

Background paper prepared for  
the Global Education Monitoring Report

Non-state actors in education

## **Faith-based schools, education pluralism, and the right to education: Three papers from the Global Catholic Education Project**

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## ABSTRACT

This study consists of three papers from the Global Catholic Education Project on faith-based schools, education pluralism, and the right to education. The first paper discusses enrollment trends in Catholic schools and universities over time. It also provides tentative estimates of total enrollment in Christian schools and universities today. Globally, the Catholic Church estimated that in 2018, 35.0 million children were enrolled in Catholic primary schools, with 19.3 million children enrolled in Catholic secondary schools and 7.3 million children enrolled at the preschool level. In addition, 6.5 million students were enrolled in Catholic institutions of higher learning (tertiary education). These estimates may be a lower bound for the number of students served by the Catholic Church because they do not fully account for the role played by Catholic institutions in providing other education services, such as technical and vocational education and training, as well as informal education services. Overall, the Catholic Church is one of the largest providers of education services worldwide after the governments of China and India. This paper documents trends in enrollment in Catholic education from 1975 to 2018. It also provides tentative estimates of total enrollment in Catholic and other Christian educational institutions – which is likely to be of the order of 100 million students. The paper is adapted from analysis conducted for the Global Catholic Education Report 2021.

The second paper suggests a new approach to measuring education pluralism in education systems. Various arguments can be made in favour of (or against) education pluralism. Some authors argue that competition in education markets may be beneficial. This idea remains contested however, and this is not the argument made in this paper. At a more basic level, education pluralism is essential because the right to education should respect parental (and student) priorities for what should be learned in school, and there is heterogeneity in these priorities. In order to assess the level of education pluralism in a country, a region, or the world, this paper proposes a measure of education pluralism based on a simple transformation of the Herfindahl-Hirschman index used in the literature on industrial concentration. The measure is estimated by calculating the market share of different providers of education in the same way across countries. Estimates of the contribution of Catholic schools and universities to education pluralism are provided. The paper

is adapted from an article published in the *Review of Faith & International Affairs* and analysis conducted for the Global Catholic Education Report 2021.

The third paper argues that education pluralism matters for the assessment of the fulfillment of the right to education. If education pluralism is indeed essential for the right to education to respect parental (and student) priorities for what should be learned in school, then the measurement of the fulfillment of the right to education should take education pluralism into account. Building on a measure of education pluralism proposed in the second paper in this study, this third paper suggests flexible indices to assess the fulfillment of the right to education at the primary, secondary, and tertiary levels. The approach combines data on educational outcomes with estimates of education pluralism. The paper is again adapted from an article published in the *Review of Faith & International Affairs* and analysis conducted for the Global Catholic Education Report 2021.

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## Paper 1:

### Enrolment in Faith-based Schools and Universities Globally:

#### Estimates for Catholic and Other Christian Institutions

##### 1. Introduction

In the context of efforts by the international community to achieve the Sustainable Development Goals, faith-based organizations play an important role in the provision of education and health services, and more generally in investments in human capital. Many of these organizations are Christian, and among Christian organizations, in part for historical reasons, Catholic institutions often tend to have the largest networks of schools and healthcare facilities. In the case of healthcare, one prominent example is that of the Christian Health Associations which provide care in many sub-Saharan African countries, and especially in East and Southern Africa<sup>1</sup>. In the case of education, large networks of schools are managed by Catholic dioceses and religious orders, especially in sub-Saharan Africa<sup>2</sup>.

Globally, the Catholic Church estimates that 35.0 million children were enrolled in Catholic primary schools in 2018, with 19.3 million children enrolled in Catholic secondary schools and 7.3 million children enrolled at the preschool level<sup>3</sup>. In addition, 6.5 million students were enrolled in Catholic institutions of higher learning (tertiary education). These estimates for 2018 are likely to be a lower bound for the number of students served by the Catholic Church because they do not fully account for the role played by Catholic institutions in providing other education services, such as technical and vocational education and training, as well as informal education services. Overall, the Catholic Church is therefore one of the largest providers of education services worldwide after the governments of China and India.

For communities and society at large, a robust network of Catholic schools may be beneficial in various ways. First, it is often believed that Catholic schools perform better than public schools in terms of learning outcomes for students, even though the empirical evidence to that effect is mixed. Catholic schools and the Church also have a long tradition of serving the poor<sup>4</sup>, even if doing so in practice is difficult especially when the schools do not receive support from the state. Finally and perhaps most importantly, Catholic and other faith-based schools provide valuable options for parents,

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<sup>1</sup> Olivier et al. (2015), Dimmock et al. (2017).

<sup>2</sup> Wodon (2018a).

<sup>3</sup> Secretariat of State of the Vatican (2020).

<sup>4</sup> Pontifical Council for Justice and Peace (2004), Francis (2015), McKinney (2018).

thus contributing to healthy pluralism in the educational choices available to them. The issue of education pluralism and its link with the right to education is discussed in the second paper in this study.

What should be the aims of Catholic education according to the Church itself? The Congregation for Catholic Education defines a school as a place where integral formation occurs through a living encounter with a cultural inheritance. The first mission of Catholic schools should be to contribute to the salvific mission of the Church. This requires *“the development of man’s psychological and moral consciousness ... as a pre-condition for the reception of the befitting divine gifts of truth and grace”*<sup>5</sup>. To that end, given the pluralism that characterizes today’s societies and the fact that many students in Catholic schools are not Catholic, the Congregation for Catholic Education calls for an education that leads to fraternal humanism and a civilization of love, and welcomes all students, Catholic or not<sup>6</sup>. Ensuring that education is provided ‘in a Catholic key’ is a key objective of Catholic schools<sup>7</sup>. Catholic schools and universities contribute to the evangelization mission of the Church, but this should not lead in any way to proselytism.

This paper analyses trends in enrolment in Catholic education – both K12 schools and tertiary education, since 1975 using data from the statistical yearbooks of the Catholic Church. The paper also provides tentative estimates of total enrolment in Christian education globally based on simple assumptions and extrapolations. The analysis is adapted from the Global Catholic Education Report 2021<sup>8</sup> and structured in three sections. The first two sections document long-term trends in enrolment in pre-primary, primary, and secondary Catholic schools (section 1) and in Catholic institutions of higher learning (section 2). The third section provides extrapolations of the analysis to provide a tentative estimate of the potential footprint of Christian education globally. Note that a separate analysis providing estimates of market shares by regions and country income group as defined by the World Bank classification is provided in the second paper in this study.

## **2. Pre-primary, Primary, and Secondary Education**

How has the number of students in pre-primary, primary and secondary Catholic schools evolved over the last four decades? In which parts of the world is growth in enrollment taking place, and where do we observe a potential decline? How is enrollment distributed between the pre-primary, primary, and secondary levels? Which are the countries with the largest enrollment in Catholic schools? To answer these questions, this section documents trends in enrollment in Catholic schools

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<sup>5</sup> Congregation for Catholic Education (1977).

<sup>6</sup> Congregation for Catholic Education (2017).

<sup>7</sup> Delfra et al. (2018).

<sup>8</sup> Wodon (2021a).

from 1975 to 2018 and discusses some of the implications for the future of Catholic schools. The section updates an analysis published in the journal of the Congregation for Catholic Education<sup>9</sup>.

Data on the number of students in Catholic K12 schools are available in the Catholic Church's annual statistical yearbooks. At the time of writing the Global Catholic Education Report 2021 on which this paper is based, the most recent data available were for 2018<sup>10</sup>. The yearbooks provide data among others on enrollment in K12 schools by level, considering separately preschools, primary schools, and secondary schools for each country and some territories. While the data are self-reported by the chancery offices of ecclesiastical jurisdictions that fill the annual questionnaire, they seem to be of sufficient quality to document broad trends over time. In a typical year, about five percent of the ecclesiastical jurisdictions do not fill the questionnaire, but this is the case mostly for small jurisdictions, so that the missing data should not affect the overall results substantially for most countries, or at the regional and global levels.

Table 1 provides estimates of enrollment for preschools, primary schools, and secondary schools, as well as total enrollment for all three levels combined. For primary and secondary schools, data are provided from 1975 to 2018. For preschools, the data are not available in the statistical yearbook for 1975, so the series starts in 1980. Estimates are provided by region – as defined in the yearbooks, and globally. As already mentioned, in 2018, 7.4 million children were enrolled in Catholic preschools globally, 35.0 million children attended primary schools, and 19.3 million children attended secondary schools, for a total across the three levels of almost 62 million children.

Figures 1 through 4 provide a visualization of the trends in enrollment by region for five regions: Africa, the Americas, Asia, Europe, and Oceania. The analysis is kept at that level to keep the Tables manageable, but data are available at the country level in the statistical yearbooks. A number of interesting findings emerge from the data. Five findings are highlighted here. First, the trends in Figures 1 through 4 suggest healthy growth in enrollment over time. Total enrollment in K12 education more than doubled between 1975 and 2018 globally, from 29.1 million to 61.7 million students. Most of the growth in enrollment in absolute terms was concentrated in Africa, and within that region, in sub-Saharan Africa (not shown in the Table). This is not surprising, given that the continent has a high rate of population growth and that thanks to efforts to achieve education for all, enrollment rates have risen substantially, especially at the primary level, even if gaps remain.

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<sup>9</sup> Wodon (2018a).

<sup>10</sup> Secretariat of State of the Vatican (2020).

**Table 1: Trends in the Number of Students Enrolled in Catholic K12 Schools (Thousands)**

	1975	1980	1985	1990	1995	2000	2005	2010	2018
<b>Preschools</b>									
Africa	-	162.4	312.5	484.6	646.2	1,147.9	1,149.4	1,277.5	2,327.0
Americas	-	514.0	800.6	968.7	1,042.1	1,331.1	1,541.7	1,409.6	1,235.3
Asia	-	607.0	840.0	1,058.6	1,327.0	1,369.8	1,651.4	1,761.1	1,846.2
Europe	-	1,634.4	1,796.5	1,845.1	1,901.3	1,681.0	1,714.5	1,923.4	1,890.0
Oceania	-	7.6	37.0	33.5	33.9	37.1	109.7	107.0	78.3
<b>World</b>	-	2,925.4	3,786.7	4,390.5	4,950.5	5,566.8	6,166.7	6,478.6	7,376.9
<b>Primary Schools</b>									
Africa	4,221.0	5,610.7	7,052.5	8,393.8	9,356.4	10,158.4	12,435.8	15,821.3	19,365.1
Americas	7,101.5	6,838.6	7,118.2	7,380.6	7,198.3	7,554.7	7,045.0	6,766.0	6,143.7
Asia	3,215.1	3,752.6	3,929.0	4,289.9	4,539.6	4,668.9	4,907.5	5,023.8	5,608.8
Europe	4,552.5	3,979.0	3,810.3	3,569.2	3,607.6	3,099.4	3,003.7	2,846.0	3,126.7
Oceania	493.6	480.3	480.2	510.9	544.1	615.7	692.1	694.0	767.7
<b>World</b>	19,583.7	20,661.2	22,390.3	24,144.5	25,245.9	26,097.1	28,084.1	31,151.2	35,012.0
<b>Secondary Schools</b>									
Africa	599.0	806.5	1,032.4	1,275.2	1,701.7	2,267.1	3,438.1	4,540.9	5,462.8
Americas	2,930.2	3,364.0	3,521.2	3,506.0	3,603.7	3,797.6	3,696.6	3,868.1	3,684.0
Asia	2,607.8	3,150.9	3,720.9	3,982.1	4,134.5	4,017.4	4,985.1	5,292.0	5,993.4
Europe	3,149.2	3,436.0	3,485.0	3,358.3	3,459.2	3,593.8	3,721.2	3,666.4	3,657.7
Oceania	236.0	257.6	306.8	319.3	333.3	350.8	391.1	426.1	509.6
<b>World</b>	9,522.3	11,015.0	12,066.3	12,440.9	13,232.4	14,026.7	16,232.1	17,793.6	19,307.3
<b>Total</b>									
Africa	4,820.0	6,579.6	8,397.4	10,153.6	11,704.3	13,573.4	17,023.4	21,639.8	27,154.8
Americas	10,031.7	10,716.6	11,440.1	11,855.3	11,844.1	12,683.3	12,283.2	12,043.7	11,063.0
Asia	5,822.9	7,510.5	8,489.9	9,330.6	10,001.1	10,056.1	11,544.0	12,076.9	13,448.3
Europe	7,701.7	9,049.3	9,091.8	8,772.6	8,968.1	8,374.3	8,439.4	8,435.8	8,674.5
Oceania	729.7	745.5	824.0	863.7	911.3	1,003.6	1,192.9	1,227.1	1,355.5
<b>World</b>	29,106.0	34,601.5	38,243.3	40,975.9	43,428.9	45,690.6	50,482.8	55,423.4	61,696.2

Source: Compiled by the author from the annual statistical yearbooks of the Church.

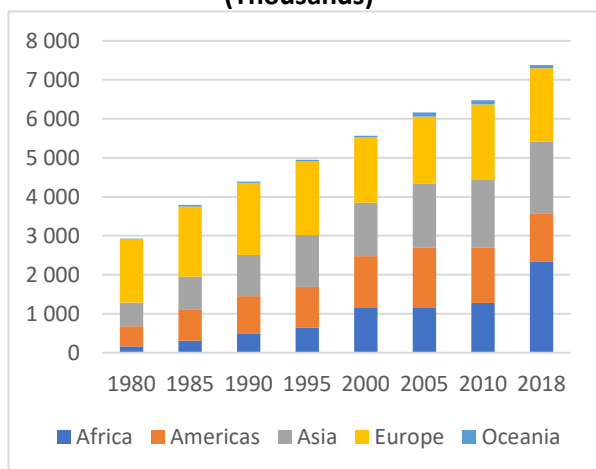
Note: Totals for 1975 are not comparable to subsequent years due to lack of data for preschools.

By 2018, the Africa region had 27.2 million children enrolled in Catholic K12 schools. Of those, 19.4 million were enrolled in Catholic primary schools. This accounted for 55 percent of all children enrolled in Catholic schools at that level globally. The numbers of children in Catholic preschools and in Catholic secondary schools in Africa were estimated in 2018 at respectively 2.3 million and 5.5 million, accounting in both cases for about three in ten children enrolled at those levels in Catholic schools globally. The other region with a large increase in enrolment in absolute terms over the last few decades is Asia, mostly due to gains in India, especially at the secondary level. It is worth noting however that over the last few years, global enrolment in K12 education has leveled off, with even a recent (albeit small) decline. In the context of the COVID-19 crisis, there may be a risk that some Catholic schools will have lost students, and some schools may close<sup>11</sup>.

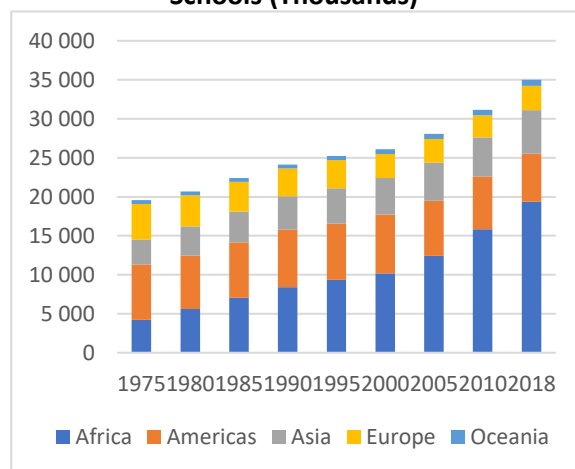
<sup>11</sup> Wodon (2020a, 2020b).



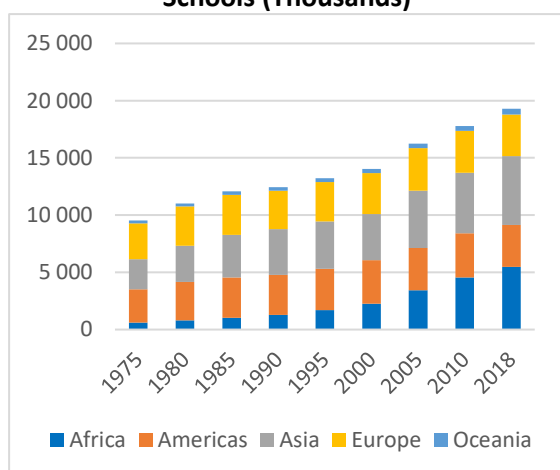
**Figure 1: Enrolment in Catholic Preschools (Thousands)**



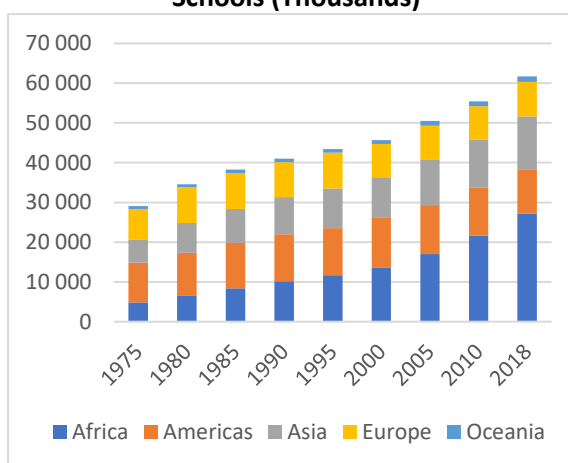
**Figure 2: Enrolment in Catholic Primary Schools (Thousands)**



**Figure 3: Enrolment in Catholic Secondary Schools (Thousands)**



**Figure 4: Total Enrolment in Catholic K12 Schools (Thousands)**



Source: Statistical Yearbooks of the Church.  
 Note: Preschools not included in 1975.

A second key finding is the fact that there are substantial differences between regions in the share of students enrolled by level (see Table 2 and Figure 5). Globally, primary schools account for 56.7 percent of all enrolments in Catholic schools in 2018, versus 31.3 percent for secondary schools, and 12.1 percent for preschools. In Africa however, primary schools still account for 71.3 percent of total enrolment, mostly because the transition to secondary schools is still weak in many countries (for example, only four in ten students in Africa complete their lower secondary school according to the World Bank's the World Development Indicators). By contrast, in Europe, primary schools account for only a third (36.0 percent) of total enrolment in Catholic schools. This is due not only to substantial enrolment at the secondary level, but also to high enrolment rates in preschools. Globally, there has

been a progressive decline in the share of students enrolled at the primary level from 67.3 percent in 1975 to 56.7 percent in 2018.

**Table 2: Proportion of Students Enrolled in Catholic K12 Schools by Level (%)**

	1975	1980	1985	1990	1995	2000	2005	2010	2018
Preschools									
Africa	-	2.5	3.7	4.8	5.5	8.5	6.8	5.9	8.6
Americas	-	4.8	7.0	8.2	8.8	10.5	12.6	11.7	11.2
Asia	-	8.1	9.9	11.3	13.3	13.6	14.3	14.6	13.7
Europe	-	18.1	19.8	21.0	21.2	20.1	20.3	22.8	21.8
Oceania	-	1.0	4.5	3.9	3.7	3.7	9.2	8.7	5.8
<b>World</b>	-	8.5	9.9	10.7	11.4	12.2	12.2	11.7	12.0
Primary Schools									
Africa	87.6	85.3	84.0	82.7	79.9	74.8	73.1	73.1	71.3
Americas	70.8	63.8	62.2	62.3	60.8	59.6	57.4	56.2	55.5
Asia	55.2	50.0	46.3	46.0	45.4	46.4	42.5	41.6	41.7
Europe	59.1	44.0	41.9	40.7	40.2	37.0	35.6	33.7	36.0
Oceania	67.6	64.4	58.3	59.2	59.7	61.4	58.0	56.6	56.6
<b>World</b>	67.3	59.7	58.5	58.9	58.1	57.1	55.6	56.2	56.7
Secondary Schools									
Africa	12.4	12.3	12.3	12.6	14.5	16.7	20.2	21.0	20.1
Americas	29.2	31.4	30.8	29.6	30.4	29.9	30.1	32.1	33.3
Asia	44.8	42.0	43.8	42.7	41.3	40.0	43.2	43.8	44.6
Europe	40.9	38.0	38.3	38.3	38.6	42.9	44.1	43.5	42.2
Oceania	32.4	34.6	37.2	37.0	36.6	35.0	32.8	34.7	37.6
<b>World</b>	32.7	31.8	31.6	30.4	30.5	30.7	32.2	32.1	31.3

Source: Compiled by the author from the annual statistical yearbooks of the Church.

Note: Shares for 1975 are not comparable to subsequent years due to lack of data for preschools.

A third finding is that in proportionate terms, as a percentage change from the base, the highest growth rates are also observed for Africa, as was the case for absolute gains in enrolment. But growth rates are also high in Asia and Oceania. The annual growth rates for the period from 1975 to 2018 for primary, secondary, and total enrolment, and from 1980 to 2018 for enrolment in preschools, are computed taking into account compounding. They are provided in Table 3 and visualized in Figure 6. In Africa, the annual growth rates are estimated at 7.3 percent for preschools, 3.6 percent for primary schools, 5.3 percent for secondary schools, and 4.1 percent for total enrolment in Catholic K12 schools. These growth rates are two to three times larger than those observed for enrolment in Catholic schools globally. In Asia, growth rates in Catholic school enrolment are slightly above those observed for the world, at 3.0 percent for preschools, 1.3 percent for primary schools, 2.0 percent for secondary schools, and 2.0 percent for total enrolment in Catholic K12 schools. By contrast, in the Americas and in Europe at all levels, growth rates tend to be much smaller, and in some cases are negative. The only exception is the growth in the Americas in enrolment at the preschool levels.

