well as data presented in this report are not always comparable to those published in earlier editions. For FFI comparability across years and countries, we recompute each year using consistent data to see trends.

# APPENDIX D: PHOTO CREDITS

Photo for Water	UNICEF/UNI182807/Noorani	https://www.unicef.org/wash/water
		Date accessed: May 4, 2023
Photo for Food	UNICEF Afghanistan	https://news.un.org/sw/story/2021/08/1125212
Photo for Housing	UNICEF/Tanya Bindra	https://news.un.org/en/story/2016/12/548412
Photo for	United Nations Photo Digital Asset Management	https://dam.media.un.org/
Employment	System	Data Aragana May ( 2023
	Unique Identifier UN7331866	Date Accessed: May 6, 2025
	NICAID 522688	
	Country Haiti	
Photo for	United Nations Photo Digital Asset Management	https://dam.media.un.org/
Education	System.	Date Accessed: May 6, 2023
	Unique Identifier UN744481	···· ····· ··· ··· ··· ··· ··· ··· ···
	NICAID 814238	
	Country Mozambique	
Photo for Gender	UN India/JAS	https://news.un.org/en/story/2022/03/1114752
Dhoto for	UNI Nowy / Log / Thong	https://powe.up.org/op/story/2020/05/1063472
Religious	On news/Jing Zhang	https://news.un.org/en/story/2020/03/1003472
Freedom		Date Accessed: May 4, 2023
Photo for Primary	UNICEF/Iraq/2021/Anmar	https://www.unicef.org/mena/stories/2021-photos
Indicators Page		Date Accessed Sept 9, 2023
Photos for SDG	UN Photo/Amanda Voisard	https://news.un.org/en/story/2018/03/1004552
Section		
	UNICEF/UN0336408/Babaianvan VII Photo	https://www.unicef.org/about-us/75-vears-unicef
		Date Accessed 11 Sept 2023

## APPENDIX E: POPE FRANCIS QUOTE SOURCES

Component	Source	
Water	Message of His Holiness Pope Francis after the Angelus at the Library of the Apostolic Palace, March 21 2021	
	https://www.vatican.va/content/francesco/en/angelus/2021/documents/papa-francesco_angelus_20210321.html	
Food	Message of His Holiness Pope Francis for the World Food Day 2018, October 16, 2018	
	https://www.vatican.va/content/francesco/en/messages/food/documents/papa- francesco_20181016_messaggio-giornata-alimentazione.html	
Housing	Day of Prayer and Witness on the Occasion of World Day of the Poor in Assisi, Basilica of Saint Mary of the Angels, November 12, 2021	
	https://www.vatican.va/content/francesco/en/speeches/2021/november/documents/20211112-giornata-poveri-assisi.html	
Employment	Pope Francis' weekly Wednesday audience, delivered at Paul VI Audience Hall, January 12, 2022	
	https://www.vatican.va/content/francesco/en/audiences/2022/documents/20220112-udienza-generale.html	
Education	Video Message of His Holiness Pope Francis on the Occasion of the Meeting Organised by the Congregation for Catholic Education: "Global Compact on Education: Together to Look Beyond", October 15, 2020	
	https://www.vatican.va/content/francesco/en/messages/pont-messages/2020/documents/papa-francesco_20201015_videomessaggio-global-compact.html#:~:text=May%20we%20be%20sustained%20by,behind%20desks%20or%20in%20offices.	
Gender	Pope Francis' preface to the volume "More Women's Leadership for a Better World: Caring as the Engine for Our Common Home," edited by Anna Maria Tarantola, published by <i>Vita e Pensiero</i>	
	vaticannews.va/en/pope/news/2023-03/pope-pens-preface-on-more-women-leadership-for-better-world.html	
Religious Freedom	Pope Francis' January Prayer Intention: For those who suffer religious persecution	
	Meeting for Religious Liberty with the Hispanic Community and Other Migrants. Address of the Holy Father, Independence Hall, Philadelphia, September 26, 2015	
	https://www.vatican.va/content/francesco/en/speeches/2015/september/documents/papa-francesco_20150926_usa-liberta-religiosa.html	

# **RESEARCH TEAM**

Prof. Henry Schwalbenberg, PhD, Research Director & Editor Donna Mae Odra, PhD, Research Manager & Associate Editor Babalwa Nogwanya and Addison Poffenberger, Research Associates

Water:Education:Andrew GardnerNicolas Labiento, Jordan Trabue

Food: Fatema Alsaffar, Marian Hana, Joseph Monga

Housing: Harrison Yu-Zepeda, David Woodside Mariyyah Sulaiman Religious Freedom:

Evan Osgood

Gender Team:

Employment: Saujan Khapung, Jake McCabe





Henry Schwalbenberg



Donna Odra



Babalwa Nogwanya



Addison Poffenberger



Fatema Alsaffar



Andrew Gardner



Marian Hana



Saujan Khapung



Nicolas Labiento



Jake McCabe



Joseph Monga



Evan Osgood



Mariyyah Sulaiman



#### Jordan Trabue



David Woodside



Harrison Yu-Zepeda





# 2023

## Fordham University

Graduate Program in International Political Economy and Development

# FORDHAM'S POPE FRANCIS GLOBAL POVERTY INDEX

ABSTRACT: The Fordham Francis Index (FFI) is a multidimensional measure of international poverty inspired by Pope Francis' address to the United Nations General Assembly in 2015. Derived from the dignity of the human person, Pope Francis identified seven basic human needs. Water, food, housing, and employment are essential for a minimal level of material well-being. And of equal important, education, religious freedom, and other civil rights such as gender equity are essential for a minimal level of spiritual freedom. The FFI identifies appropriate measures for each of Pope Francis' seven basic human needs and then aggregates them into a material well-being index, a spiritual freedom index, and an overall Fordham Francis Index (FFI). We use these indices to rank countries. We also created a Global Poverty Scorecard to track progress at the global level. We found that an increase in global poverty is correlated with the outbreak of the COVID Pandemic. The FFI's indicators highlight both the strengths and the weaknesses of the UN's Sustainable Development Goals (SDGs) To date, we have documented a strong relationship between the FFI indicators and the SDGs of reduced poverty, better nutrition, improved health, and better sanitation. But we have also shown that the FFI is innovative in several ways. First, it is more pro-poor. When compared to other measures of human development, it has a stronger emphasis on basic human needs and favors outcomes that benefit the most marginalized in society. Second, it also emphasizes civil liberties. Besides including indicators of material well-being, it also includes frequently neglected indicators of spiritual freedom. These spiritual freedom indicators, such as education and the civil rights of religious freedom and gender equity, may play an important role in empowering the poor to be champions of their own destinies. Our research also indicates a trade off between global poverty reduction and reducing greenhouse emissions.



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GRADUATE PROGRAM IN INTERNATIONAL POLITICAL ECONOMY & DEVELOPMENT FORDHAM UNIVERSITY

Dealy Hall, Room E517 441 East Fordham Road Bronx, NY 10458

Email: iped@fordham.edu Tel: 718.817.4064 Fax: 718.817.4565 iped.fordham.edu