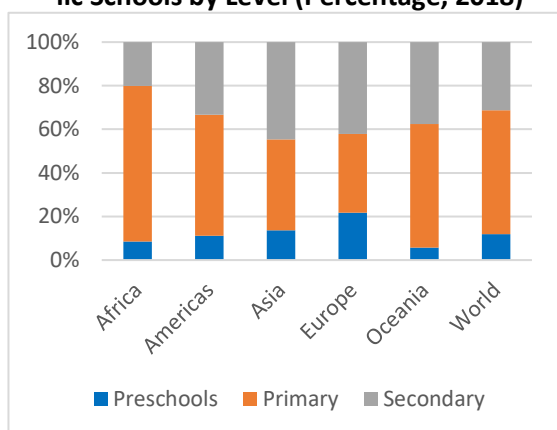
**Table 3: Annual Growth Rate for Enrolment in Catholic K12 Schools (%)**

	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2018	1975-2018
<b>Preschools</b>									
Africa	-	14.0	9.2	5.9	12.2	0.0	2.1	7.8	7.3
Americas		9.3	3.9	1.5	5.0	3.0	-1.8	-1.6	2.3
Asia	-	6.7	4.7	4.6	0.6	3.8	1.3	0.6	3.0
Europe	-	1.9	0.5	0.6	-2.4	0.4	2.3	-0.2	0.4
Oceania	-	37.2	-2.0	0.2	1.8	24.2	-0.5	-3.8	6.3
<b>World</b>	-	5.3	3.0	2.4	2.4	2.1	1.0	1.6	2.5
<b>Primary Schools</b>									
Africa	5.9	4.7	3.5	2.2	1.7	4.1	4.9	2.6	3.6
Americas	-0.8	0.8	0.7	-0.5	1.0	-1.4	-0.8	-1.2	-0.3
Asia	3.1	0.9	1.8	1.1	0.6	1.0	0.5	1.4	1.3
Europe	-2.7	-0.9	-1.3	0.2	-3.0	-0.6	-1.1	1.2	-0.9
Oceania	-0.5	0.0	1.2	1.3	2.5	2.4	0.1	1.3	1.0
<b>World</b>	1.1	1.6	1.5	0.9	0.7	1.5	2.1	1.5	1.4
<b>Secondary Schools</b>									
Africa	6.1	5.1	4.3	5.9	5.9	8.7	5.7	2.3	5.3
Americas	2.8	0.9	-0.1	0.6	1.1	-0.5	0.9	-0.6	0.5
Asia	3.9	3.4	1.4	0.8	-0.6	4.4	1.2	1.6	2.0
Europe	1.8	0.3	-0.7	0.6	0.8	0.7	-0.3	0.0	0.3
Oceania	1.8	3.6	0.8	0.9	1.0	2.2	1.7	2.3	1.8
<b>World</b>	3.0	1.8	0.6	1.2	1.2	3.0	1.9	1.0	1.7
<b>Total</b>									
Africa	6.4	5.0	3.9	2.9	3.0	4.6	4.9	2.9	4.1
Americas	1.3	1.3	0.7	0.0	1.4	-0.6	-0.4	-1.1	0.2
Asia	5.2	2.5	1.9	1.4	0.1	2.8	0.9	1.4	2.0
Europe	3.3	0.1	-0.7	0.4	-1.4	0.2	0.0	0.3	0.3
Oceania	0.4	2.0	0.9	1.1	1.9	3.5	0.6	1.3	1.5
<b>World</b>	3.5	2.0	1.4	1.2	1.0	2.0	1.9	1.4	1.8

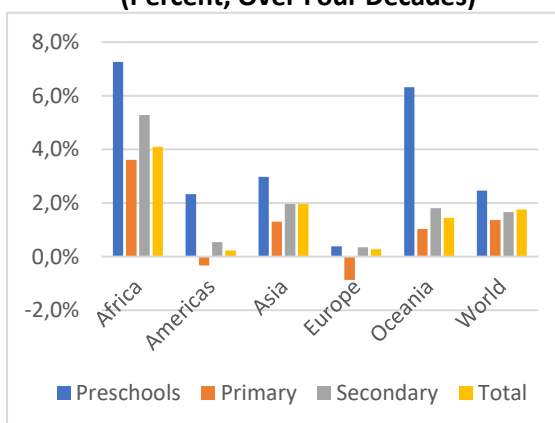
Source: Compiled by the author from the annual statistical yearbooks of the Church.

Note: Growth rates for 1975-80 do not include data for preschools.

**Figure 5: Proportion of K12 Students in Catholic Schools by Level (Percentage, 2018)**



**Figure 6: Annual Growth Rates in Enrolment (Percent, Over Four Decades)**



Source: Author's estimations from the Statistical Yearbooks of the Church.

For the Americas, a difference between the United States and the other countries should be noted. While enrolment continues to grow in some countries in Central and Latin America, there has been a steep decline in enrolment in the United States, from more than five million students in primary and secondary schools in the early 1960s to only about 1.8 million today<sup>12</sup>. This is due in part to a lack of public funding for schools which generates budget savings for the state, but implies out-of-pocket costs on parents<sup>13</sup>. The decline in enrolment has affected private schools more generally<sup>14</sup>, with the middle class facing increasing difficulties given stagnant wages to afford private schools due to their cost in the absence of state or federal subsidies (in contrast to private schools, charter schools have expanded over time thanks to public funding – these are formally public schools but they are privately managed).

Fourth, the share of students enrolled in Catholic schools globally has remained somewhat stable over time. Estimates of these shares for 2018 are provided in the second paper in this study, but analysis suggests that globally the shares have not changed substantially over time<sup>15</sup>. This share decreased slightly at the secondary level, but it increased slightly at the primary level.

There are differences however between regions. In Africa (combining sub-Saharan and North Africa), the share of students in Catholic schools is much higher, with one in ten children enrolled in a Catholic primary school. In Oceania, the shares are even larger, with one in five students in primary schools enrolled in a Catholic school. This is due in part to Australia, where Catholic schools benefit from state funding. In many other countries by contrast, only a relatively small share of students enrol in Catholic schools, and in some cases (such as China), there are no Catholic schools.

It is worth noting that gains (or losses) in enrolment can come from building new schools (or closing schools in cases of losses) or accommodating more students in existing schools (or less students in the cases of losses). Analysis suggests that gains were achieved for the most part from creating new schools<sup>16</sup>. This is not surprising since there is a limit to ability of existing schools to accommodate more students. But it may be a source of concern in some countries where the Church or communities may not have the means to build new schools, especially at the secondary level. As governments and low cost for-profit providers expand the coverage of their secondary schools in low and lower-middle income countries, even if enrolment in Catholic secondary schools increased, the share of students enrolled in Catholic schools may not.

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<sup>12</sup> Wodon (2018b).

<sup>13</sup> On savings for the state in the United States and other countries, see Wodon (2018c, 2019a).

<sup>14</sup> Murnane et al. (2018).

<sup>15</sup> Wodon (2018a).

<sup>16</sup> Wodon (2019b).

Fifth, there is heterogeneity between countries in the size of their Catholic school networks. Table 4 provides the list of the 15 countries with the largest enrolment in Catholic K12 schools in 2018. Estimates of enrolment are provided by level in each country. Together, these 15 countries account for about two thirds of the global enrolment in Catholic K12 schools. As mentioned earlier, enrolment is largest in absolute terms in India due to the sheer size of the country. The next four countries are from sub-Saharan Africa: the Democratic Republic of Congo (DRC), Uganda, Kenya, and Malawi. Three are classified as low-income by the World Bank. Kenya like India is a lower-middle income country, the next level in the income classification of the World Bank. The fact that the footprint of Catholic schools is today especially large in low income countries is a positive development for the mission of the Church to serve low income students. In countries such as the DRC, even households in the second top quintile of income are not “well off” economically by any means.

In the DRC as well as Uganda, Kenya, and Malawi, most Catholic schools are considered as public schools and are at least partially funded by the state<sup>17</sup>. In the DRC for example, Catholic schools are part of *écoles conventionnées*<sup>18</sup>. Catholic schools in the DRC have a large market share due in part to historical factors and the limited ability of the state to provide education services during periods of conflict. The smallest country included in Table 4 is Belgium which has high levels of enrolment because of a system that funds (almost) equally Catholic and public schools. But in the other countries, while the number of student enrolled in Catholic schools may be high due to population sizes, the market share of Catholic schools is often low, in large part due to limited or no state support leading to cost recovery from parents by the schools, and thereby higher costs which may not be affordable for the poor. This is for example the case in the United States as well as India.

Sixth, the fact that the highest growth rate in enrolment is observed for preschools is worth acknowledging. This is good news, not so much in terms of how this may affect future enrolment in Catholic primary or secondary schools, but in terms of the value of preschools for the children attending them. The literature demonstrates that early childhood is a critical period in the life of children and that investing in children at that time has high returns (and often higher returns than investments later in life). This is the case especially for the first 1,000 days in the life of children when brain development occurs, but also later, including to make sure that children are ready to enter primary school<sup>19</sup>. Early stimulation and preschools have therefore been identified as key interventions that governments as well as other organizations should promote when investing in human development<sup>20</sup>.

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<sup>17</sup> On benefits but also challenges that this may create, see D’Agotsino et al. (2019) on Kenya.

<sup>18</sup> Backiny-Yetna and Wodon (2009), Wodon (2017).

<sup>19</sup> Black et al. (2017).

<sup>20</sup> Denboba et al. (2014).

**Table 4: Top 15 Countries by K12 Enrolment in Catholic Schools, 2018**

	Preschool	Primary	Secondary	Total
India	1,184,522	3,907,185	4,038,841	9,130,548
DR Congo	78,239	4,316,789	1,557,110	5,952,138
Uganda	183,519	4,882,705	450,674	5,516,898
Kenya	413,238	2,673,575	889,294	3,976,107
Malawi	462,791	1,835,418	173,315	2,471,524
France	391,615	630,785	1,134,850	2,157,250
USA	152,753	1,278,673	574,887	2,006,313
Rwanda	193,988	1,140,958	352,564	1,687,510
Spain	237,577	569,872	591,029	1,398,478
Argentina	210,143	635,426	520,749	1,366,318
Philippines	98,760	381,053	798,745	1,278,558
Belgium	197,493	465,302	556,803	1,219,598
Mexico	160,653	533,076	414,472	1,108,201
Ghana	188,622	524,020	289,955	1,002,597
Brazil	183,453	598,126	204,650	986,229

Source: Compiled by the author from the annual statistical yearbooks of the Church.

### Box 1: Has Catholic K12 Education Peaked?

Between 1975 and 2018, the annual growth rate in enrolment for Catholic K12 schools was at 1.8 percent globally. For most of the period, year-on-year growth was positive. Yet between 2016 and 2018, there was a small decline as enrolment in K12 schools dropped from 62.4 million to 61.7 million students. This drop is small and could be due to statistical errors in reporting for some countries. But the COVID-19 crisis may have a negative effect on enrolment starting with the 2020-21 school year. Given the time lag in the production of the statistical yearbooks of the Church, it will take a few years before we can assess whether the loss was a substantial. But some level of decline in enrolment is likely.

In the medium and long term however, global enrolment in Catholic education is likely to continue to grow, in part because of sub-Saharan Africa. The market share of Catholic schools in that region is high. As enrolment continues to grow in that region due to population growth and gains in educational attainment, global enrolment in Catholic K12 education should also increase even if enrolment drops in other parts of the world. By 2030, simple 'business-as-usual' projections<sup>21</sup> suggest that close to two thirds of all students in Catholic primary schools and more than 40 percent of all students in Catholic secondary schools may live in the African continent.

<sup>21</sup> Wodon (2019c).

### 3. Higher Education

Globally, the Catholic Church estimates that in 2018, 6.5 million students were enrolled in Catholic institutions of higher education. This includes 2.3 million students in higher institutes, 0.5 million students in ecclesiastical studies at the university level, and 3.7 million students in other types of university studies<sup>22</sup>. How has enrolment in Catholic institutions of higher education evolved over time? Does enrolment remain concentrated in few high income countries, or is it increasing in the global south? In which region is enrolment the largest and where is it growing fastest? How is enrolment split between universities and other institutions of higher education, and by types of studies within universities (ecclesiastical and other studies)? To answer these questions, as done in the previous section for enrolment trends in K12 schools, this section documents trends in enrolment in Catholic institutions of higher education from 1975 to 2018 and discusses some of the implications for the future<sup>23</sup>.

Before looking at the data, it is worth noting that in most countries including those with a strong Catholic tradition, many students attending Catholic institutions are not Catholic themselves. In the United States for example, just over half of first year students at four-year Catholic colleges and universities self-identify as Catholic. In addition, it is also worth noting that while a majority of students in Catholic institutions of higher learning globally are enrolled in colleges and universities, the Church also runs a large number of other institutions at the post-secondary level, especially in the developing world. In India for example, apart from a dozen large medical colleges and universities, the Catholic Church operates approximately 25 management institutions, 300 professional colleges and engineering institutes, 450 degree colleges, and 5,500 junior colleges, all of which are post-secondary institutions<sup>24</sup>.

Data on the number of students in Catholic higher education are available in the Church's annual statistical yearbooks<sup>25</sup>. As noted in the previous section, the data are self-reported by chancery offices of ecclesiastical jurisdictions through an annual questionnaire. Less than five percent of the jurisdictions do not fill the questionnaire, and those tend to be small, thus not affecting results substantially.

Based on those data, Table 5 provides estimates of enrolment in Catholic institutions of higher education for the three categories of students mentioned earlier and for the total number of students enrolled. As in the previous section, except for the last time period, the data are provided by five-year

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<sup>22</sup> Secretariat of State of the Vatican (2020).

<sup>23</sup>This section updates analysis published previously in two papers (Wodon, 2018c, 2020c).

<sup>24</sup> Manidapam (2018).

<sup>25</sup> Secretariat of State of the Vatican (2020).

intervals from 1975 to 2018 globally and for five regions: Africa, the Americas, Asia, Europe, and Oceania. These regional aggregates are used because they are the ones according to which data are reported in the statistical yearbooks. In 2018, 6.5 million students were enrolled in Catholic Higher Education. As already mentioned, of those, 2.3 million were in higher institutes, 0.5 million were enrolled in ecclesiastical studies in universities, and 3.7 million were studying other topics at Catholic universities. Figures 7 through 10 visualize the trends in enrolment by region and globally. The analysis is kept at that level to keep the Tables manageable, but data are available at the country level in the yearbooks.

**Table 5: Trends in the Number of Students Enrolled in Catholic Higher Education (Thousands)**

	1975	1980	1985	1990	1995	2000	2005	2010	2018
Higher Institutes									
Africa	4.3	6.5	10.8	6.8	13.2	24.8	51.2	88.4	137.2
Americas	373.6	383.0	368.5	427.9	470.5	517.5	581.0	795.1	591.9
Asia	310.9	445.9	493.4	539.6	678.4	795.7	899.4	1,135.7	1,205.6
Europe	107.6	116.3	128.8	157.2	193.6	221.8	272.3	270.5	308.5
Oceania	2.5	3.1	3.9	2.7	5.7	8.8	9.3	14.5	8.6
<b>World</b>	<b>798.9</b>	<b>954.7</b>	<b>1,005.4</b>	<b>1,134.2</b>	<b>1,361.4</b>	<b>1,568.6</b>	<b>1,813.2</b>	<b>2,304.2</b>	<b>2,251.6</b>
Universities – Ecclesiastical Studies									
Africa	0.2	1.0	1.5	1.4	4.1	5.8	9.3	15.6	49.6
Americas	16.5	28.5	26.3	31.9	62.4	53.9	139.1	158.4	233.1
Asia	6.0	7.0	11.4	8.7	38.6	71.5	107.8	184.3	129.3
Europe	25.0	29.0	38.3	52.7	69.9	65.8	100.7	116.0	89.2
Oceania	0.4	1.3	1.6	1.7	2.9	3.8	10.6	12.4	6.7
<b>World</b>	<b>48.1</b>	<b>66.8</b>	<b>79.1</b>	<b>96.5</b>	<b>177.8</b>	<b>200.9</b>	<b>367.5</b>	<b>486.7</b>	<b>507.9</b>
Universities – Other Studies									
Africa	0.9	0.9	2.1	2.1	23.8	41.1	70.7	106.2	177.5
Americas	530.2	870.3	1,033.6	1,070.2	1,144.1	2,088.5	1,962.7	2,183.6	2,187.0
Asia	159.0	169.4	303.6	376.1	422.0	467.3	457.5	490.7	518.2
Europe	111.7	98.2	116.8	149.9	217.6	332.7	288.2	541.7	788.0
Oceania	0.2	0.2	0.1	2.6	1.7	5.1	10.8	16.2	36.9
<b>World</b>	<b>801.8</b>	<b>1,138.9</b>	<b>1,456.2</b>	<b>1,600.9</b>	<b>1,809.2</b>	<b>2,934.7</b>	<b>2,789.8</b>	<b>3,338.5</b>	<b>3,707.6</b>
Total									
Africa	5.3	8.3	14.4	10.3	41.0	71.7	131.2	210.1	364.3
Americas	920.3	1,281.8	1,428.4	1,530.0	1,677.0	2,660.0	2,682.8	3,137.2	3,012.0
Asia	475.9	622.2	808.3	924.4	1,139.0	1,334.6	1,464.7	1,810.8	1,853.0
Europe	244.2	243.5	283.9	359.9	481.1	620.3	661.1	928.2	1,185.6
Oceania	3.1	4.6	5.6	7.0	10.3	17.7	30.7	43.1	52.2
<b>World</b>	<b>1,648.8</b>	<b>2,160.4</b>	<b>2,540.6</b>	<b>2,831.7</b>	<b>3,348.4</b>	<b>4,704.2</b>	<b>4,970.5</b>	<b>6,129.3</b>	<b>6,467.1</b>

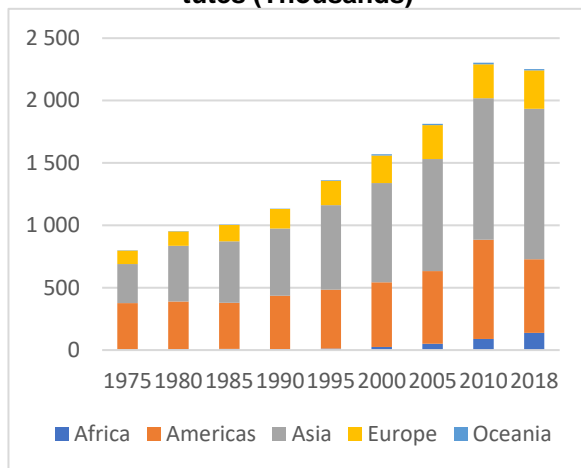
Source: Compiled by the author from the annual statistical yearbooks of the Church.

A few findings are worth emphasizing. First, the trends in Figures 7 through 10 suggest substantial growth in enrolment over time. The combined enrolment in Catholic higher education grew almost four-fold globally between 1975 and 2018, from 1.6 million students to 6.5 million. Catholic higher education thus grew even faster than K12 education. But while for K12 education most of the growth was in Africa, for tertiary education most of the growth in absolute terms took place in the Americas (gain of 2.1 million students), Asia (gain of 1.4 million students), and Europe (gain of 0.9

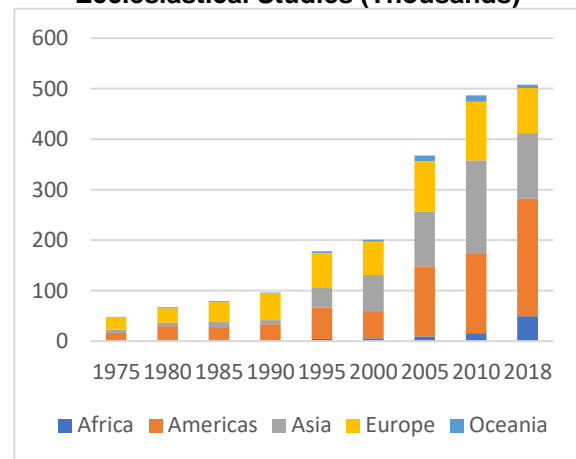


million students). In terms of annual growth rates, as will be discussed below, Africa is doing well, but it is starting from a low base, so that absolute gains remain smaller. In terms of the three categories of students, the largest gains were observed in absolute terms for university students not engaged in ecclesiastical studies and students in higher institutes, but large gains were also observed for students in ecclesiastical studies. While there may be a crisis in vocations in parts of the world, the number of students enrolled in ecclesiastical studies is nevertheless rising almost everywhere.

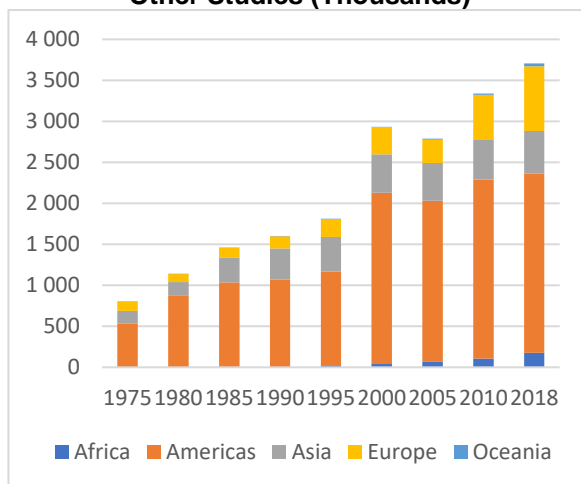
**Figure 7: Enrolment in Catholic Higher Institutes (Thousands)**



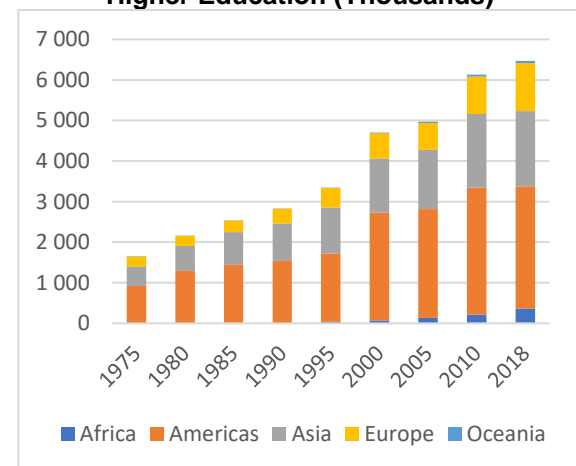
**Figure 8: Enrolment in Catholic Universities: Ecclesiastical Studies (Thousands)**



**Figure 9: Enrolment in Catholic Universities: Other Studies (Thousands)**



**Figure 10: Total Enrolment in Catholic Higher Education (Thousands)**



Source: Statistical Yearbooks of the Church.

Second, as shown in Table 6 and Figure 11, there are differences between regions in the share of students enrolled by type of higher education. Globally, students in universities account for 65.2 percent of total enrolment, versus 34.8 percent for students in higher institutes. Asia, where India plays a major role (given virtually no Catholic institutions in China), is the only one of the five regions where most students are enrolled in higher institutes. This is related in part to the explosion of private non-university institutions of higher education in India as a response to a demand from the rising

middle class for higher education. Globally, within university students, there are about seven students in non-ecclesiastical studies for each student in ecclesiastical studies, but again with regional differences.

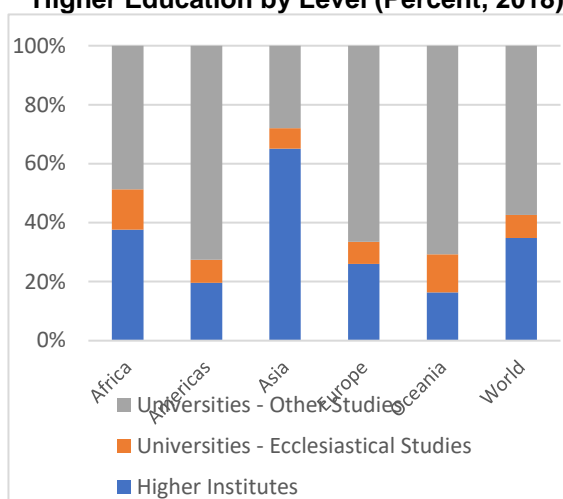
Globally, the shares of students enrolled in higher institutes and universities did not fundamentally change over the last four decades, despite ups and downs by five-year intervals. But among universities, there has been a steady rise of the share of students enrolled in ecclesiastical studies. In 1975, these students represented less than three percent of total enrolment in Catholic higher education globally. By 2018, this had risen to 7.9 percent especially thanks to gains in Africa, the Americas, and Asia. By contrast, in Europe and Oceania, there was a substantial decline in the share of students in ecclesiastical studies between 2010 and 2018, albeit from higher baseline levels. Note that at the regional level, there are a few jumps in the shares reported in Table 6 for ecclesiastical studies. This is due in part to the fact that estimates of enrolment for these students are smaller in absolute terms, especially in Oceania, so that even comparatively small changes can lead to jumps in shares.

**Table 6: Proportion of Students Enrolled in Catholic Institutions of Higher Education by Type (%)**

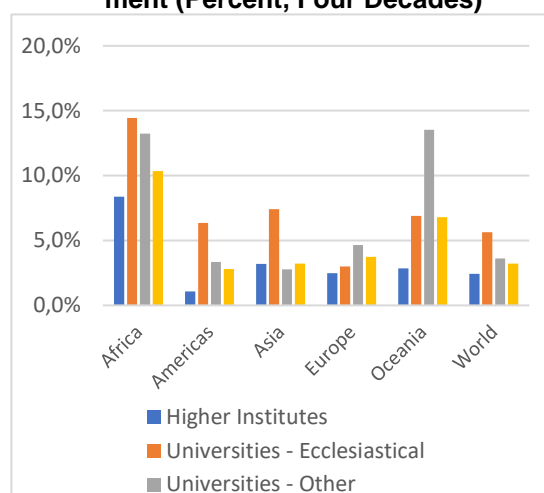
	1975	1980	1985	1990	1995	2000	2005	2010	2018
<b>Higher Institutes</b>									
Africa	81.1	77.5	74.7	66.3	32.1	34.6	39.0	42.1	37.7
Americas	40.6	29.9	25.8	28.0	28.1	19.5	21.7	25.3	19.7
Asia	65.3	71.7	61.0	58.4	59.6	59.6	61.4	62.7	65.1
Europe	44.0	47.8	45.4	43.7	40.2	35.8	41.2	29.1	26.0
Oceania	82.5	67.4	70.4	38.0	55.7	49.6	30.4	33.7	16.4
<b>World</b>	48.5	44.2	39.6	40.1	40.7	33.3	36.5	37.6	34.8
<b>Universities – Ecclesiastical Studies</b>									
Africa	2.8	11.6	10.6	13.6	10.0	8.1	7.1	7.4	13.6
Americas	1.8	2.2	1.8	2.1	3.7	2.0	5.2	5.0	7.7
Asia	1.3	1.1	1.4	0.9	3.4	5.4	7.4	10.2	7.0
Europe	10.2	11.9	13.5	14.7	14.5	10.6	15.2	12.5	7.5
Oceania	12.4	29.4	27.9	24.6	27.9	21.7	34.5	28.8	12.9
<b>World</b>	2.9	3.1	3.1	3.4	5.3	4.3	7.4	7.9	7.9
<b>Universities – Other Studies</b>									
Africa	16.1	10.8	14.7	20.2	58.0	57.3	53.9	50.5	48.7
Americas	57.6	67.9	72.4	69.9	68.2	78.5	73.2	69.6	72.6
Asia	33.4	27.2	37.6	40.7	37.1	35.0	31.2	27.1	28.0
Europe	45.7	40.3	41.1	41.7	45.2	53.6	43.6	58.4	66.5
Oceania	5.1	3.3	1.8	37.5	16.4	28.7	35.2	37.6	70.7
<b>World</b>	48.6	52.7	57.3	56.5	54.0	62.4	56.1	54.5	57.3

Source: Compiled by the author from the annual statistical yearbooks of the Church.

**Figure 11: Proportion of Students in Catholic Higher Education by Level (Percent, 2018)**



**Figure 12: Annual Growth Rates in Enrolment (Percent, Four Decades)**



Source: Author's estimations from the Statistical Yearbooks of the Church.

Third, in proportionate terms, as a percentage change from the base, the highest growth rates in overall enrolment are observed in Africa, even though in absolute terms larger gains are reported in other regions. The annual growth rates from 1975 to 2018 (taking into account compounding) are provided in Table 7 and visualized in Figure 12. In Africa and Oceania, total enrolment grew over the last four decades at a rate of more than 13 percent per year. In the case of Africa, if the growth in enrolment continues to be higher than in the rest of the world, the region will account for a progressively larger share in total enrolment, but this will take some time. For students in ecclesiastical studies, the highest growth rates over the four decades are observed in Africa.

Fourth, as is the case in K12 education, there are substantial differences between countries in the size of their Catholic higher education networks. Table 8 provides data on the top 15 countries in terms of total enrolment in 2018. Together, these countries account for about four fifths of global enrolment. By comparison, the top 15 countries account for about two thirds of global enrolment in Catholic K12 schools. As expected given the correlation between enrolment in higher education and economic development, there is a higher concentration of enrolment in a few countries for higher education than for K12 education. The country with the largest enrolment is the United States, with close to 1.3 million students in higher education. Three large developing counties follow: India, the Philippines, and Brazil. Italy is next, possibly in part because of a concentration of students in ecclesiastical and other studies in Rome.

The smallest country in the mix by population size in Table 7 is again Belgium, as was the case for K12 education. This is in part because under the Constitution, Catholic higher education institutions benefit from public funding as do public universities. None of the countries in the top 15 are

classified as low income by the World Bank (low income countries have a level of Gross National Income per capita of \$1,035 or less in 2019). By contrast, for K12 education, three of the top five countries in terms of total enrolment are low income (the Democratic Republic of Congo, Malawi, and Uganda).

**Table 7: Annual Growth Rate for Enrolment in Catholic Institutions of Higher Education (%)**

	1975- 1980	1980- 1985	1985- 1990	1990- 1995	1995- 2000	2000- 2005	2005- 2010	2010- 2018	1975- 2018
<b>Higher Institutes</b>									
Africa	8.5	10.8	-8.7	14.0	13.5	15.6	11.5	5.7	8.4
Americas	0.5	-0.8	3.0	1.9	1.9	2.3	6.5	-3.6	1.1
Asia	7.5	2.0	1.8	4.7	3.2	2.5	4.8	0.7	3.2
Europe	1.6	2.1	4.1	4.2	2.8	4.2	-0.1	1.7	2.5
Oceania	3.9	5.0	-7.5	16.4	8.9	1.2	9.3	-6.4	2.9
<b>World</b>	3.6	1.0	2.4	3.7	2.9	2.9	4.9	-0.3	2.4
<b>Universities – Ecclesiastical Studies</b>									
Africa	45.2	9.6	-1.8	23.9	7.4	9.7	10.9	15.6	14.4
Americas	11.5	-1.6	4.0	14.3	-2.9	20.9	2.6	4.9	6.3
Asia	3.1	10.3	-5.1	34.6	13.1	8.6	11.3	-4.3	7.4
Europe	3.0	5.7	6.6	5.8	-1.2	8.9	2.9	-3.2	3.0
Oceania	28.6	3.0	2.1	10.6	6.0	22.4	3.2	-7.3	6.9
<b>World</b>	6.8	3.4	4.1	13.0	2.5	12.8	5.8	0.5	5.6
<b>Universities – Other Studies</b>									
Africa	1.2	18.6	-0.4	62.8	11.6	11.5	8.5	6.6	13.2
Americas	10.4	3.5	0.7	1.3	12.8	-1.2	2.2	0.0	3.4
Asia	1.3	12.4	4.4	2.3	2.1	-0.4	1.4	0.7	2.8
Europe	-2.5	3.5	5.1	7.7	8.9	-2.8	13.5	4.8	4.6
Oceania	-0.9	-7.8	92.5	-8.6	24.6	16.3	8.5	10.9	13.5
<b>World</b>	7.3	5.0	1.9	2.5	10.2	-1.0	3.7	1.3	3.6
<b>Total</b>									
Africa	9.5	11.6	-6.5	31.8	11.8	12.8	9.9	7.1	10.3
Americas	6.9	2.2	1.4	1.9	9.7	0.2	3.2	-0.5	2.8
Asia	5.5	5.4	2.7	4.3	3.2	1.9	4.3	0.3	3.2
Europe	-0.1	3.1	4.9	6.0	5.2	1.3	7.0	3.1	3.7
Oceania	8.2	4.1	4.7	7.8	11.5	11.6	7.0	2.4	6.8
<b>World</b>	5.6	3.3	2.2	3.4	7.0	1.1	4.3	0.7	3.2

Source: Compiled by the author from the annual statistical yearbooks of the Church.

**Table 8: Top 15 Countries by Enrolment in Catholic Higher Education, 2018**

	Higher Institutes	Universities - Eccl.	Universities - Others	Total
United States	349,839	34,567	883,063	1,267,469
India	707,910	19,241	133,039	860,190
Philippines	364,209	47,632	164,997	576,838
Brazil	29,527	93,708	357,116	480,351
Italy	6,795	23,532	298,962	329,289
Colombia	19,613	3,271	267,241	290,125
Great Britain	45,028	118	207,809(*)	252,955
Mexico	37,096	20,814	160,476	218,386
Belgium	122,903	2,582	80,503	205,988
Argentina	57,469	666	101,426	159,561
Indonesia	35,890	7,962	71,902	115,754
Spain	14,900	2,876	95,557	113,333
Chile	7,610	352	101,591	109,553
France	77,774	18,994	9,919	106,687
Ecuador	975	44,119	59,629	104,723

Source: Annual statistical yearbook of the Church.

Note: (\*) The estimate of enrolment in non-ecclesiastic university studies for Great Britain seems erroneous. In the 2016 and 2017 yearbooks, the estimates were 39,494 and 37,484 students, respectively. See Box 2.1.

### Box 2: Quality of Enrolment Data

This paper relies on data from the annual statistical yearbooks to measure trends over time in enrolment. In most cases, the data are consistent over time and appear reasonably accurate. But in a few instances, this may not be the case. In Table 8, the estimate of enrolment in non-ecclesiastic university studies for Great Britain is too high and may not be correct given the small number of Catholic universities in the country. In the 2016 and 2017 yearbooks, the corresponding estimates were much lower, at 39,494 and 37,484 students, respectively. For this paper, potential data errors at the level of individual countries are not too consequential because analysis is done at the aggregate level. But when conducting country-level work, it is particularly important to check for consistency over time.

Fifth, the fact that the highest growth rates in enrolment in Catholic higher education over the last four decades is observed for students in ecclesiastical studies may be good news for the Church. As mentioned earlier, these students account for a small but growing share of all students in universities, and their numbers are rising fastest in Africa and to a lower extent Asia. These are also the two regions where the number of diocesan priests has been increasing the most in recent years, but the trend may also reflect the rising number of permanent deacons in comparison to priests in the Church. While this is beyond the scope of this paper, it would be useful in subsequent work to look in more details at the factors explaining the increase in the number of students in ecclesiastical studies.

#### 4. Estimates for Christian Education

The focus of this paper so far has been on Catholic schools and universities, but other Christian institutions also serve a large number of students globally. Estimating how many is a bit of guesswork given the lack of detailed statistics on enrolment in non-Catholic institutions. But based on simple assumptions, it is likely that Christian education institutions serve at least 100 million students.

To see why, denote the number of students in Catholic schools and universities by  $SCA$  and the number of Catholics by  $PCA$ . An implicit parameter capturing Catholic investments in schools and universities in proportion of the Catholic population is defined as  $ICA=SCA/PCA$ . To estimate the number of students enrolled in non-Catholic Christian schools, information is needed about the number of non-Catholic Christians ( $PCR$ ) and their investment parameter ( $ICR$ ). If estimates of these two variables can be suggested, then we would have  $SCR=PCR\times ICR$  and the total number of students in Christian institutions would be  $SC=SCA+SCR$ . The same approach would work with multiple groups of non-Catholic Christians. When sufficient data are available, disaggregating estimates by denomination could generate more accurate estimates overall.

Based on simple calculations using data from the Pew Research Center, of a total of 2,383 million Christians projected for 2020, there may be 1,194 million Catholics, 284 million Orthodox Christians, 874 million Protestants, and 31 million other Christians<sup>26</sup>. These values are slightly below estimates commonly cited. For example, it is often suggested that there are more than 900 million Protestants. Applying an annual growth rate to data on baptized populations from the statistical yearbook of the Church yields 1,354 million Catholics in 2020. Yet for both Catholics and Protestants, there is often a drop in faith affiliations between the time of baptism and adulthood. The fact that the estimates are a bit smaller than commonly cited figures may simply reflect that drop.

The investment parameter  $ICA$  is estimated at 5.7 percent for Catholics with  $SCA=68.2$  million and  $PCA=1,194$  million. GPENreformation, the organization that federates (many) Protestant schools, suggests that there may be 25 million students enrolled in Protestant schools globally, of which 10.5 million are affiliated with GPENreformation. This generates an investment in schools and universities parameter for Protestants of 2.9 percent ( $2.9=25.0/874$ ) or half the value for Catholics. For various historical reasons, this seems reasonable. Note however that the value of the parameter may vary substantially between denominations. For example, for the Seventh-day Adventist World Church, a fast growing denomination that is very active in development work, data are available to suggest an investment parameter of 8.8 percent, which is much higher. What might be the investment parameter for other Christian denominations? Apart from Ethiopia, most Orthodox Christians live in European

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<sup>26</sup> See Wodon (2020d) for details.

countries that were under communist rule not conducive to faith-based schools and universities. Assume for simplicity that the investment parameter for Orthodox Christians is 0.50 percent. For other Christians, assume a parameter more in line with Protestants at 2.50 percent. This would result in a total of 95.4 million students in Christian schools and universities globally.

That estimate does not include students in non-formal education programs. That number should be at several million students globally. For example, on top of serving 0.8 million students in its primary and secondary schools, the Fe y Alegría network by itself already provides non-formal education and training to 0.5 million additional students. The Catholic Church also operates globally 9,295 orphanages, 10,747 nurseries, and 3,225 other education centers. Other Christian denominations also operate similar institutions. Overall then, including students in non-formal education programs, it seems legitimate to suggest that Christian institutions serve 100 million students globally, and possibly more.

## CONCLUSION

The purpose of this paper was to provide a basic analysis of trends in enrolment in Catholic and Christian educational institutions over time. The first section of the paper was devoted to K12 education. A number of stylized facts emerge from the analysis. First, much of the growth in enrolment has been observed in Africa. As discussed in a separate background paper in this series, the COVID-19 crisis may lead to a drop in enrolment. Given that there was a small reduction in enrolment in Catholic K12 schools between 2016 and 2018, the added pressure from the current crisis may lead to a plateau in enrolment for a few years. However, in the medium to long term, growth is expected to continue. Now, the fact that the global growth in enrolment is mostly due to low income African countries does not mean however that in those countries, Catholic schools succeed in reaching the very poor, even if many of the students they serve are likely to be poor. The risk for the schools to enrol proportionately more children from the well-to-do has long been recognized<sup>27</sup>. Congregations which used to be able to provide quasi-free education in their schools a few decades ago may not anymore have the personnel and resources to do so today. In the absence of state support, cost recovery may lead the schools to be unaffordable for some among the poor. These pressures may become more severe over time in countries where Catholic schools do not benefit from state funding. In these countries, engaging in discussions with governments about the possibility of receiving (partial) funding is essential for the future.

Second, while the analysis in this paper was conducted separately for the three levels of schooling being considered, there are links between these three levels. While enrolment in Catholic preschools may not necessarily lead to higher enrolment in Catholic primary schools, the link between Catholic primary and secondary schools is likely to be stronger, with primary schools serving as feeder schools for secondary schools. Given the rise in enrolment at the primary school, and higher transition rates to secondary schools in many low and lower-middle income countries, growth in enrolment should continue for some time at the secondary level in those countries as large cohorts of students enrolled in primary school complete their primary education. This has implications for strategy and planning. In much the same way that governments use simple forecasting models to project trends in enrolment at various levels based on population growth and education parameters, this type of analysis could be beneficial for Catholic networks, including to assess budget and cost recovery requirements.

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<sup>27</sup> Congregation for Catholic Education (1977).



Third, gains in enrolment may require accommodating more students in existing schools or building new schools as there is a limit to the ability of existing schools to welcome more students. This could be a source of concern for the market share of Catholic schools since networks of Catholic schools may not always have the means to build new schools, especially at the secondary level where the cost of new schools is higher than at the primary level. As governments and low cost for-profit providers expand the coverage of their secondary school networks in low and lower-middle income countries, even as enrolment in Catholic secondary schools may increase, the market share of Catholic schools at the secondary level may fall, as it did to some extent globally over the last few decades<sup>28</sup>.

The second section of the paper provided a similar analysis for higher education. Again, several key findings emerge from the data. First, enrolment in Catholic higher education grew almost four-fold between 1975 and 2018 globally, reaching 6.5 million students by 2018. The annual growth rate for all three types of higher education combined was at 3.2 percent for the period from 1975 to 2018, versus 1.8 percent for K12 education. In the long run, one can expect growth to continue given higher demand from higher completion rates for secondary education as well as population growth especially in the developing world over time. Second, in most regions, Catholic institutions enroll more students in universities than in higher institutes, but in Asia, the reverse is observed, in large part because of the particularities of India where there has been rapid growth in enrolment in higher education institutions that are not universities (this is also true for non-Catholic private higher education). Third, in proportionate terms, as a percentage change from the base, the highest growth rates in enrolment are observed in Africa. In absolute terms by contrast, larger gains are reported in other regions, with most of the students in Catholic higher education still residing in high and middle income countries. The only region with a decline in recent years in the total number of students in higher education was the Americas, but this matters because this region concentrates close to half of all students enrolled in Catholic higher education globally. Fourth, there are substantial differences between countries in the size of their Catholic higher education networks. The United States still has the largest enrolment, but India is progressively catching up. Finally, within universities, there has been a steady rise of the share of students enrolled in ecclesiastical studies, even if they still represent only about 12 percent of total university enrolment (not including higher institutes).

The last section of the paper provided a tentative estimate of total enrolment in Christian educational institutions. Based on a number of simple assumptions, the estimate suggests that

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<sup>28</sup> Another challenge is to build secondary schools in poor areas. See Wodon (2020e) on Uganda.

Christian educational institutions may serve 100 million students globally. This is a large sub-sector that warrants attention from policy makers. The other papers in this study as well as a separate background paper for the Global Education Monitoring Report by the author explore some of the challenges faced by Christian and other faith-based providers of education, and the importance of education pluralism for the right to education.

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## Paper 2:

### Measuring the Contribution of Catholic Schools and Universities to Education Pluralism: A Statistical Approach

#### 1. Introduction

The fourth sustainable development goal is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The primary responsibility for achieving this goal rests with the state, but this does not mean that the state should be the sole provider of education, or that different types of education should not be available to children and their parents. Article 26 of the Universal Declaration of Human Rights includes a provision related to the right of parents to choose the type of education that their children should receive (within reasonable bounds).

Most countries allow different networks of schools and universities to operate as long as they follow some reasonable requirements. And in quite a few countries, the state also funds different education networks, including faith-based schools and universities. Funding or other forms of support from the state for privately managed networks of nonprofit schools and universities may contribute to education pluralism, which in turn can be beneficial not only for learning performance<sup>29</sup> but also for the vibrancy of democracies more generally.

What is education pluralism? The term itself can be contentious and understood in various ways. But for this report, essentially, the understanding is that in education systems that support pluralism, students or their parents should be able within some 'reasonable bounds' to choose the type of school or university that they will attend. The fact that different types of schools and universities may put a different emphasis on various values matters for parents and students. Students should be able to enrol in public schools and universities, but they should also have the option to enrol in faith-based or other private institutions. Under some circumstances, public funding is provided for this purpose in a wide range of countries (with accountability).

Various arguments can be made in favour of (or against) education pluralism. Some authors argue that competition in education markets may be beneficial as good performance in private schools<sup>30</sup> may put pressure on public schools to improve. The same could apply to universities. This

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<sup>29</sup> As noted by Brenner (2019), there is no automatic link between education pluralism and the performance of education systems, but research suggests the possibility of a positive relationship.

<sup>30</sup> Studies for the United States suggest that students in Catholic schools may perform comparatively well academically. See for example Evans and Schwab (1995), Sander and Krautman (1995), Altonji et al. (2005),

idea remains contested however, and this is not the argument made in this report. At a more basic level, education pluralism is essential because the right to education should respect parental (and student) priorities for what should be learned in school.

The topic of education pluralism is complex and what ‘reasonable bounds’ should be for the autonomy of faith-based and other private schools is a matter of debate. The issue of state funding for (non-profit) private schools is also a matter of intense debate. The objective of this paper is not to enter in those debates, but rather to propose a simple measure of education pluralism that can help inform the extent to which various countries appear to have achieved or lack such pluralism. In what follows, after a discussion of whether pluralism matters for parents, this measure of education pluralism is proposed and its potential implications for assessing the fulfilment of the right to education are discussed.

## **2. A Case for Pluralism: Differences in Priorities**

Before delving into the technicalities of suggesting a measure of education pluralism, do parents (and students) actually care about education pluralism? One way to answer that question is to look at parental or student priorities for what they would like schools and universities to focus on. To illustrate the fact that parents often do care, we consider briefly results from two different contexts: first the United States and next Ghana and Burkina Faso.

### *Case Study for the United States*

In 2017, with support from the Catholic Education Philanthropy Working Group, FADICA (Foundations and Donors interested in Catholic Activities), and the Philanthropy Roundtable, the National Catholic Educational Association published a report on factors driving the choice of schools by parents in the United States<sup>31</sup>. The report team adopted a mixed research methodology with quantitative and qualitative data collection and analysis.

In a survey conducted for the report, adult respondents were asked: “In your opinion, which of following are the three most important areas of focus for K-12 schools in your area?” Nine potential responses were provided: (1) Preparing children for college; (2) Preparing children to successfully enter the job market; (3) Teaching children to care about their community; (4) Developing individuals

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Hallinan and Kubitschek (2013), and Freeman and Berends (2016). A few studies however find no such effects (Jepsen, 2003; Elder and Jepsen, 2014). Catholic schools may also contribute to civic engagement (Dee, 2005) and communities (Brinig and Garnett, 2015). The returns to investments in Catholic higher education may also be large (Jalandoni, 2020). In Latin America, students in Fe y Alegría schools also perform comparatively well (e.g., Parra Osorio and Wodon, 2014; Lavado et al., 2016; Wodon, 2019b).

<sup>31</sup> NCEA (2018). See Wodon (2019a) for analysis of those data.



with a sound moral base; (5) Teaching children strong in-person communication skills; (6) Encouraging individual and critical thinking; (7) Measuring and monitoring student progress consistently; (8) Deepening children’s relationship with their religious faith; and (9) Teaching children to accept and embrace diversity.

Table 1 and Figure 1 provide the share of respondents who chose each of the potential responses among all parents and among the subset of parents with their youngest child in a Catholic school. Since respondents could choose three priorities for what their children should learn in school, the shares in the Table sum to 300 percent. Responses have been ranked according to two broad categories of priorities, those related to the skills that children should acquire, and those related to the values that they should acquire. While the classification of each potential response under skills versus values could be debated, this simple categorization is nevertheless useful. Parental priorities have been listed from the most to the least cited among the sample of all parents.

For the sample of all parents, the top five priorities are all related to skills and success in college and in the job market (even if several of these priorities also have inherent value independently of college and work). The other four priorities related to values are ranked lower. By contrast, for parents with their youngest child in a Catholic school, moral values rank much higher. Indeed, developing a sound moral base ranks first followed by communications skills, and deepening one’s faith essentially ties up with critical thinking and being ready for the job market.

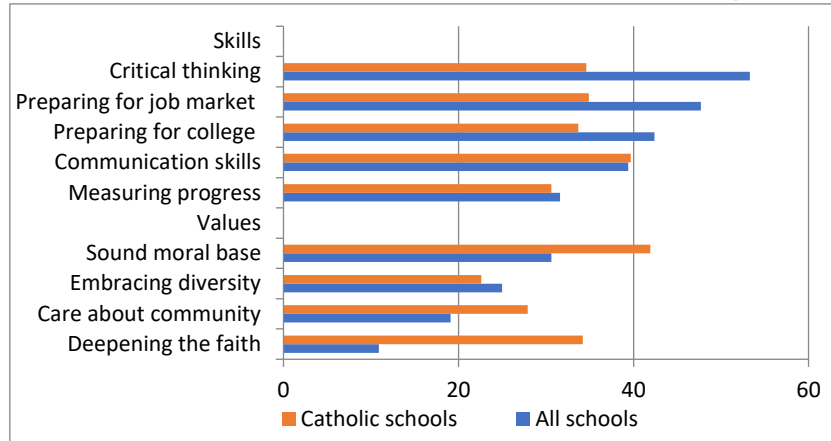
Clearly, different parents may have different priorities for what their children should learn in school. Through a diversity of options for schooling, education pluralism can help education systems respond, again within ‘reasonable bounds’, to this heterogeneity in parental priorities. In some contexts, this may also help boost enrolment in school.

**Table 1: Parental Priorities for What Children Should Learn in School, United States (%)**

	All parents	Youngest child in Catholic school
<b>Skills</b>		
Critical thinking	50.3	34.6
Preparing for job market	47.7	34.9
Preparing for college	42.4	33.7
Communication skills	39.4	39.7
Measuring progress	31.6	30.6
<b>Values</b>		
Sound moral base	30.6	41.9
Embracing diversity	25.0	22.6
Care about community	19.1	27.9
Deepening the faith	10.9	34.2
<b>Total</b>	<b>300.0</b>	<b>300.0</b>

Source: Wodon (2019a).

**Figure 1: Parental Priorities for What Children Should Learn in School, United States (%)**



Source: Wodon (2019a).

It should be clear that the statistics provided in Table 1 should not be interpreted in any way as suggesting that some parents care more about values than others. Parents who do not rely on Catholic schools may rely on other mechanisms than the schools to transmit their values to their children. Even for many parents in Catholic schools, their priorities regarding what their children should learn in school may not be about values, possibly because they believe that those values can be acquired elsewhere, such as at Church. Simply, different parents place different emphasis on various priorities for what the schools should focus on.

It should also be clear that imparting values is by no means a task reserved to Catholic or faith-based schools. Public schools as well as other private schools also care about imparting strong values to their students. What exactly the aspiration of promoting values and character education in educational systems entails may simply differ depending on the school system considered. But respect for others and for pluralism (which does not imply relativism) is typically a core value in all schools.

Do these types of findings apply to students choosing to enrol in Catholic colleges and universities as well<sup>32</sup>? They may, at least to some extent. At the international level, several studies have explored the values held by students in Catholic universities<sup>33</sup>. In the United States, data are available to compare students' priorities depending on the type of schools they choose to attend. One such data source is the CIRP Freshman Survey implemented every year by the Higher Education Research Institute at the University of California. The survey has been implemented for more 50 years. It is administered to first-year students before they start classes at their institution. The survey includes questions among others on established behaviours in high school, academic preparedness,

<sup>32</sup> In the United States, some universities, especially smaller ones, are called colleges. In some other countries, colleges refer to high schools.

<sup>33</sup> Aparicio Gómez and Tornos Cubillo (2014), Mabile and Alom (2021).

admissions decisions, expectations of college, interactions with peers and faculty, student values and goals, student demographic characteristics, and concerns about financing college.

As shown in Table 2 for the latest available survey, typically less than one in ten incoming freshmen consider the religious orientation or affiliation of their college as a very important factor for their choice of attending that college. But among students attending Catholic colleges, the corresponding figure is at about one in five students. The difference is thus substantial. The proportion of students who mention that their college's graduates make a difference in the world is also slightly higher for students enrolled in Catholic institutions than in the whole sample. At the same time, as was the case for Catholic schools, other factors seem to be much more important, including the academic reputation of the college or the intended major at that college, whether graduates get good jobs, and whether students are provided with financial assistance.

If one compares non-sectarian, Catholic, and other religious colleges (data not shown in the Table, but available in the survey), the differences tend to be larger. For example, only 7.0 percent of freshmen in non-sectarian colleges state that they were attracted by the religious affiliation/orientation of their college. The proportion is 18.1 for those in Catholic colleges as shown in Table 2, but it reaches 35.8 percent for other religious colleges, denoting an even stronger importance granted to faith affiliation by students attending those institutions, most of which are evangelical. Still, it is worth noting that overall religious affiliation is not a key driver in college choice, especially among the overall freshman population. This echoes the low ranking placed on 'deepening the faith' in Table 1 for K12 schools.

In general, in Table 2, freshmen at Catholic colleges respond in the affirmative on whether various factors were very important for their decision more than the full sample, so one should be careful not to overstate the implications of small difference in affirmative answers between the two groups. Still, some differences appear to be meaningful. In another question, students are asked whether they consider various objectives as essential or very important. For most objectives, the differences in positive answers between freshmen at Catholic universities and all universities are small, but for "integrating spirituality into my life", the difference is (not surprisingly) much larger. This is considered a priority by 43.1 percent of freshmen in the full sample versus 62.2 percent of freshmen in Catholic colleges.

**Table 2: Share of College Freshmen Declaring Various Reasons as “Very Important” in Deciding to Go to that Particular College, 2019 CIRP Freshman Survey (%)**

	All baccalaureate institutions	Catholic institutions
My parents/relatives wanted me to come here	17.1	19.2
My teacher advised me	8.2	7.9
This college has a very good academic reputation	63.2	71.8
This college has a good reputation for its social and extracurricular activities	47.8	52.4
I was offered financial assistance	48.9	65.5
The cost of attending this college	50.5	48.7
High school counselor advised me	11.2	12.0
Private college counselor advised me	4.9	7.1
I wanted to live near home	25.4	28.0
Not offered aid by first choice	10.8	13.5
Could not afford first choice	14.7	15.5
This college’s graduates gain admission to top graduate/professional schools	30.7	39.0
This college’s graduates get good jobs	54.8	67.3
I was attracted by the religious affiliation/orientation of this college	9.1	18.1
I wanted to go to a school about the size of this college	35.5	49.7
Rankings in national magazines	15.2	17.7
I was admitted through an Early Action or Early Decision program	15.0	22.2
A visit to this campus	46.2	54.7
This college’s graduates make a difference in the world	33.5	39.6
Communication with a professor	21.5	30.3
The academic reputation of my intended major	53.7	59.0

Source: Stolzenberg et al. (2020).

Finally, it is worth noting than in other market research, some of the characteristics associated with Catholic universities are “conservative”, “traditional”, and “expensive”<sup>34</sup>. This not necessarily a positive perception from a marketing point of view, but it does suggest again that students choosing Catholic universities may have a slightly different set of priorities than those enrolling elsewhere. As is the case for the CIRP survey, this other survey suggested though that the Catholic character of the college was not the main deciding factor for its choice by prospective students. Indeed, less than one in ten students as well as parents identified religious affiliation as a key driver of their choice. Factors such as institutional size, research opportunities, and internships and job placement were more important, as noted in the CIRP survey. These are all areas where Catholic universities do comparatively well according to data from the Association of Catholic College and Universities. It is therefore not surprising that more than 40 percent of respondents in that survey said they were interested in attending a Catholic university.

<sup>34</sup> Results from a market research survey by EAB Enrollment Services as discussed in Redden (2019). The survey is instructive, but not nationally representative as its sample is based on the firm’s inquiry pools for Catholic colleges.

The results from these types of surveys matter for the strategies adopted by colleges and universities. In some countries, prospective students considering enrolling in a Catholic college or university may have a choice between a few universities or none at all. But in the United States, they have a choice between more than 250 Catholic colleges and universities. Of 6.5 million students enrolled in Catholic post-secondary institutions globally in 2018, 1.3 million were enrolled in the United States. If one considers only university students, the country accounted for 22 percent of all students enrolled in Catholic universities globally (0.9 million of a total of 4.2 million, including students pursuing ecclesiastical studies). In such a context of choice as well as competition, the way Catholic universities position themselves is crucial for their survival.

#### *Case Study for Ghana and Burkina Faso*<sup>35</sup>

As a second illustration of the fact that parents may have different priorities for what their children should learn in school, consider data for Burkina Faso and Ghana, two countries with populations of different faiths. Using data from a small scale survey implemented in one urban and one rural area in each of the two countries, substantial differences were found in the reasons leading parents to choose various types of schools<sup>36</sup>. The education provided by faith-based schools was valued by parents and communities for reasons related to both perceived quality and the promotion of religious and moral values. But there were also differences in perceptions between Franco-Arab or Islamic schools and Christian schools.

As shown in Table 3 through the share of respondents emphasizing various reasons for choosing a school, parents choosing Christian schools in Burkina Faso did so for their academic and teacher quality. Parents choosing Islamic schools emphasized the opportunity for their children to receive a religious education, with smaller numbers listing academic or teacher quality too. In public schools, location was a deciding factor for more than two thirds of parents, followed by academic quality and the lack of school fees. Education on moral values was listed as a reason for school choice by about a third of parents choosing Islamic and Christian schools, but not by parents choosing public schools. Results for Ghana are similar. Religious knowledge was key for the choice of an Islamic school. It also mattered for Christian school, but slightly less so, while academic performance and teacher quality mattered more. For public schools, low cost and proximity were the driving factors.

Several other questions were asked to parents to better understand why they chose a specific school. One question was about the most important area of study for their children. For children in Franco-Arab and Islamic schools, religious education came first, followed by moral education and

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<sup>35</sup> This section is adapted from Wodon (2020). See also Gemignani et al (2014).

<sup>36</sup> Gemignani et al (2014).

academics (literacy). For parents at Christian schools, academics came first, as it did for parents at public schools.

Parents were also asked to choose the educational goal of highest importance among social, moral, academic and spiritual goals. Many parents choosing Islamic schools selected spiritual goals and the betterment of society. Parents choosing Christian schools emphasized moral values more. In public schools, the role of religious and moral education was mentioned less. Christian schools were attended by children of all faiths, and religious education was not emphasized in the curriculum. Rather, the schools stressed moral values in addition to secular subjects. Religious education featured more prominently in the curriculum of Franco-Arab and Islamic schools. Those schools were attended almost entirely by Muslim children.

**Table 3: Principal Reasons for School Choice, Primary Level, Burkina Faso and Ghana (%)**

	Burkina Faso			Ghana		
	Islamic schools	Christian schools	Public schools	Islamic schools	Christian schools	Public schools
Location	38.7	33.3	70.0	20.8	16.7	37.5
Religious knowledge	83.9	33.3	—	75.0	50.0	6.3
Moral education	35.5	36.7	—	—	29.2	—
To learn Arabic	29.0	—	—	37.5	—	—
To learn French/English	25.8	—	3.3	4.2	—	—
Teacher quality and discipline	12.9	46.7	10.0	4.2	33.3	25.0
Academic performance	25.8	76.7	46.7	4.2	16.7	25.0
Child's future (good education, jobs)	9.7	6.7	16.7	4.2	4.2	—
Familiarity with this school	—	6.7	13.3	16.7	16.7	18.8
No or low school fees	—	—	30.0	4.2	—	31.3

Source: Wodon (2019b), adapted from Gemignani et al. (2014). See also Gemignani and Wodon (2017).

Note: Multiple answers allowed.

What can be concluded from this analysis? Beyond academic subjects, Catholic and other faith-based schools are perceived as emphasizing learning related to values and religion. Do they succeed in doing so? Based on the small sample survey data and qualitative fieldwork carried in Ghana and Burkina Faso, as well as larger nationally representative datasets providing information on parental satisfaction with various types of schools, the answer seems to be a mostly positive one, at least from the view of parents. As will be discussed later, this does not mean that students are learning all that they should, but at least parents recognize the value provided to them by faith-based schools, and are supportive through their enrolment decisions of education pluralism.

### 3. Measuring Education Pluralism

It seems clear from the case studies presented above that school choice and education pluralism are valued by at least some parents. How can we assess the level of education pluralism in various countries? There is no unique way to define or measure education pluralism, or more broadly the extent to which the state is supportive of the coexistence of alternative providers of education. One approach consists in looking across countries at the characteristics of regulatory frameworks for education and how they balance the twin aims of school autonomy and accountability. Case studies based on this approach were pioneered by Glenn and De Groof<sup>37</sup>.

The approach is also used in a more systematic way under the Engaging the Private Sector (EPS) framework of the World Bank's Systems Approach for Better Education Results (SABER). SABER aims to produce comparable data on education policies across countries. The initiative is organized around a dozen domains ranging from early childhood development to tertiary education and workforce development. One of the domains is Engaging the Private Sector (EPS). SABER-EPS looks in a systematic way at whether laws, regulations, and policies towards the private sector are likely to achieve four policy goals: (1) Encouraging innovation by providers; (2) Holding schools accountable; (3) Empowering parents, students, and communities; and (4) Promoting diversity of supply<sup>38</sup>.

Approaches such as SABER-EPS to assess regulatory frameworks for private schools have clear benefits, in that they can inform policy reforms since the frameworks are directly based on an assessment of existing laws and policies. But they also have limitations. One difficulty with these approaches is that while they are highly informative, they may also be fairly labour intensive, especially if the aim is to document the laws and policies in place on each country. This explains why only about ten completed country assessments have been published on the SABER website.

Furthermore, these frameworks are not universally accepted, hence their application may not lead to consensus on reforms or the role of private schools<sup>39</sup>. A third difficulty that these approaches focus on whether regulatory conditions favourable to education pluralism are in place, not on whether pluralism is achieved as revealed by where children go to school. Even when formal regulatory frameworks are conducive to engaging the private sector, other factors may negatively affect school choice, thus reducing education pluralism.

The alternative approach used for this paper consists in directly looking at outcomes, i.e. whether children end up being enrolled in different school systems as a measure of the depth of

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<sup>37</sup> Glenn and De Groof (2012).

<sup>38</sup> Baum et al. (2013).

<sup>39</sup> See Oxfam (2019) and Abidjan Principles (2019).

education pluralism in a country<sup>40</sup>. The basic idea is that too much concentration in education systems may be detrimental to school choice as well as broader educational outcomes, much in the same way that too much concentration in an industry may be detrimental to consumers or customers. In other words, the idea is to apply traditional measures of industry concentration to education systems to measure pluralism.

The most widely used measure of industrial concentration is probably the Herfindahl-Hirschman index (HHI) defined as the sum of the squares of the market shares of firms within an industry<sup>41</sup>. A lower value is considered beneficial as no firm or set of firms dominates the market at the risk of competition. When applied to the market share of different providers of education in a country, the index can similarly be interpreted as a simple measure of concentration. The definition of the index is provided in Box 1. The HHI is however not itself an intuitive measure of education pluralism because higher values indicate more concentration, and therefore less pluralism. Instead of using the HHI, it seems to make sense to define the education pluralism index instead as  $EPI=1-HHI$ .

**Box 1: Herfindahl-Hirschman Index**

Denote the market share of a specific type of education provider  $i$  in an education system as  $s_i$ . In other words,  $s_i$  is the share of students enrolled (at a given level of schooling) in type of school  $i$ . The HHI is simply defined as  $HHI = \sum_{i=1}^N s_i^2$  with  $N$  being the number of different types of schools operating in the education system. The index ranges from  $1/N$  when all types of schools have the same market share to a maximum value of one when all students go only to a single type of school.

Another technical issue is that the HHI actually takes a value between  $1/N$  and 1 when the index estimated with data on  $N$  providers. This is why in the literature, a normalized HHI is also used with  $NHHI=(HHI-1/N)/(1-(1/1N))$ . That normalized index should be used cautiously because the information on the number of providers is lost. This can generate problematic results when comparing different markets that have a different number of providers<sup>42</sup>. For our purpose however, given that comparisons of education pluralism are made across countries, regions, or income groups using data on the same number of providers for all countries, regions, or income groups, the loss of information

<sup>40</sup> Wodon (2021b).

<sup>41</sup> Herfindahl (1959), Hirschman (1964).

<sup>42</sup> To illustrate the issue, consider one market with two providers that each has a 50 percent market share, and another market with three providers that each have a third of that market. Both will have a zero value for the normalized HHI, but the second market clearly has less concentration.



in normalization is not an issue. Therefore, we define a normalized education pluralism index as  $NEPI=(1-HHI)/(1-1/N)$ , so that that the index takes values between zero and one (Box 2).

#### **Box 2: Normalized Education Pluralism Index**

The normalized education pluralism index is defined as  $NEPI=(1-HHI)/(1-1/N)$  with  $HHI = \sum_{i=1}^N s_i^2$  where  $N$  is the number of education providers and  $s_i$  is the share of students enrolled in schools from provider  $i$ . The index takes on a value between zero and one. A higher value denotes more pluralism<sup>43</sup>.

In what follows, the index is applied to education systems. When computing the index across a wide range of countries, a key difficulty is to obtain data on the market shares of different types of education providers. Data from the UNESCO Institute of Statistics (UIS) are available for most countries on the number of students enrolled in public and private schools at the primary and secondary levels. Private schools are defined as schools not operated by a public authority but instead controlled and managed, whether for profit or not, by a private body. Similarly, data are available on public and private market shares for higher education. Using these data, the HHI can be computed with two categories of providers – public and private providers. This will lead to a higher value for the index than if the diversity of private schools and universities were taken into account. Although there may also be some diversity of providers among public schools and universities, this is less likely in terms of the fundamental principles followed by these schools and universities (especially at the K12 level where there is typically more of an attempt at uniformity). But it is clearly important to disaggregate private schools and universities if that can indeed be done. In order to disaggregate private provision into sub-categories, we rely on data on enrolment in Catholic schools and universities from the annual statistical yearbook of the Catholic Church<sup>44</sup>.

#### **4. Enrolment by Region and Income Group**

To measure education pluralism with three categories of provider – public, private non-Catholic, and Catholic, we first need estimates of the market share of public, Catholic, and other private schools. While the term ‘market share’ is not necessarily seen with sympathy by many Catholic educators, we use that term since it is used in the literature. As part of background work for this paper, measures of education pluralism were estimated at the country level, but this is not handy for stylized

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<sup>43</sup> Wodon (2021b).

<sup>44</sup> Secretariat of State (2020).

facts given the number of countries. The analysis is therefore reported here for regional groupings used by the World Bank. In addition, we provide data according to income groups.

The World Bank classifies countries in six regions (East Asia and Pacific, Europe and Central Asia, Latin America and the Caribbean, Middle East and North Africa, North America, South Asia, and Sub-Saharan Africa) and four income groups (low, lower-middle, upper-middle, and high income)<sup>45</sup>. Table 4 provides estimates of enrolment for 2018 by region and income group. For primary and secondary education, both the number of students and the number of schools are reported. The analysis is not carried for pre-primary education because country coverage at that level is lower.

### *Primary and Secondary Education*

As mentioned in the first paper in this study, most of the growth in enrolment in Catholic schools globally was concentrated in sub-Saharan Africa over the last few decades. As a result, as shown in Table 4, in 2018 the region accounted for 55.0 percent of all students in Catholic primary schools globally, and 28.0 percent of all students in Catholic secondary schools. After sub-Saharan Africa, Latin America and the Caribbean and South Asia have the largest enrolment at the primary level, while for enrolment in secondary schools the South Asia region comes in second place, followed by Europe and Central Asia in third place.

In terms of income groups, 40.9 percent of all students in Catholic primary schools are located in low-income countries, with another 29.7 percent in lower-middle income countries. Less than 30 percent of students in primary Catholic schools live in upper-middle and high income countries. For secondary school enrolment, the proportion of students who live in low income countries is smaller, because educational attainment in those countries remains low, but together, low income and lower-middle income countries still account for more than half of total enrolment.

Overall, it seems fair to state that at the primary and to a lower extent at the secondary level, the Catholic Church serves primarily children in countries with comparatively low levels of economic development. This is good news for the emphasis of the Church placed on the preferential option for

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<sup>45</sup> In terms of income levels, for the World Bank's 2021 fiscal year, low-income countries are those with a Gross National Income (GNI) per capita calculated using the World Bank Atlas method of \$1,035 or less in 2019. Lower-middle-income countries are those with a GNI per capita between \$1,036 and \$4,045. Upper-middle-income countries are those with a GNI per capita between \$4,046 and \$12,535. Finally high-income countries are those with a GNI per capita of \$12,536 or more. The income group in which countries are classified may change over time whether because of economic growth or because of changes in methodology or rebasing of a country's National Accounts. For the World Bank's 2021 fiscal year, ten countries moved to a different category than the year before.

the poor<sup>46</sup>, but it also means in the context of the current crisis that children in Catholic schools are likely to have been affected severely by the COVID-19 crisis.

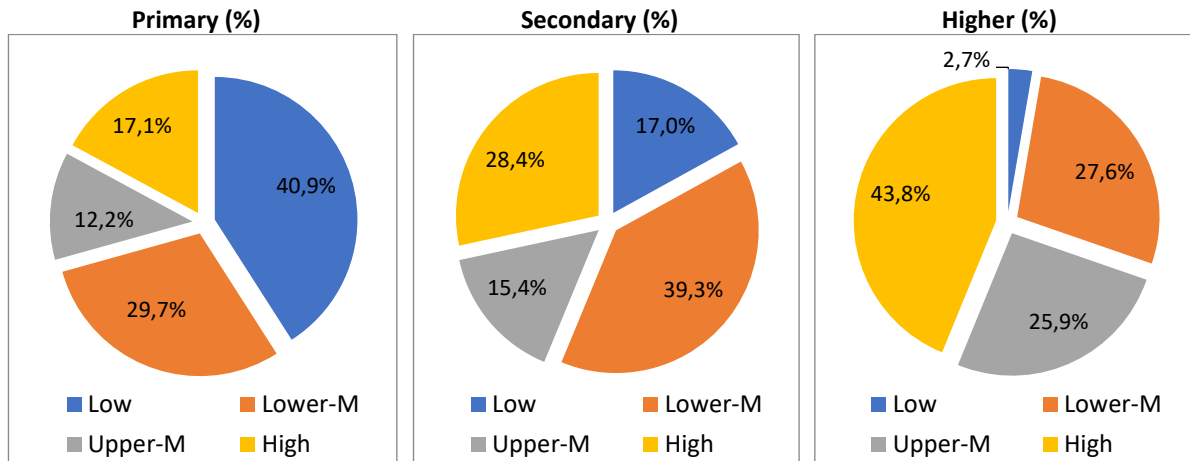
**Table 4: Enrolment in Catholic Schools and Universities by Region and Income Group, 2018**

Regions and Income Groups	Primary schools		Secondary schools		Higher Ed.
	Schools	Students	Schools	Students	Students
<b>Estimates of number of schools and students</b>					
<b>Regions</b>					
East Asia & Pacific	8,814	2,185,191	4,184	2,192,622	965,356
Europe & Central Asia	15,715	3,131,268	9,424	3,662,365	1,186,223
Latin America & Caribbean	15,631	4,371,221	10,333	2,816,819	1,701,331
Middle East & North Africa	725	289,241	460	151,733	56,639
North America	6,723	1,770,710	1,796	864,852	1,310,661
South Asia	10,994	3,997,214	7,605	4,207,249	887,851
Sub-Saharan Africa	44,544	19,267,154	15,739	5,411,658	359,020
<b>Income Groups</b>					
Low Income	34,735	14,335,210	9,919	3,274,435	172,858
Lower-Middle Income	28,894	10,412,295	15,936	7,581,178	1,784,779
Upper-Middle Income	13,574	4,261,212	10,629	2,978,055	1,673,934
High Income	25,943	6,003,282	13,057	5,473,630	2,835,510
<b>World</b>	<b>103,146</b>	<b>35,011,999</b>	<b>49,541</b>	<b>19,307,298</b>	<b>6,467,081</b>
<b>Shares in global number of Catholic schools and students</b>					
<b>Regions</b>					
East Asia & Pacific	8.5%	6.2%	8.4%	11.4%	14.9%
Europe & Central Asia	15.2%	8.9%	19.0%	19.0%	18.3%
Latin America & Caribbean	15.2%	12.5%	20.9%	14.6%	26.3%
Middle East & North Africa	0.7%	0.8%	0.9%	0.8%	0.9%
North America	6.5%	5.1%	3.6%	4.5%	20.3%
South Asia	10.7%	11.4%	15.4%	21.8%	13.7%
Sub-Saharan Africa	43.2%	55.0%	31.8%	28.0%	5.6%
<b>Income Groups</b>					
Low Income	33.7%	40.9%	20.0%	17.0%	2.7%
Lower-Middle Income	28.0%	29.7%	32.2%	39.3%	27.6%
Upper-Middle Income	13.2%	12.2%	21.5%	15.4%	25.9%
High Income	25.2%	17.1%	26.4%	28.4%	43.8%
<b>World</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Wodon (2021a).

<sup>46</sup> On whether Catholic schools succeed in serving the poor for schooling and learning in sub-Saharan Africa, see Wodon (2019c, 2020).

**Figure 2: Shares of All Students in Catholic Education by Country Income Groups, 2018**



Source: Wodon (2021a).

Globally primary schools accounted in 2018 for 64.5 percent of total enrolment in primary and secondary Catholic schools, versus 36.5 percent for secondary schools. In sub-Saharan Africa however, primary schools still account for 78.1 percent of the combined enrolment in primary and secondary schools due to limited transition to secondary schools in many countries. Only four in ten students in Africa complete their lower secondary school according to the World Bank’s the World Development Indicators. By contrast, in Europe, primary schools account for less than half (46.1 percent) of total enrolment in Catholic schools. In North America, primary school account for more than two thirds (67.2 percent) of total enrolment in primary and secondary schools, possibly because in the absence of meaningful government funding in the United States, the out-of-pocket cost of enrolment is larger at the secondary level.

### *Higher Education*

The footprint of Catholic higher education across countries and regions, and therefore also across income groups, is different from that of primary and secondary education. While the growth rate in enrolment in Catholic higher education is high in Africa, the region including sub-Saharan Africa still accounts for only a very small share of total enrolment in Catholic higher education. In 2018, as shown in Table 4, sub-Saharan Africa accounted for only 5.6 percent of all students in Catholic higher education globally. By contrast, despite having a small share of the global population, North America account for one fifth of all students enrolled in Catholic higher education, thanks in particular to a large number of Catholic colleges and universities in the United States. The share of students in Catholic higher education is also relatively high in Latin America at 26.3 percent and in Europe and Central Asia, at 18.3 percent.

In terms of income groups, only 2.7 percent of all students in Catholic higher education are located in low-income countries. The proportion is higher at 27.5 percent in lower-middle income

countries thanks to India, and 25.9 percent in upper-middle income countries thanks to large countries in Central and Latin America. Still, 43.8 percent of all students in Catholic higher education are studying in high income countries. While a growing share of those students come from low and middle income countries over time, the overwhelming majority of the students were born in these countries. As is the case for higher education in general, Catholic higher education remains highly unequal at the global level.

## 5. Market Shares of Catholic Education<sup>47</sup>

What do these estimates mean for the market share of Catholic schools and universities? In order to compute these market shares, enrolment data from the latest statistical yearbook of the Church are compared with data on total enrolment in primary and secondary schools from the UNESCO Institute of Statistics<sup>48</sup>. In the case of higher education, the approach involves an additional step and may be less accurate, but is nevertheless instructive. The resulting market shares for Catholic schools and universities are provided in Table 5. At the primary level, the market share of Catholic schools is especially high in sub-Saharan Africa at 11.0 percent. At the secondary level, the highest market share for Catholic schools is in South Asia at 6.7 percent. In low-income countries, Catholic schools account for one in seven students enrolled in all schools (13.7 percent) and almost one in ten students enrolled at the secondary level (9.0 percent). The market share of Catholic schools is lowest in upper-middle income countries in part because of the absence of Catholic schools in mainland China (by contrast, the schools have a strong footprint in Taiwan).

Estimates of market shares for Catholic higher education are more tentative for two reasons. First, the UNESCO Institute of Statistics does not provide data on the total number of students enrolled in higher education as it does for primary and secondary education. This means that to obtain the denominator for the computation of market shares, we need to multiply the gross enrolment rate at the tertiary level by the population of the appropriate age, which requires a few manipulations. Given the additional variables and calculation involved, this may generate a (probably small) source of error. More importantly, it is not fully clear whether enrolment data available in the statistical yearbooks of the Church for higher education correspond to the definitions of tertiary education used by the UNESCO Institute of Statistics. Still, despite limits in the available data, computing market shares provides a useful order of magnitude of the role played by Catholic higher education globally.

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<sup>47</sup> This section is based on Wodon (2021b).

<sup>48</sup> Estimates of total enrolment are not available for pre-schools, hence this level is not considered.

The resulting market shares for Catholic schools and universities are provided in Table 5. Globally, Catholic higher education accounts for 2.8 percent of all students enrolled at that level. In terms of regions, the market share is highest in Latin America and North America, at respectively 6.0 percent and 5.9 percent, and lowest in the Middle East and North Africa, at 0.4 percent. In terms of income groups, the market share is highest in high income countries at 4.8 percent, and lowest in upper-middle income countries (probably in large part because of China) at 1.6 percent).

Are these estimates of the right order of magnitude? As a quick test, consider North America, which is dominated in terms of population size and enrolment in higher education by the United States. According to the website of the Association of Catholic Colleges and Universities and based on data from the National Center for Education Statistics, about 850,000 students were enrolled in Catholic higher education in 2018-19.

The National Center for Education Statistics also reports on its website that total undergraduate enrolment in degree-granting postsecondary institutions in 2018 was at 16.6 million students, while 3.0 million students were enrolled in post-baccalaureate degree programs. This generates a total number of university students of 19.6 million students. Dividing the number of students in Catholic colleges and universities by the total enrolment at the undergraduate and graduate levels for degree granting institutions generates a market share of for Catholic colleges and universities of 4.3 percent. This is below the estimate of 5.9 percent for North America in Table 5.

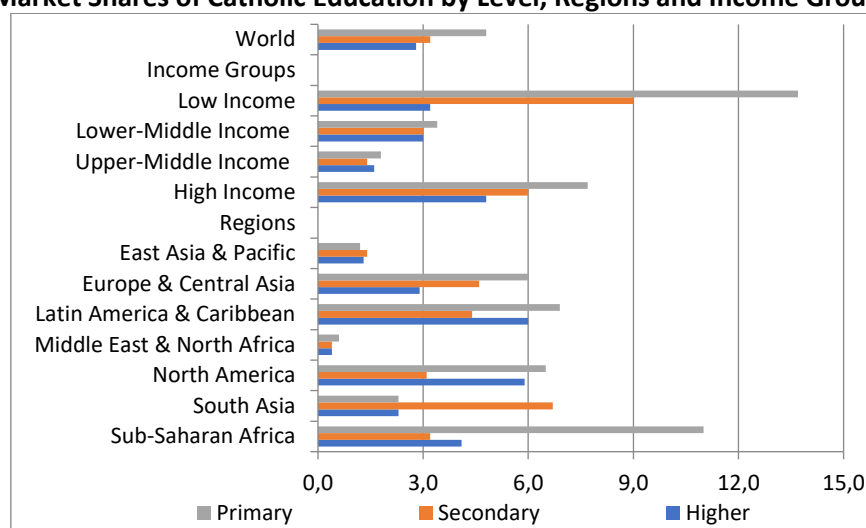
The likely reason for the difference is that the category of students in 'higher institutes' in the statistical yearbook of the Church may include students who are not considered as enrolled in degree-granting institutions by the National Center for Education Statistics. Differences in enrolment in Catholic institutions in other counties in North America, and especially in Canada, may also play a role in the differences in estimates just mentioned. Still, with those caveats in mind, this simple comparison suggests that estimates in Table 5 do seem to provide an adequate order of magnitude for the market shares of Catholic higher education, although possibly slightly on the high side.

**Table 5: Market Shares of Catholic Education by Education Level (%), 2018**

Regions and Income Groups	Primary schools	Secondary schools	Higher education
<b>Regions</b>			
East Asia & Pacific	1.2	1.4	1.3
Europe & Central Asia	6.0	4.6	2.9
Latin America & Caribbean	6.9	4.4	6.0
Middle East & North Africa	0.6	0.4	0.4
North America	6.5	3.1	5.9
South Asia	2.3	6.7	2.3
Sub-Saharan Africa	11.0	3.2	4.1
<b>Income Groups</b>			
Low Income	13.7	9.0	3.2
Lower-Middle Income	3.4	3.0	3.0
Upper-Middle Income	1.8	1.4	1.6
High Income	7.7	6.0	4.8
<b>World</b>	<b>4.8</b>	<b>3.2</b>	<b>2.8</b>

Source: Wodon (2021a).

**Figure 3: Market Shares of Catholic Education by Level, Regions and Income Groups (%), 2018**



Source: Wodon (2021a).

## 6. Estimates of Education Pluralism

Estimates of the market shares of Catholic schools and universities can be combined with estimates of market shares of public and other private schools and universities to provide measures of education pluralism. If data on enrolment in Catholic schools and universities were not available, the global analysis would need to be based only on the share of students enrolled in public and private institutions since data on the footprint of particular networks of schools for all country level are not available<sup>49</sup>. Adding data for Catholic institutions enables more disaggregation, and therefore better estimates since three different providers are identified across all countries: public, private non-

<sup>49</sup> For some networks with relatively few schools, data may be available, but these networks would not make a large difference for measures of education pluralism.

Catholic and Catholic providers. When a larger number of providers are accounted for through such disaggregation, estimates of the HHI are lower. Simply shifting from two to three providers can make a difference in the measures and of course in the reality on the ground as to whether there are opportunities for parents or students to select different types of schools.

Data on the market shares of public and private schools are readily available from the UNESCO Institute of Statistics for primary and secondary education not only at the level of countries, but also by region and income group. In the case of higher education, data are available for many but not all countries, and regional and income group aggregates are not provided<sup>50</sup>. Therefore, we constructed these aggregate market shares based on the available data, acknowledging that estimates are more tentative given some missing country data.

When factoring in market share data for Catholic primary and secondary schools, attention must be paid to the fact that in some countries, including several of the African countries with large enrolment in Catholic schools, most Catholic schools are actually considered as public schools by governments and reported as such to the UNESCO Institute of Statistics. This is for example the case in the Democratic Republic of Congo and Uganda. In other cases as well, such as Ireland, Catholic schools are also considered as public schools in the UIS data. Therefore, in those types of countries, when computing the HHI as well as the NEPI with three providers (public, private non-Catholic, and private Catholic) instead of two providers (public and private), enrolment estimates in Catholic schools must be deducted from enrolment in public schools as opposed to enrolment in private schools for computing the market shares. This issue is less likely to be a problem in the case of Catholic universities because their footprint in the countries considering them as public institutions is small.

The results are provided in Table 6. Consider first primary and secondary education. Concentration is lowest in South Asia, mostly because of a high market share of private schools in India. Concentration is also comparatively lower in sub-Saharan Africa and Latin America and the Caribbean. By contrast, concentration is high in North America, in part because lack of state funding for private schools in the United States reduces their market shares since parents must pay tuition. In terms of comparisons by income groups, lower-middle and low income countries have lower levels of concentration than upper-middle and high income countries (India and China play a large role in these results given the countries' size).

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<sup>50</sup> This may be because of missing data for some few countries, especially for any particular year.



**Table 6: Estimates of the Herfindahl-Hirschman Index, 2018**

	Two providers			Three providers			
	Private Share (%)	Public Share (%)	HH Index (×100)	Private N-C Share (%)	Catholic Share (%)	Public Share (%)	HH Index (×100)
<b>Primary education</b>							
<b>Regions</b>							
East Asia & Pacific	10.3	89.7	81.6	9.1	1.2	89.7	81.4
Europe & Central Asia	9.2	90.8	83.3	3.2	6.0	90.8	82.9
Latin America & Caribbean	20.5	79.5	67.4	13.6	6.9	79.5	65.6
Middle East & North Africa	10.5	89.5	81.3	9.9	0.6	89.5	81.2
North America	8.6	91.4	84.3	2.1	6.5	91.4	84.1
South Asia	37.8	62.2	53.0	35.6	2.3	62.2	51.3
Sub-Saharan Africa	14.1	85.9	75.7	10.5	11.0	78.5	63.9
<b>Income Groups</b>							
Low Income	12.9	87.1	77.5	8.1	13.7	78.2	63.7
Lower-Middle Income	26.9	73.1	60.7	23.5	3.4	73.1	59.1
Upper-Middle Income	12.0	88.0	78.9	10.2	1.8	88.0	78.5
High Income	13.0	87.0	77.4	5.3	7.7	87.0	76.6
<b>World</b>	18.6	81.4	69.8	13.8	4.8	81.4	68.4
<b>Secondary education</b>							
<b>Regions</b>							
East Asia & Pacific	19.2	80.8	69.0	17.8	1.4	80.8	68.5
Europe & Central Asia	14.8	85.2	74.8	10.2	4.6	85.2	73.8
Latin America & Caribbean	19.1	80.9	69.0	14.8	4.4	80.9	67.7
Middle East & North Africa	9.6	90.4	82.7	9.2	0.4	90.4	82.6
North America	8.9	91.1	83.8	5.8	3.1	91.1	83.4
South Asia	51.0	49.0	50.0	48.5	3.2	48.3	47.0
Sub-Saharan Africa	20.8	79.2	67.0	16.5	6.7	76.8	62.2
<b>Income Groups</b>							
Low Income	16.9	83.1	71.9	15.3	9.0	75.7	60.4
Lower-Middle Income	39.9	60.1	52.0	36.9	3.0	60.1	49.8
Upper-Middle Income	16.1	83.9	73.0	14.8	1.4	83.9	72.6
High Income	20.5	79.5	67.4	14.5	6.0	79.5	65.7
<b>World</b>	26.8	73.2	59.0	23.6	3.2	73.2	57.8
<b>Higher education</b>							
<b>Regions</b>							
East Asia & Pacific	26.5	73.5	61.0	25.3	73.5	1.3	60.4
Europe & Central Asia	24.3	75.7	63.2	21.4	75.7	2.9	62.0
Latin America & Caribbean	42.3	57.7	51.2	36.3	57.7	6.0	46.9
Middle East & North Africa	19.2	80.8	69.0	18.8	80.8	0.4	68.8
North America	26.7	73.3	60.8	20.8	73.3	5.9	58.4
South Asia	54.4	45.6	50.4	52.2	45.6	2.3	48.0
Sub-Saharan Africa	25.0	75.0	62.5	20.9	75.0	4.1	60.8
<b>Income Groups</b>							
Low Income	29.7	70.3	58.2	26.6	70.3	3.2	56.5
Lower-Middle Income	28.3	71.7	59.4	25.4	71.7	3.0	57.9
Upper-Middle Income	49.6	50.4	50.0	48.0	50.4	1.6	48.5
High Income	23.5	76.5	64.0	18.7	76.5	4.8	62.2
<b>World</b>	32.3	67.7	56.3	29.5	67.7	2.8	54.6

Source: Wodon (2021b).

**Table 7: Normalized Education Pluralism Index by Education Level, 2018**

	Primary (×100)		Secondary (×100)		Higher (×100)	
	Two providers	Three providers	Two providers	Three providers	Two providers	Three providers
<b>Regions</b>						
East Asia & Pacific	27.6	28.0	46.6	47.3	58.5	59.4
Europe & Central Asia	25.1	25.7	37.8	39.2	55.2	57.1
Latin America & Caribbean	48.8	51.6	46.4	48.4	73.2	79.7
Middle East & North Africa	28.1	28.3	26.0	26.1	46.6	46.8
North America	23.5	23.9	24.3	24.9	58.7	62.4
South Asia	70.6	73.0	75.0	79.5	74.4	78.0
Sub-Saharan Africa	36.4	54.2	49.5	56.7	56.3	58.9
<b>Income Groups</b>						
Low Income	33.8	54.5	42.2	59.4	62.7	65.2
Lower-Middle Income	59.0	61.4	72.0	75.3	60.9	63.2
Upper-Middle Income	31.7	32.3	40.6	41.2	75.0	77.3
High Income	33.9	35.2	48.9	51.5	54.0	56.6
<b>World</b>	45.4	47.4	61.5	63.3	65.6	68.1

Source: Wodon (2021b).

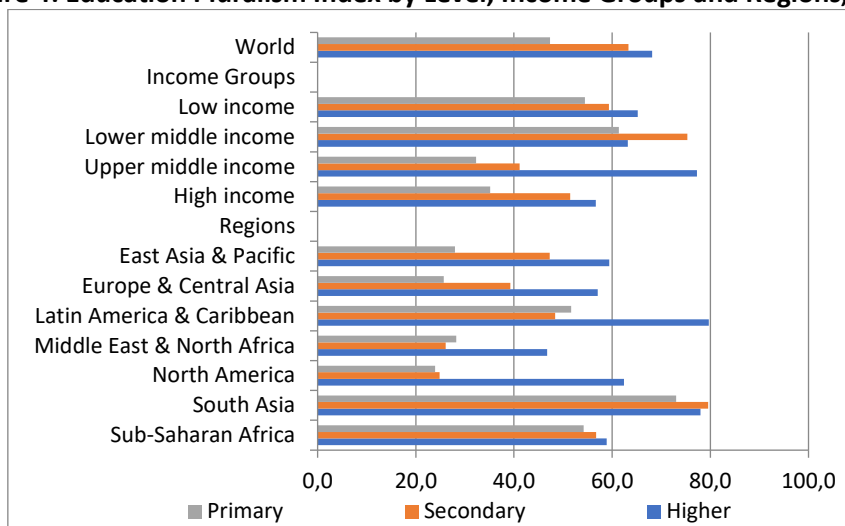
In the case of higher education, the situation is a bit different. The HHI is again low in South Asia, but it is even slightly lower in Latin America and the Caribbean. Concentration is at its lowest in upper-middle income countries as a result. While concentration was high in North America for primary and secondary education, the region has a mid-level HHI for higher education in comparison to other regions. This is in part because public higher education in the United States is not free, hence public institutions have less of a pricing advantage versus private universities. In most states, subsidies are provided by the state to students from the state who enrol in the state. But even with those subsidies, students still must pay for part of the cost of their education, and out-of-state students normally must pay the full price (unless they have a scholarship; scholarships are also frequent in private universities). At the global level, there is less concentration in higher education than in secondary education, with the highest concentration found at the primary level.

Based on the estimates of the HHI, the estimates of the normalized education pluralism index (NEPI) are provided in Table 7 and Figure 4. Recall that it is better to define a normalized education pluralism. Given that data are available for three providers (considering public, Catholic, and other private schools and universities), we have  $NEPI=1.5 \times (1-HHI)$ . The results mirror the discussion for the concentration index, but in reverse. Globally, the normalized education pluralism index is estimated at 0.474 for primary education, 0.633 for secondary education, and 0.681 for higher education. Pluralism tends to increase with the level of education being considered. It is highest for higher education where governments have a lower market share and less of a mandate to provide free education for all. Education pluralism is highest in South Asia, again in part because of a large market share of private providers in India. The only exception is a slightly higher pluralism index for higher

education in Latin America and the Caribbean. Pluralism is also comparatively high in sub-Saharan Africa and Latin America and the Caribbean for primary and secondary education. It is low at those education levels in North America and the Middle East and North Africa. In terms of income groups, NEPI is higher in lower-middle income countries (in part because of India), and lower in upper-middle-income countries (in part because of China where most schools are public schools).

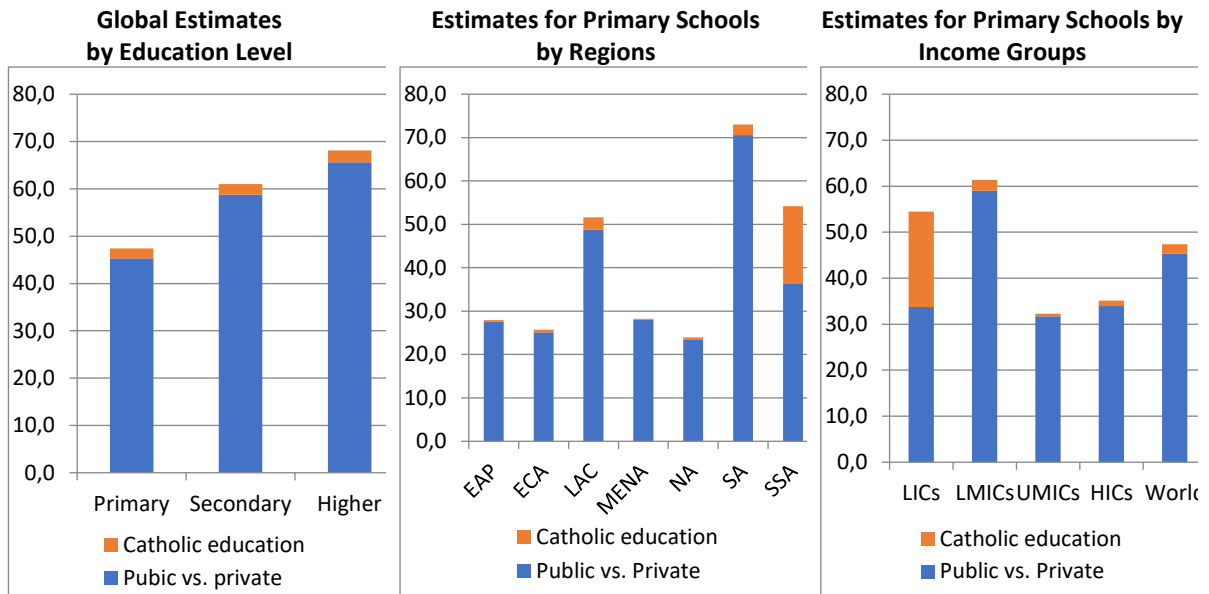
When shifting from two providers (public and private) to three (public, private non-Catholic and Catholic), education pluralism automatically increases since market shares are disaggregated. The difference in the values of the indices is implicitly as a measure of the contribution of Catholic schools to pluralism. As shown in Figure 5, Catholic education contributes to education pluralism. At the global level this contribution is relatively small because the market share of Catholic schools is also small. But in some cases, it is larger. This is especially the case for primary education in sub-Saharan Africa and in low income countries where levels of pluralism without Catholic schools would otherwise be comparatively low.

**Figure 4: Education Pluralism Index by Level, Income Groups and Regions, 2018**



Source: Wodon (2021b).

**Figure 5: Estimates of Pluralism with and without Catholic Schools, 2018**



Source: Wodon (2021b).

As is the case for any such measure, the normalized education pluralism index has limitations. Different measures could be proposed based on the literature on market concentration and sensitivity tests could be performed to assess how results change depending on the measure used. But it is hoped that its availability will help promote and inform debates on these issues. All the values of the index of education pluralism in Table 7 are normalized to take a value between zero and one.

## CONCLUSION

Priorities regarding what children should learn in school may differ substantially between parents. The extent to which this is the case may depend on the country or community being considered, but it is likely that many parents do care about education pluralism because education systems not only provide cognitive and non-cognitive skills to children or students, they also impart values. Different types of schools or universities may put a different emphasis on various aspects of the education they provide. Similarly, parents may have different priorities for what their children should learn in school, and students going to college may have different priorities as well for the experience they would like to have. These differences in priorities or preferences affect the type of school that parents may want to choose for their children, or that university students may select. Without some level of education pluralism, there may simply be no choice for parents (or students) as to where to send their children to school (where to go to college). In extreme cases, the schools or colleges/universities that are available may even promote values that conflict with those of the children's parents or those of students considering enrolment.

To make the case that priorities may indeed differ in the demand for education, two brief case studies were provided. In the United States, among a nationally representative sample of parents, the top five priorities for what their children should learn in school tend to relate to skills and success in college and in the job market. By contrast, for parents with a child in a Catholic school, moral values rank much higher. Similarly, in Ghana and Burkina Faso, many parents in Islamic schools selected spiritual goals and the betterment of society as the most important goals for the education of their children. Fewer parents at Christian did so, but they emphasized moral values. In public schools, religious and moral education came less often in answers provided by parents. Even at the university level, there are differences in the priorities of youth who select different colleges. As expected, the emphasis on faith is stronger for students in Catholic universities as well as other religious institutions.

These differences in preferences help make the case for the importance of a diversified offering in education systems, and for the idea of education pluralism. The objective of this paper was to propose a very simple measure of education pluralism to assess the extent to which various countries have managed to achieve or lack such pluralism. One approach to measuring education pluralism would consist in looking across countries at the characteristics of regulatory frameworks for education and how they balance the twin aims of school autonomy and accountability. The basic idea in this paper is different: it is to suggest that too much concentration in education systems may be detrimental to school choice and

broader educational outcomes, much in the same way that too much concentration in an industry may be detrimental to consumers or customers.

This idea leads to a measure of education pluralism based on a simple transformation of the HHI used in the literature on industrial concentration. The measure is estimated by calculating the market share of different providers of education in the same way across countries. Globally, the market share of Catholic education is estimated at 4.8 percent at the primary level, 3.2 percent at the secondary level, and 2.8 percent at the higher education level. While the market share of other private providers of education is higher, the education market is clearly dominated by public provision, but there are substantial differences between regions and country income groups. Globally, the normalized education pluralism index is estimated at 0.474 for primary education, 0.633 for secondary education, and 0.681 for higher education. Education pluralism tends to increase with the level of education being considered, especially for higher education where governments tend to have a lower market share. Education pluralism is higher in South Asia, in part because of a large market share of private providers in India. It is also relatively higher in sub-Saharan Africa for primary and secondary education. It is low at those education levels in North America and the Middle East and North Africa.

Catholic education contributes to education pluralism. This is shown by comparing estimates of pluralism when considering only two providers (public versus private) and three providers (disaggregating Catholic education). The contribution of Catholic education to pluralism is largest at the primary level, and smallest for higher education, in line with market shares at those levels. Within primary education, again in line with market shares, the contribution of Catholic schools to pluralism is largest in sub-Saharan Africa and in low income countries where without Catholic schools, pluralism would be comparatively low.

The normalized education pluralism index has limitations. Alternative measures could be proposed based on the literature on market concentration and sensitivity tests could be performed to see how alternative measures affect results. But it is hoped that the idea suggested here to measure education pluralism will help promote and inform debates on these issues. The main advantage of the measure being proposed is that it is straightforward, and that it can be estimated globally. Considering separately public, private non-Catholic, and Catholic providers represents a small advance for measuring pluralism versus simply considering public and private providers. Given that the Catholic Church is the largest non-state provider of education globally, and that some of the characteristics of Catholic schools and universities are clearly different from those of other private and public schools and universities, integrating data on

Catholic schools leads to measures of education pluralism that are slightly more precise. These measures should however not be considered as very precise given lack of comparable data across countries on the footprint of other types of education providers, including for example Protestant and Islamic schools and universities.

For some countries where the majority of the population is Muslim, the fact that we are able to disaggregate market shares among private (and sometimes public) Catholic schools may lead to a bias. This is because we are not able to disaggregate Islamic-type schools from other private schools in majority Muslim countries. For some of these countries, we may thereby have estimates of concentration that are too high, and estimates of pluralism that are too low. If comparable data on the footprint of Islamic-type schools were to become available, this could be corrected (the same reasoning applies to Protestant schools). For work done at the country level, better data are often available, so this is less of an issue (see Box 3 for an illustration for the United States).

When estimating education pluralism even with only three providers as done in this paper, one needs to be careful about nuances in particular countries. As mentioned earlier, not all Catholic schools are private schools. In particular, in several African countries where the footprint of Catholic schools is large, most of the schools are public schools. This makes a difference when estimating education pluralism. It matters for issues related to autonomy and accountability. And it may also matter for student performance. As just one example, national student assessments from Uganda suggest low levels of proficiency for students in primary and secondary schools. This is confirmed by data for primary schools from the 2013 Service Delivery Indicators survey. A unique feature of the data is that comparisons can be made not only between public and private schools, but also between Catholic and non-Catholic schools, with most of the Catholic schools being public schools. The nature of the school seems to have an effect on student performance. After controlling for a wide range of explanatory factors, students in private schools, Catholic or not, tend to perform better than those in public schools, Catholic or not. By contrast, differences between Catholic and non-Catholic schools within all public or all private schools may matter less for performance<sup>51</sup>.

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<sup>51</sup> Wodon and Tsimpo (2021).

### **Box 3: Country Estimates of Education Pluralism with Disaggregated Data: The United States**

Because of data limitations, the global analysis for this paper considers only three types of schools for the estimation of education pluralism: public schools, private non-Catholic schools, and Catholic schools. When applying the methodology to country data, analysis can be much more disaggregated. The results may not change dramatically if the public sector has a quasi-monopoly and other providers are all small (since the index is based on the squared value of market shares), but when this is not the case, considering more providers can make a difference in the estimates.

As an illustration, consider the case of the United States where data are available from the National Center on Education Statistics on enrolment over time in many different types of schools. At an aggregate level, five groups of schools are considered: public, religious, special emphasis, other school associations or organizations, and none (all other schools). At a disaggregated level, as shown below, about 40 different providers are identified depending on the year. While the estimates of education pluralism is by definition higher (the HHI index is lower) when considering more types of schools, the overall trend and the actual estimates may not change very much if most of the additional types of schools identified have only a small share of the students enrolled.

When considering only the five aggregate categories, the HHI for the United States increases from 0.821 in 2001-02 to 0.847 in 2009-10 and 0.849 in 2017-18. When the full disaggregation is used with the categories mentioned below, the HHI increases from 0.819 to 0.846 and 0.848 for the three years. With five categories, the NEPI decreases from 0.223 to 0.191 and 0.189. With the full set of categories, the decrease is from 0.186 in 2001-02 to 0.158 in 2009-10 and 0.156 in 2017-18<sup>52</sup>. In this particular illustration, the trends are the same whether few or many different categories are used, and the level of the estimates does not change very much either, even though there are some differences. What matters when implementing the approach is to remain consistent over time (or across countries).

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<sup>52</sup> See Wodon (2021c).



The more traditional approaches to assessing conditions for pluralism on the basis of laws and regulatory frameworks remain essential since they deal directly with policy and programs. These approaches can be very informative and are action-oriented. In this regard, advocating for education pluralism does not mean that all schools or universities can simply do whatever they want. Private schools and universities should benefit from some autonomy, but they should also be held accountable, as should be public institutions. Faith-based schools in particular should teach core secular topics that all students should learn, for example to achieve basic literacy and numeracy in the early grades. But they should also have the freedom within reasonable bounds to develop their own specific pedagogical practices and they may cover additional topics in the instruction they provide, including religious instruction. In so doing, they should themselves respect pluralism within the school (or university), especially when they benefit from state support.

This last point is crucial. Indeed, while this is not the focus of this paper, education pluralism does not only refer to the fact that different types of schools and universities should be able to operate with some level of autonomy, but also to the fact that schools and universities should respect pluralism in their own midst. Many networks of faith-based schools have already some practice in doing so. In Catholic schools and universities in particular, a large share of students are traditionally non-Catholic, and their own particular faith, or lack of faith, must be fully respected.

This leads to one last comment. The measure of education pluralism proposed in this paper is admittedly crude. To provide a measure that can be estimated for all countries in a context of severe data limitations, the measure only scratches the surface of what pluralism is really about, so to speak. Looking at market shares is simply a quick way to assess the availability (and use) of schooling options for parents and students. There are deeper and indeed more important aspects of pluralism that should be at the core of our discussions, even if they would be hard to measure across all countries of the world.

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## Paper 3:

### Education Pluralism and the Fulfilment of the Right to Education:

#### Suggestions for Measurement

##### 1. Introduction

There is today widespread consensus on the importance of ensuring that all children and youth benefit from a good education. Multiple targets have been set under the fourth Sustainable Development Goal (SDG4) to try to capture some of the main improvements that are needed to achieve the goal, i.e. to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Beyond the value that a good education has in and by itself, achieving the education targets set under SDG4 is also essential for the other SDGs (see the Annex to this paper).

Yet despite broad consensus in the international community on the importance of education, we are still very far away from achieving the SDG4 targets. A few simple statistics suffice to illustrate this point. Even before the onset of the COVID-19 crisis, 258 million children remained out of school<sup>53</sup> and more than half of all children age 10 were considered learning poor, which means that they were not able to read and understand a simple text by age 10. In sub-Saharan Africa, the proportion of children who are learning poor was well above eight in 10 before the pandemic<sup>54</sup>. The situation is likely to have worsened considerably over the last year with many children dropping out of school and many more not learning due to school closures. Learning poverty may have increased by ten percentage points in low and middle income countries. The consequences of the COVID-19 pandemic for educational attainment and learning are major and discussed in a separate background paper for the Global Education Monitoring report. In this paper, building on the measure of education pluralism suggested in paper two in this study and background work<sup>55</sup>, the objective is to consider the extent to which even before the pandemic, the right the education was being fulfilled at various levels of education.

How should we assess whether the right to education is being fulfilled? As was the case with the measurement of education pluralism, there is no unique way to answering this question. But our aim in this paper is to suggest a way to take seriously the provisions of Article 26 of the Universal

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<sup>53</sup> UNESCO Institute of Statistics (2019). The estimate is for 2018. It includes 59 million children of primary school age, 62 million of lower secondary school age and 138 million of upper secondary age. See more generally UNESCO (2020) on the issue of inclusion.

<sup>54</sup> World Bank (2019, 2020).

<sup>55</sup> See Wodon (2021a).

Declaration of Human Rights (UDHR). This article includes not one, but three provisions: “(1) *Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages [...].* (2) *Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms [...].* (3) *Parents have a prior right to choose the kind of education that shall be given to their children.*” The third provision relates to the right of parents to choose the type of education that their children should receive (within reasonable bounds). This right has been recognized in other international human rights instruments as well, including the International Covenant on Economic, Social and Cultural Rights<sup>56</sup> As for the Convention on the Rights of the Child, Article 29 states the importance of respect for the child's parents, as well as his or her own cultural identity, language and values<sup>57</sup>.

In order to assess the fulfilment of the right to education, one approach consists in looking across countries at laws and policies related to education and assessing the extent to which they guarantee the right to education. Various organizations have used this approach for diagnostic work, typically with the aim to be able to suggest policies or reforms that would enhance the fulfilment of the right. A few examples of this approach can be provided.

UNESCO maintains a database or observatory on the right to education<sup>58</sup>. The observatory consists of country profiles with detailed information the ratification of normative instruments and monitoring status of the right to education, including national reports, constitutional and legal frameworks, and education policies of the selected country. The observatory also includes a library with about 1,000 documents such as Member States' constitutions, laws, decrees as well as educational programs and plans with several tools to facilitate searches. The database is however not used (to our knowledge) to produce an indicator of the fulfilment of the right to education across countries.

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<sup>56</sup> Article 13 of the International Covenant on Economic, Social and Cultural Rights states that “*The States Parties to the present Covenant undertake to have respect for the liberty of parents and, when applicable, legal guardians to choose for their children schools, other than those established by the public authorities, which conform to such minimum educational standards as may be laid down or approved by the State and to ensure the religious and moral education of their children in conformity with their own convictions.*”

<sup>57</sup> Article 29 of the Convention on the Rights of the Child states that: “*States Parties agree that the education of the child shall be directed to: (a) The development of the child's personality, talents and mental and physical abilities to their fullest potential; (b) The development of respect for human rights and fundamental freedoms, and for the principles enshrined in the Charter of the United Nations; (c) The development of respect for the child's parents, his or her own cultural identity, language and values, for the national values of the country in which the child is living, the country from which he or she may originate, and for civilizations different from his or her own; (d) The preparation of the child for responsible life in a free society, in the spirit of understanding, peace, tolerance, equality of sexes, and friendship among all peoples, ethnic, national and religious groups and persons of indigenous origin; (e) The development of respect for the natural environment.*”

<sup>58</sup> See <http://www.unesco.org/education/edurights/>.

UNESCO also recently published guidelines to strengthen the right to education in national frameworks<sup>59</sup>. The guidelines can be used to assess how compatible national education legal and policy frameworks are with international standards and SDG 4 commitments. The guidelines briefly state that private actors have a role to play, particularly for the moral and religious education of children, but that private actors must also conform to minimum standards, recognizing the primary responsibility of the State to provide public education. They also mention risks when private actors do not respect such standards. They include a range of useful checklists and forms, but do not suggest any particular way to measure the fulfilment of the right for education that would account for pluralism.

The Right to Education Initiative (RTE)<sup>60</sup> was established in 2000 by the first UN Special Rapporteur on the right to education and re-launched in 2008 as the Right to Education Project, a collaborative initiative supported by several NGOs. It is now a charity registered in England and Wales. RTE conducts research and legal analysis to help enforce the right to education. RTE's website provides a range of useful resources to monitor the right to education, but no single suggested measure across countries of its fulfilment.

Another initiative is that of the Right to Education Index<sup>61</sup> (RTEI) managed by Results, a non-profit in the United States. The index is based on a survey with 79 questions and 365 data points, including sections on governance, availability, accessibility, acceptability, and adaptability. The survey helps in collecting data on a wide range of aspects related to the right to education, but this may lead to two potential issues. The first is that the index has a complex formula because it is based on many variables<sup>62</sup>. The more variables are included in an index, the more the issue of weights comes to the fore, and the less easily interpretable the index becomes for policy makers. The second issue may be related to the first. Perhaps because of data intensity, the latest round of data for 2018 covers only 10 countries. The index can therefore not be used for global cross-country comparisons to be updated regularly.

Still another initiative is that of OIDEL<sup>63</sup> a non-profit organization which produced in 2016 a report with an index measuring freedom of education based on four indicators: (1) whether there is a legal possibility to create and manage non-governmental schools ( $I_1$ ); (2) whether public funding for nongovernmental schools exists, and if so, what costs are subsidized by the State ( $I_2$ ); (3) the net enrolment rate in primary education ( $I_3$ ); and (4) the enrolment rate in non-governmental schools as

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<sup>59</sup> UNESCO (2021).

<sup>60</sup> See <https://www.right-to-education.org/>.

<sup>61</sup> See <https://www.rtei.org/en/>.

<sup>62</sup> RESULTS Educational Fund (2016).

<sup>63</sup> OIDEL (2016).



a percentage of total enrolment in primary education ( $I_2$ ). The Freedom of Education Index (FEI) is computed as  $FEI = [I_1 + I_2[1 + (I_4)] + I_3] / 3.94$ . The number of countries covered is large and the formula is easy to understand. However, the analytical rationale for the formula could be debated.

The index combines data on legal frameworks with data on education outcomes (as does the RTEI measure mentioned above). It is therefore neither a measure of outcomes, nor a measure of policies that could be conducive to specific outcomes. The educational outcome included is the primary enrolment rate, which does not account for completion, which is more important than enrolment, nor learning. It should be emphasized however that when the FEI index was proposed, global measures of learning outcomes were not yet available from the World Bank. The weighting of the four components is fixed, with some components entering additively while others do so multiplicatively but without sufficient intuition as to why. Finally, there is a rationale for the normalization by 3.94, but it may be problematic within a pluralism approach<sup>64</sup>. This rapid critique is meant with a lot of sympathy for OIDEL's effort to suggest a simple measure of freedom of education based on what data were then available for many countries.

The fact that there is no commonly agreed measure on the fulfilment of the right to education points to the difficulty of proposing such a measure. Any measure, including the set of three measures proposed in this paper, is likely to have both weaknesses and strengths. With the aim to promote discussions on this topic, and acknowledging the limits of the exercise, this paper suggests measures of the fulfilment of the right to education that combine data on educational outcomes and measures of education pluralism which are discussed in the second paper in this study.

The proposed measures are estimated respectively at the primary, secondary, and tertiary levels. They have the same logic and structure, but there is an option to use different types of data for primary level estimations than for secondary and tertiary education. This option relates to new estimates of learning outcomes recently made available by the World Bank. In what follows, data on learning outcomes are first discussed and compared with traditional indicators of educational attainment such as completion rates. Next, the approach to measuring the fulfilment of the right to education is outlined. Finally, that approach is applied at the primary, secondary, and tertiary levels. A brief conclusion follows.

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<sup>64</sup> The normalization is based on data from a country considered an 'ideal state' because it has the highest value for the index due in part to very high enrolment in private schools as a share of total enrolment in primary education. Yet this is not necessarily a mark of pluralism. When any particular type of school dominates, education pluralism may be reduced.

## 2. Learning Outcomes

Schooling is not necessarily learning. This was the main message of the World Development Report on the learning crisis<sup>65</sup>. When assessing the performance of education system, we should aim – to the extent feasible, to account for learning as opposed to just schooling. Building on the analysis in the World Development Report, the World Bank recently made available two new measures of learning outcomes: learning poverty and the learning-adjusted years of schooling. Both are briefly discussed as these measures can be used to assess the fulfilment of the right to education instead of relying on more traditional measures of educational attainment.

### *Learning Poverty*

A child is considered to be affected by learning poverty if s/he cannot read and understand an age-appropriate text by age 10<sup>66</sup>. The measurement of learning poverty is based on two main data sources. The first is a large set of international student assessments that have been normalized to be comparable and provide information on the share of children aged 10 who are in school are able to read and understand a simple text. The second is the share of students of that age who are out of school, and therefore assumed to be learning poor. By combining both sources of data, estimates of learning poverty can be provided at the national level. As shown in Table 1 and Figure 1, globally, almost half of all children were learning poor before the COVID-19 crisis. In sub-Saharan Africa and low income countries, learning poverty was much higher, with close to nine in ten children not able to read and understand a simple text by age 10.

Table 1 and Figure 1 suggest major differences between measures of learning poverty and traditional measures of educational attainment such as the primary completion rate. The share of 10 year old children who are considered learning poor is much higher than the share of children not completing their primary education a few years later. In Latin America for example, only 1.7 percent of children do not complete their primary education, but more than half of 10 year olds are learning poor. Several explanations may explain those discrepancies. The first is the age difference. Children may do poorly in the early grades, so that they are learning poor at age 10, but some may catch up in the following years to complete their primary education, which in principle would ensure that they are literate. Another explanation is that the standards for completing primary education may be low, with many children graduating without achieving literacy. A third explanation could be that the standard for identifying learning poverty may be too high versus what one might require. Whatever the appropriate explanation (it may be a combination of all three), this will have implications later in

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<sup>65</sup> World Bank (2018).

<sup>66</sup> World Bank (2019).

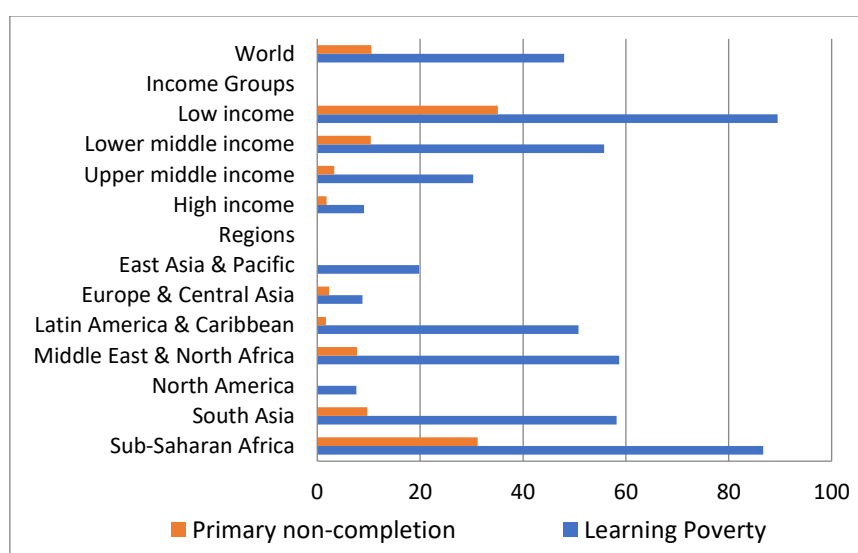
this paper for how we define the fulfilment of the right to education in terms of consistency between estimates at the primary, secondary, and tertiary levels.

**Table 1: Estimates of Learning Poverty and Non-completion Rates for Primary Education by Region and Income Group, Pre-COVID (%)**

	Learning poverty	Primary completion	Non-completion
<b>Regions</b>			
East Asia & Pacific	19.8	99.9	0.1
Europe & Central Asia	8.8	97.7	2.3
Latin America & Caribbean	50.8	98.3	1.7
Middle East & North Africa	58.7	92.3	7.7
North America	7.6	99.9	0.1
South Asia	58.2	90.3	9.7
Sub-Saharan Africa	86.7	68.8	31.2
<b>Income levels</b>			
Low Income Countries	89.5	64.9	35.1
Lower-Middle Income Countries	55.8	89.6	10.4
Upper-Middle Income Countries	30.3	96.7	3.3
High Income Countries	9.1	98.2	1.8
<b>World</b>	<b>48.0</b>	<b>89.5</b>	<b>10.5</b>
<b>Low &amp; Middle Income Countries</b>	<b>52.7</b>	<b>88.5</b>	<b>11.5</b>

Source: World Bank Development Indicators and Azevedo (2020).

**Figure 1: Estimates of Learning Poverty and Non-Completion Rates for Primary Education by Region and Income Group, Pre-COVID (%)**



Source: World Bank Development Indicators and Azevedo (2020).

Ending learning poverty would not enable countries to achieve the targets set under the fourth sustainable development goal. Yet even ending learning poverty would be a difficult target to achieve by 2030. In fact, to motivate global action to improve educational outcomes, the World Bank

adopted in partnership with UN agencies adopted a target of reducing learning poverty in half by 2030, which would require doubling the pace of improvement versus recent gains<sup>67</sup>.

Development targets are most useful when they not only are ambitious, but also SMART (Specific, Measurable, Achievable, Relevant and Time-based)<sup>68</sup>. In term of achievability, the learning poverty target fits the bill more than the targets set forth in the SDGs, which are more aspirational. The targets under SDG4 still remain the reference for assessing country progress, but to motivate government action on specific bottlenecks that prevent children from learning and thereby also staying in school, there is also value in a new measure such as that of learning poverty.

The pandemic may have increased the learning poverty rate by up to 10 percentage points in low and middle income countries under a pessimistic scenario, leading 72 million children to become learning-poor<sup>69</sup>. By 2030, the effect of the current crisis should be lower<sup>70</sup> but this is no consolation for the children affected today, with clear risks of lifelong negative impacts.

### *Learning-adjusted Years of Schooling*

A second interesting measure recently introduced by the World Bank is that of the learning-adjusted years of schooling. Even before the pandemic, many education systems were confronted with a major learning crisis<sup>71</sup> apart from the fact that 258 million children of primary and secondary school age were out of school<sup>72</sup>. One way to reflect this crisis is to rely on estimates of learning poverty. Another way is to compute the expected years of schooling that a child is expected to complete, but factoring in losses due to insufficient of learning while in school.

Figure 2 provides a scatter plot for 173 countries with on the horizontal axis the average number of years of schooling that children in the various countries are expected to complete, and on the vertical axis the learning-adjusted years of schooling once the typical learning performance of students as measured by international learning assessments is accounted for. The data are from the 2020 release of the Human Capital Index database. To measure the expected learning-adjusted years of schooling across countries, the analysis is again based on the performance of students in a range of international student assessments which generates an indicator referred to as the harmonized learning outcomes.

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<sup>67</sup> World Bank (2019).

<sup>68</sup> Christiaensen et al. (2002).

<sup>69</sup> Azevedo (2020).

<sup>70</sup> Learning poverty is estimated among 10 year-old children. Children who will be 10 years old in 2030 were born in 2020 and may not have been affected substantially by the crisis.

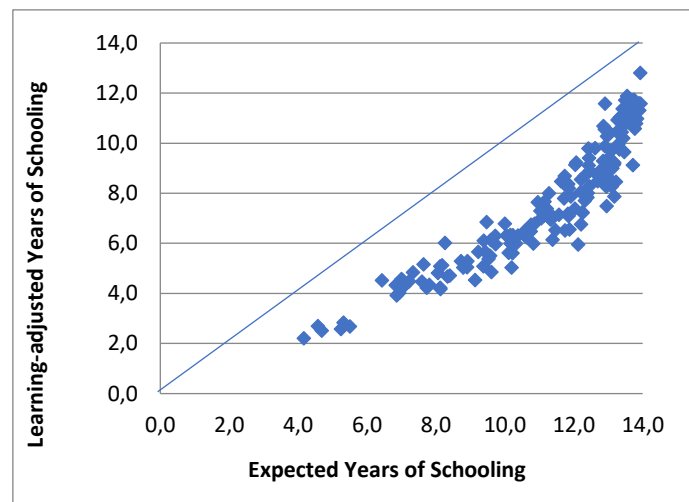
<sup>71</sup> World Bank (2018, 2019).

<sup>72</sup> UNESCO Institute of Statistics (2019).

In Figure 2, the gap between learning-adjusted years of schooling and expected years of schooling is shown by the distance between the observations on the scatter plot and the diagonal. In all countries, the learning-adjusted measure is below the expected years of schooling measure due to the fact that some children are not learning in school at the level required for proficiency given the grade in which they are enrolled (as measured through international student assessments).

Globally, weighting equally all countries for which data are available, according to the 2020 release of the data, children are expected to complete 11.3 years of schooling on average. Yet because learning performance is often low, this is only valued at 7.1 years of schooling under the harmonized learning outcome measure. In other words, on average across countries, more than a third (37.2 percent) of the years of schooling that children complete are essentially ‘lost’ due to lack of sufficient learning in school (since  $7.1/11.3=0.628$ ).

**Figure 2: International Comparison of Learning-adjusted Years of Schooling, 2020**



Source: World Bank Human Capital Index 2020 data.

### *Choosing a Measure for the Right to Education*

Both measures of learning outcomes (learning poverty and the learning-adjusted years of schooling) are useful in that they combine information on enrolment or attainment, and learning. If achieving the right to education simply meant being literate by age 10, then the learning poverty measure might be the better anchor for assessing the fulfilment of that right. If children are not literate by age 10, many are likely to not become literate later unless they have the opportunity to participate in second chance or remedial programs.

Yet expectations of the fulfilment of the right to education go beyond well beyond literacy, as implicitly outlined in the targets adopted for the fourth Sustainable Development Goal. For that reason, the measure of the learning-adjusted years of schooling may seem more appropriate to

anchor the concept of the right to education in terms of empirical measurement, since it acknowledges the need to go beyond primary education and literacy. Indeed, even higher education is factored into that measure.

The issue though with the learning-adjusted years of schooling measure is that it is an average, as opposed to a share, which is problematic when discussing whether a right is being fulfilled or not for all. If many children do very well in terms of educational attainment and learning, this leads to a higher (average or expected) estimate for the learning-adjusted years of schooling, but it may mask the fact that some children and youth are left behind. For those children and youth, the right to education may not be fulfilled. Therefore, between the two learning outcome measures, learning poverty may be more appropriate to anchor the measurement of the fulfilment of the right to education at least for primary education, as will be discussed below, even though one should not necessarily discount primary completion.

### **3. Measurement Approach**

If the performance of countries in fulfilling the right to education were to be measured solely on the basis of educational attainment and learning, then the two above measures recently suggested by the World Bank could be candidates for assessing the extent to which countries are succeeding in fulfilling that right. Both measures are available for a large number of countries and they factor in learning as opposed to relying solely on attainment. But the right to education as defined in the Universal Declaration of Human Rights also includes a provision related to parental choice for the type of education their children receive.

In the second paper in this study, we suggest a new measure of education pluralism based on a simple transformation of the Herfindahl-Hirschman index used in the literature on industrial concentration. The measure is estimated by calculating the market share of different providers of education in the same way across countries. Denote the market share of a specific type of education provider  $i$  in an education system as  $s_i$ . In other words,  $s_i$  is the share of students enrolled (at a given level of schooling) in type of school  $i$ . The Herfindahl-Hirschman index HHI is simply defined as  $HHI = \sum_{i=1}^N s_i^2$  with  $N$  being the number of different types of schools operating in the education system. The index ranges from  $1/N$  when all types of schools have the same market share to a maximum value of one when all students go only to a single type of school. The HHI takes a value between  $1/N$  and 1 when the index estimated with data on  $N$  providers. Hence in the literature, a normalized HHI taking a value between zero and one is also used with  $NHHI = (HHI - 1/N) / (1 - (1/N))$ . The idea for the measurement of education pluralism is to define similarly a normalized education pluralism index as

$NEPI=(1-HHI)/(1-1/N)$ , so that that the index takes values between zero and one. The normalized education pluralism index is therefore defined as  $NEPI=(1-HHI)/(1-1/N)$ . The *NEPI* index takes on a value between zero and one and a higher value denotes more pluralism<sup>73</sup>.

How could this measure of education pluralism be combined with measures of educational outcomes to suggest one or more measures of the fulfilment of the right to education? The idea in this paper is to account for pluralism while still anchoring measures of the fulfilment of the right to education in data on whether education systems succeed in their primary mission, which is to ensure learning. There is again no unique approach to doing this, but it may be useful to make a proposal as a first step. When combining different measures into an aggregate index, it is common practice to rely on weights. Multiplicative structures with exponential weights tend to be attractive because of their versatility. For example, the Human Development Index (HDI) published by the United Nations Development Programme is the geometric mean of three normalized indices pertaining to life expectancy (LEI), education (EI), and income (II), so that  $HDI=LEI^\alpha \times EI^\alpha \times II^\alpha$ , with  $\alpha = 1/3$ , so that all three components of the index are granted the same weight<sup>74</sup>. If different weights were to be assigned to the different components of the index, we would have a formula of the type  $HDI=LEI^\alpha \times EI^\beta \times II^\gamma$  typically with  $\alpha+\beta+\gamma=1$ . The issue of what weights to apply to each component is always complicated, but having weights at least allows for some flexibility in weighting.

Similarly, to measure the fulfilment of the right to education taking into account educational outcome (denoted by EO) as well as the normalized education pluralism measure *NEPI* introduced in the second paper for this study, we could define an index in the form of a 'production function' such as  $EO^\alpha \times NEPI^\beta$  with  $\alpha+\beta=1$ <sup>75</sup>. This would suggest that both traditionally measured educational outcomes and pluralism are needed as inputs for the production of the right to education. With such a specification, we would conjecture that  $\alpha>\beta$  to place more emphasis on educational outcomes than on pluralism.

The issue with this specification is that it can lead to counter-intuitive results. In education systems with low levels for educational outcomes poverty (for example, a high level for learning poverty), the estimate of the right to education could increase when the weight placed on education pluralism increases, even when education pluralism does not take a high value. Another issue is that beyond a certain level of pluralism, there may be no real gain in having a higher value of the index. To illustrate why this may be the case, consider the case of faith-based schools. One would hope that

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<sup>73</sup> Wodon (2021b).

<sup>74</sup> This is the formula used since 2010. A different formula was used before. UNDP also publishes other measures including an inequality-adjusted HDI.

<sup>75</sup> In the economics literature, this particular specification is known as a Cobb-Douglas function. When  $\alpha+\beta=1$ , the production function exhibits constant returns to scale, but this can be relaxed.

parents have the ability to send their children to a faith-based school if they so desire. But if for any particular faith the share of the population that adheres to that faith is low, one might not expect a large market share for schools affiliated with that faith (unless adherents of other faiths also appreciate the schools, as is often the case for Catholic schools). Yet the normalized education pluralism index takes a value of one only when all  $N$  providers have equal market shares. This may not be reasonable in the context of different types of schools. There are various ways to deal with this issue. But one simple approach which does not require complex data on faith affiliations and other potential drivers of parental preferences at the country level consists in defining a threshold  $z$  above which a higher value for NEPI is not beneficial.

Based on the above discussion, a general formula for assessing the fulfilment of the right to education could be of the form  $EO \times (\min\{1, NEPI/z\})^\alpha$  with  $0 \leq \alpha \leq 1$  and with  $0 < z \leq 1$ . The weight placed on the need to achieve a particular educational outcome is equal to one. By contrast, the weight placed on education pluralism can be lower. In addition, there may be a threshold beyond which a higher NEPI value does not bring additional benefits. What could be that threshold  $z$ ? The choice of the threshold may depend on the type of analysis being considered. But for country-level work, if the emphasis is on diversity in education to account for differences in student or parental preferences by faith affiliation (with the number of faith affiliations  $N_f$  being potentially large), a potentially benchmark could be  $z = (1 - HHI_f) / (1 - 1/N_f)$ , where  $HHI_f$  is the HHI index based on the 'market shares' of each faith affiliation. If data were available instead on parental priorities for what should be learned in school, then the threshold  $z$  could be defined in a similar way taking into account directly the shares of parents or student with different priorities as opposed to faith affiliations, although what priorities to specifically account for may be problematic. In what follows, we do not specify a specific value for  $z$ , but rather apply the general approach (with  $z=1$  for simplicity) to primary, and then to secondary and tertiary education.

#### 4. The Right to Education Primary Index

Which educational outcome should be chosen for the assessment of the fulfilment of the right to education at the primary level? There is a broad consensus despite limitations, learning poverty is a better measure than simply enrolment or even completion rates for primary education. Therefore, at the primary level, we could define  $EO_p = 1 - LP$ , so that the right to education primary index<sup>76</sup> is defined as  $REPI = (1 - LP) \times (\min\{1, NEPI_p/z_p\})^{\alpha_p}$  with  $0 \leq \alpha_p \leq 1$  and  $0 < z_p \leq 1$ . Since the focus is on primary education,

<sup>76</sup> In a Cobb-Douglas framework, the definition implies increasing returns to scale, although not necessarily by a lot since the suggestion is to rely on low values for  $\alpha$ .



we should rely on values of NEPI for primary education, denoted as  $NEPI_p$ . The use of the subscript P for the parameters  $\alpha_p$  and  $z_p$  denotes the fact that these parameters apply to primary education (different values could be chosen for secondary and tertiary education).

For perfect fulfilment of the right to education at the primary level to be achieved ( $REPI=1$ ), the measure requires learning poverty to be eliminated and a sufficient level of pluralism to be achieved, but the weight placed on pluralism and the threshold at which pluralism is considered sufficient are flexible. Note that requiring the elimination of learning poverty is more stringent than requiring that all children complete their primary education, as mentioned when comparing both measures.

**Box 1: The Right to Education Primary Index**

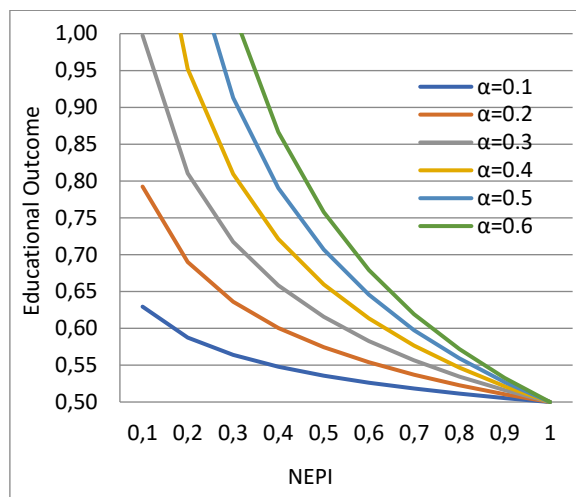
Denote learning poverty by LP, the estimate of the normalized education pluralism index at the primary level by  $NEPI_p$ , and a threshold above which more education pluralism may not bring substantial benefits anymore at the primary level by  $z_p$  with  $0 < z_p \leq 1$ . The right to education primary index is defined as  $REPI_p = (1-LP) \times (\min\{1, NEPI_p/z_p\})^{\alpha_p}$  with  $0 \leq \alpha_p \leq 1$ <sup>77</sup>. The index takes a value between zero and one. A higher value suggests higher fulfilment of the right to education at the primary level. Changes in the parameter  $\alpha_p$  reflect more or less emphasis placed on pluralism. When  $\alpha_p=0$ , pluralism is not valued and  $REPI=1-LP$ , so we only care about ending learning poverty. When  $\alpha_p=1$ , we care as much about pluralism as we do about ending learning poverty. Finally, above a certain threshold  $z_p$ , a higher value of  $NEPI_p$  is not beneficial. If  $z_p=1$ , then that threshold plays no role. If  $z_p$  takes a low value (it must however be positive), then a lower level of pluralism may be considered as ‘good enough’. In applications, it makes sense to choose a value for  $\alpha_p$  that is small given the implicit trade-offs this value denotes between reducing learning poverty and increasing pluralism to fulfil the right.

To choose a value for  $\alpha_p$ , it is useful to keep in mind that this value sets an implicit trade-off between reducing learning poverty and increasing pluralism in order to increase the degree of fulfilment of the right to education at the primary level. This is illustrated in Figure 3 using a value for the pluralism threshold  $z_p=1$ . Note that the Figure is valid at any level (primary, secondary, or tertiary), hence the subscript “P” for primary is omitted in the Figure. Each curve shows the combination of values for NEPI and the educational outcome that generate a value of REPI of 0.5 for various values of  $\alpha$  from 0.1 to 0.6. When a higher weight is placed on education pluralism, to compensate for a

<sup>77</sup> Wodon (2021a).

reduction in education pluralism, a larger reduction in learning poverty is needed to achieve the same fulfilment of the right to education at the primary level.

**Figure 3: Combination of Values for EO and NEPI and that generate REPI=0.5**



Source: Wodon (2021c).

For example, with  $\alpha=0.1$ , if pluralism were to drop by 10 percentage points from 0.6 to 0.5, the educational outcome would need to be increased by one percentage point to keep REPI at a value of 0.5. However, with  $\alpha=0.6$ , if pluralism were to drop by 10 points from 0.6 to 0.5, the educational outcome would need to be increased by a much larger 12 points to keep REPI at a value of 0.5, which may seem as too much of a weight on pluralism. Given this implicit trade-off, it is suggested to keep the value of  $\alpha$  relatively low.

Is the bar for the fulfilment of the right to education at the primary level too low by focusing only on basic literacy (i.e., avoiding learning poverty) while primary education is clearly meant to achieve more than literacy? It might be tempting to use instead the primary completion rate as the educational outcome at that level. Yet in many countries, the primary completion rate is higher than the share of children not in learning poverty. This is in part because of age differences (learning poverty is measured among 10 year old, while children complete primary education at age 12 or later). But it is also due to the fact that in many countries, quite a few children may complete the primary cycle without being literate. Relying on the learning poverty metrics at the primary level leads under current conditions to a more stringent measure for assessing the fulfilment of the right to education at the primary level than relying on primary completion rates.

To what extent does accounting for education pluralism affect the measures of the fulfilment of the right to education at the primary level? Illustrative estimates are provided in Table 2 with a few

values of  $\alpha$  (using  $z_p=1$  for the illustration). Again, the estimates with  $\alpha_p=0$  are simply equal to one minus the learning poverty rates since no weight is placed on pluralism. When the weight allocated to education pluralism increases, the overall estimate of the fulfilment of the right to education at the primary level tends to decrease, in some cases substantially. This represents the loss in achieving the right to education due to a lack of education pluralism.

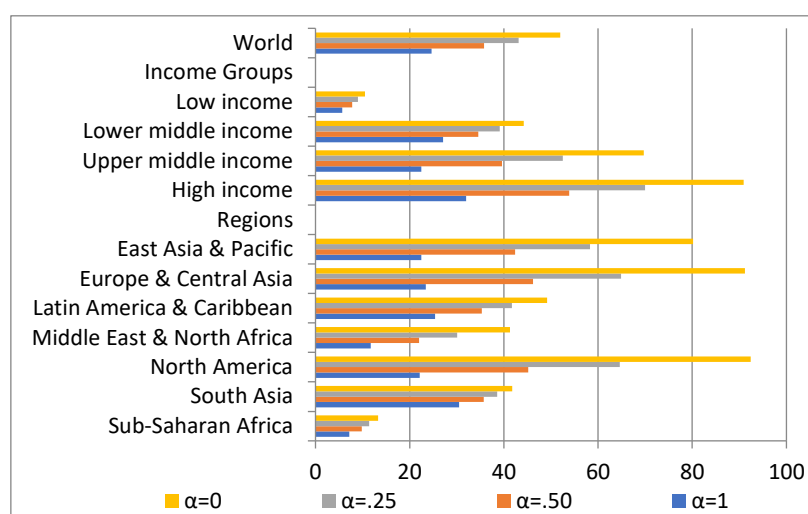
These simple simulations suggest that taking education pluralism into account can make a difference when measuring the fulfilment of the right to education. This is for example the case for North America mostly due to the low level of education pluralism in the United States. When no weight is placed on pluralism ( $\alpha_p=0$ ), the value of REPI is at 0.924 in North America. This falls to 0.646 with  $\alpha_p=0.25$ . Again, the recommendation is to use relatively low values for  $\alpha_p$ . But even with  $\alpha_p=0.1$ , the value of REPI for North America falls to 0.801. We do not specify what weight should be placed on pluralism in this paper, and some may argue that even  $\alpha_p=0.1$  may be too high a weight. Simply, the approach helps in drawing attention to the fact that if pluralism is indeed valued, this can make a difference in assessments of the fulfilment of the right to education.

**Table 2: Estimates of the Right to Education Primary Index by Income Groups and Regions, 2018**

	NEPI <sub>p</sub> (×100)	LP (×100)	REPI (×100) with $z_p=1$			
			$\alpha_p=0$	$\alpha_p=.25$	$\alpha_p=.50$	$\alpha_p=1$
<b>Regions</b>						
East Asia & Pacific	28.0	19.8	80.2	58.3	42.4	22.5
Europe & Central Asia	25.7	8.8	91.2	64.9	46.2	23.4
Latin America & Caribbean	51.6	50.8	49.2	41.7	35.3	25.4
Middle East & North Africa	28.3	58.7	41.3	30.1	22.0	11.7
North America	23.9	7.6	92.4	64.6	45.2	22.1
South Asia	73.0	58.2	41.8	38.6	35.7	30.5
Sub-Saharan Africa	54.2	86.7	13.3	11.4	9.8	7.2
<b>Income levels</b>						
Low Income Countries	54.5	89.5	10.5	9.0	7.8	5.7
Lower-Middle Income Countries	61.4	55.8	44.2	39.1	34.6	27.1
Upper-Middle Income Countries	32.3	30.3	69.7	52.5	39.6	22.5
High Income Countries	35.2	9.1	90.9	70.0	53.9	32.0
<b>World</b>	47.4	48.0	52.0	43.1	35.8	24.6

Source: Wodon (2021a).

**Figure 4: Estimates of the Right to Education Primary Index by Income Groups and Regions, 2018**



Source: Wodon (2021a, 2021c).

#### 4. Secondary and Tertiary Indices

The same approach can be used at the secondary and tertiary levels, yielding the right to education secondary and tertiary indices. The terminology refers to the levels of education being considered but may also convey an order of importance: fulfilling the right to education at the primary level is the most urgent task. Which educational outcomes EO should be used for the secondary and tertiary levels in the general formula  $EO \times (\min\{1, NEPI/z\})^\alpha$ ? It would be nice to be able to rely on data similar to those available for learning poverty at the secondary and tertiary level, but those are not readily available for most countries. Data on learning outcomes in secondary school are available from PISA, TIMSS and PIRLS among others, but most participating countries are upper-middle or high income, and the metrics have not (yet) been transformed into an equivalent of the learning poverty metrics. In the absence of metrics for learning poverty at the secondary level equivalent to the learning poverty rate for primary education, an alternative is to rely on completion rates which are better for measuring progress than enrolment rates. Unfortunately, data on upper secondary completion rates are not available across countries. The only completion rate available beyond primary education is for lower secondary education. For tertiary education, we need to rely on the gross enrolment rates.

Therefore, denoting by LSC the lower secondary completion rate, we suggest to define the right to education secondary index as  $RESI = LSC \times (\min\{1, NEPI_s/z_s\})^{\alpha_s}$  with  $0 \leq \alpha_s \leq 1$  and  $0 < z_s \leq 1$ . A different educational outcome at the secondary level could be used when it becomes broadly available. As for REPI, RESI takes a value between zero and one. The same flexibility that the approach provided at the primary level in terms of the choices of values for the parameters is also available at

the secondary for  $\alpha_s$  and  $z_s$ . Estimates of RESI with  $z_s = 1$  for various values of  $\alpha_s$  are provided in Table 3 and Figure 5. The values of the normalized education pluralism index tend to be higher at the secondary level in comparison to primary education, so that the losses in the fulfilment of the right to education due to a lack of pluralism are typically smaller than was the case for primary education.

### Box 2: Consistency across Levels

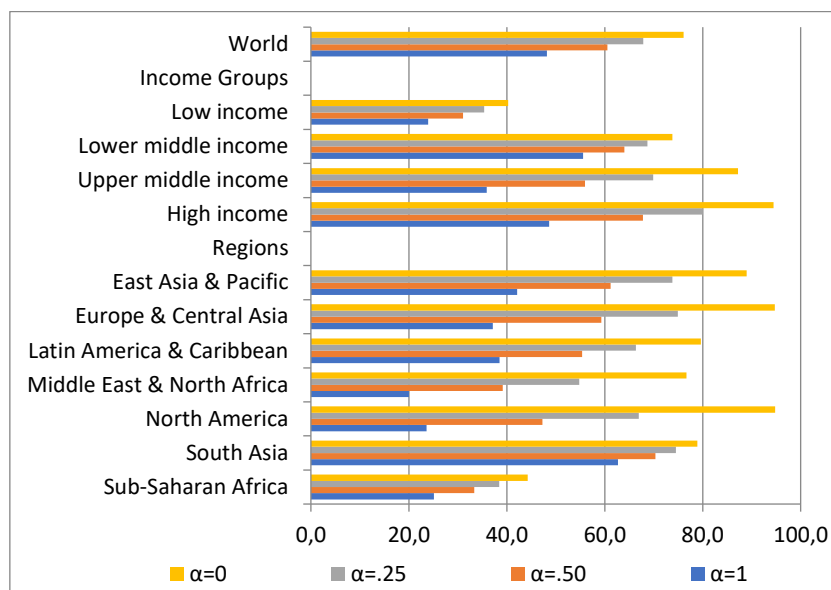
The values for RESI in Table 3 are higher than those for REPI in Table 2. This may appear counter-intuitive as fewer children have access to secondary than primary schooling. The reason for this result is that the educational outcome used to anchor REPI is based on (one minus) the learning poverty rate and not the completion rate for primary education. If the completion rate had been used, this apparent inconsistency would not be observed. This is however not an inconsistency, but simply the result of a choice to anchor REPI in data on learning outcomes as opposed to educational attainment. If a 'learning poverty' indicator were available at the secondary level, we could use that indicator to anchor the definition of RESI. But defining learning poverty at the secondary level is more difficult than at the primary level. While achieving literacy is clearly a minimum standard for primary education, there is no universally agreed standard at the secondary level (even if there are measures of learning through international student assessments such as PISA, TIMSS, or PIRLS).

**Table 3: Estimates of the Right to Education Secondary Index by Income Groups and Regions, 2018**

	NEPI <sub>s</sub> (×100)	LSC (×100)	RESI (×100) with $z_s=1$			
			$\alpha_s=0$	$\alpha_s=.25$	$\alpha_s=.50$	$\alpha_s=1$
<b>Regions</b>						
East Asia & Pacific	47.3	89.0	73.8	61.2	50.8	42.1
Europe & Central Asia	39.2	94.7	74.9	59.3	46.9	37.1
Latin America & Caribbean	48.4	79.6	66.4	55.4	46.2	38.5
Middle East & North Africa	26.1	76.7	54.8	39.2	28.0	20.0
North America	24.9	94.8	67.0	47.3	33.4	23.6
South Asia	79.5	78.9	74.5	70.3	66.4	62.7
Sub-Saharan Africa	56.7	44.3	38.4	33.4	28.9	25.1
<b>Income levels</b>						
Low Income Countries	59.4	40.3	35.4	31.1	27.3	23.9
Lower-Middle Income Countries	75.3	73.8	68.7	64.0	59.7	55.6
Upper-Middle Income Countries	41.2	87.2	69.9	56.0	44.8	35.9
High Income Countries	51.5	94.5	80.1	67.8	57.4	48.7
<b>World</b>	63.3	76.1	67.9	60.5	54.0	48.2

Source: Wodon (2021a). LSC is the lower secondary completion rate. Data are available up to 2019.

**Figure 5: Estimates of the Right to Education Secondary Index by Income Groups and Regions, 2018**



Source: Wodon (2021a, 2021c).

Finally, at the tertiary level, we suggest to define the right to education tertiary index (given the data currently available) as  $RETI = TE \times (\min\{1, NEPI_T/z_T\})^{\alpha_T}$  where TE is the gross tertiary enrolment rate. The same flexibility that the approach provided at the primary and secondary levels in terms of the choices of values for the various parameters is again available. Whether a right to education index should be defined at the tertiary level is not fully clear, at least under current conditions. Tertiary education is for example not part of the targets set forth under the fourth Sustainable Development Goal. Yet an index similar to those for primary and secondary education can be defined for higher education as well, and it may be useful in some cases. Estimates of RETI with  $z_T=1$  for various values of  $\alpha_T$  are provided in Table 4 and Figure 6.

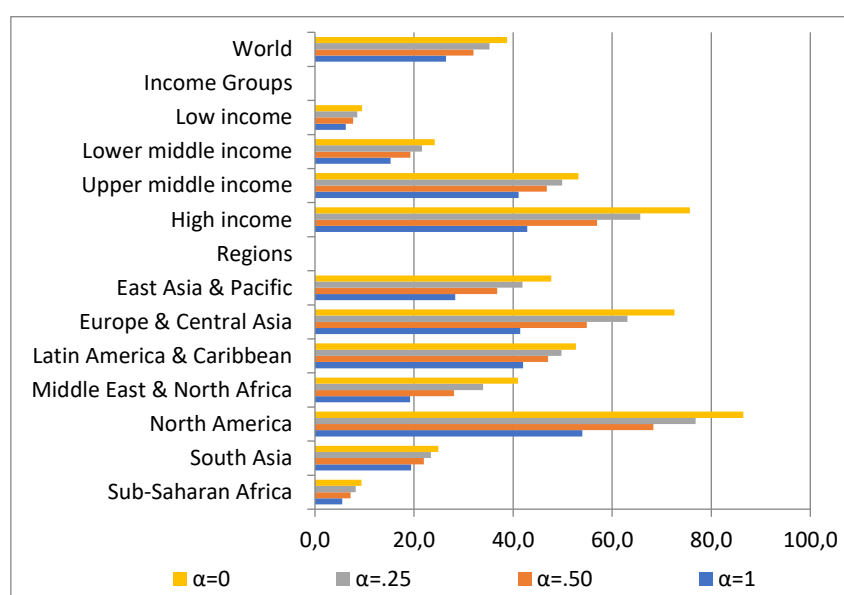
Of the three levels of education, tertiary education is the level globally with the highest normalized education pluralism index. Therefore, this is also the level where losses in the fulfilment of the right to education due to a lack of pluralism tend to be a bit smaller, although still potentially large depending on the weight placed on pluralism and depending on the region or country income group.

**Table 4: Estimates of the Right to Education Tertiary Index by Income Groups and Regions, 2018**

	NEPI <sub>T</sub>	TER	RETI ( $\times 100$ ) with $z_T=1$			
	( $\times 100$ )	( $\times 100$ )	$\alpha=0$	$\alpha=.25$	$\alpha=.50$	$\alpha=1$
<b>Regions</b>						
East Asia & Pacific	59.4	47.7	41.9	36.8	32.3	28.3
Europe & Central Asia	57.1	72.6	63.1	54.9	47.7	41.5
Latin America & Caribbean	79.7	52.7	49.8	47.0	44.5	42.0
Middle East & North Africa	46.8	41.0	33.9	28.0	23.2	19.2
North America	62.4	86.5	76.9	68.3	60.7	54.0
South Asia	78.0	24.9	23.4	22.0	20.7	19.4
Sub-Saharan Africa	58.9	9.4	8.2	7.2	6.3	5.5
<b>Income levels</b>						
Low Income Countries	65.2	9.5	8.5	7.7	6.9	6.2
Lower-Middle Income Countries	63.2	24.2	21.6	19.2	17.2	15.3
Upper-Middle Income Countries	77.3	53.2	49.9	46.8	43.9	41.1
High Income Countries	56.6	75.7	65.7	57.0	49.4	42.8
<b>World</b>	68.1	38.8	35.2	32.0	29.1	26.4

Source: Wodon (2021a). TER is the gross tertiary enrolment rate. Data are available up to 2019.

**Figure 6: Estimates of the Right to Education Tertiary Index by Income Groups and Regions, 2018**



Source: Wodon (2021a, 2021c).

## CONCLUSION

In the Universal Declaration of Human Rights, Article 26 spells out the right to education. The first provision of the article states that everyone should have a right at least to free basic education. The second provision relates to the aims of education towards the full development of the human personality. The third provision of relates to the right of parents to choose the type of education that their children should receive. This provision calls for education pluralism. To measure the fulfilment of the right to education, it was therefore suggested in this paper to combine traditional or mainstream estimates of educational outcomes with estimates of education pluralism. A set of indices was suggested, with specific definitions at the primary, secondary, and tertiary levels.

At the primary level, the right to education primary index is anchored into the learning poverty measure recently released by the World Bank. Learning poverty is defined on the basis of whether a child is able to read and understand an age-appropriate text by age 10. The measure combines information on both schooling (children out of school are assumed to be learning poor) and learning (literacy is assessed using student assessments). Learning poverty may appear to set a low bar since only basic literacy is required. Yet in low and middle income countries, more than half of all children were learning poor before the COVID-19 crisis, and this proportion is likely to have increased. In addition, the bar set using learning poverty is more stringent than would be the case when using the completion of primary education as the anchor for the index at the primary level.

At the secondary and tertiary levels, similar measures were suggested, although with different anchors. Based on the data available across a large number of countries, the anchor for the right to education secondary index is the lower secondary completion rate. For the right to education tertiary index, the anchor is the enrolment rate at the tertiary level. These measures do not exhaust the aims that should be pursued in improving education and learning for all as stated in SDG4. Yet by integrating education pluralism, they provide more information on the various dimensions of the fulfilment of the right to education than when relying solely on educational outcomes.

Using a production function approach, a specific formula was suggested to assess the fulfilment of the right to education at the primary, secondary, and tertiary levels. The formula provides flexibility in terms of the weight attached to education pluralism. It also accounts for the fact that after achieving a certain level of pluralism, the benefits of more pluralism as measured through the normalized education pluralism index may be limited.



Estimates suggest that in all regions and income groups, further progress is needed to fulfill the right to education, including at the primary level. Furthermore, when the weight placed on education pluralism increases, estimates of the fulfilment of the right to education necessarily decrease at all levels, in some cases substantially. This represents the loss in fulfilling the right to education due to a lack of education pluralism.

The measures proposed in this paper could be criticized – such critiques are indeed welcome to improve them. The three indices are being proposed simply as a way to integrate estimates of education pluralism in discussions about educational outcomes and the types of policies that could be adopted to improve these outcomes. Policies related to education pluralism are rarely considered in international fora, yet ensuring that there is enough pluralism is essential for the very aims of education.

The framework suggested in this paper can easily be extended in various ways. Two can be briefly mentioned here. First, in analogy with the literature on monetary poverty, rather than considering the share of children who are learning poor or complete a cycle, the distance and squared distance from the learning poverty threshold or the number of years of schooling needed to complete a cycle can be considered for ‘higher order’ measures of the right to education at different levels. Second, one key question relates to whether education pluralism has a positive or negative impact on educational outcomes. This is a much debated question which is beyond the scope of this paper, but will be considered in future work. Third, the question of what factors (including regulatory frameworks) lead to more or less education pluralism also requires further inquiry. This will also be a topic for future work under the Global Catholic Education project.

## ANNEX

Ensuring the right to education is simply essential for the enjoyment of human rights in their indivisibility. The benefits from education for human development are especially wide-ranging. A few of these benefits are highlighted in this annex.

*Labor market earnings and poverty reduction.* Education is key to escaping poverty. Men and women with primary education (partial or completed) earn only 20- 30 percent more on average than those with no education at all. But men and women with secondary education may expect to make almost twice as much as those with no education at all, and those with tertiary education may expect to make three times as much as those with no education<sup>78</sup>. In addition, secondary and tertiary education are often associated with higher labor force participation (especially full-time work for women) and a lower likelihood of unemployment. Since labor earnings are key to avoid poverty, improving education outcomes – both in terms of educational attainment and learning – can reduce poverty dramatically.<sup>79</sup>

*Child marriage, fertility, and women's health.* Not educating girls is especially costly. When girls drop out of school, they are more likely to marry or have children at an age when they are not yet ready to do so, physically or emotionally. This leads to a wide range of negative consequences not only for them, but also their children and societies as a whole.<sup>80</sup> Keeping girls in school is one of the best ways to end child marriage and early childbearing.<sup>81</sup> Universal secondary education for girls could virtually eliminate child marriage and reduce early childbearing by three fourths.<sup>82</sup> By reducing child marriage and early childbearing, and providing agency for women, universal secondary education could indirectly reduce fertility rates in many developing countries.<sup>83</sup> This, in turn, would reduce population growth, accelerate the demographic transition, and generate a large demographic dividend. Universal secondary education for girls would increase women's health knowledge and their ability to seek care, improve their psychological well-being, and reduce the risk of intimate partner violence.<sup>84</sup>

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<sup>78</sup> Montenegro and Wodon (2020).

<sup>79</sup> UNESCO Institute of Statistics (2017).

<sup>80</sup> Wodon et al. (2018).

<sup>81</sup> Botea et al. (2017).

<sup>82</sup> Wodon, Male et al. (2020).

<sup>83</sup> Onagoruwa and Wodon (2018).

<sup>84</sup> Wodon et al. (2018).

*Child health and nutrition.* After controlling for other factors affecting under-five mortality and stunting, children born of educated mothers have lower risks of dying by age five or being stunted. By contrast, children born of very young mothers face a higher risk of dying by age five or being stunted. Thus, better education reduces these risks both directly and indirectly through its impact on early childbearing. By reducing household poverty, universal secondary education for mothers (and fathers) would again help reducing under-five mortality and stunting rates. Finally, children born of educated mothers are more likely to be registered at birth<sup>85</sup>, a key right for children that affects other rights.

*Agency, decision-making, and social capital.* Better educated men and women tend to have more agency in their lives. Achieving universal secondary education would increase by one tenth women's reported ability to make decisions in their household. Better educated women and men report lower satisfaction rates with basic services, which may reflect better agency through a more realistic assessment of their quality. Educational attainment is also associated with being able to rely on friends when in need, and a stronger ability to engage in altruistic behaviors. This is not because those who are better educated are more altruistic, but because they are in a better position to be able to help others.

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<sup>85</sup> Onagoruwa and Wodon (2020).

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