
Catholic Schools in Latin America and the Caribbean: Enrollment Trends, Market Shares, and Comparative Advantage

Escuelas católicas en Latinoamérica y el Caribe: tendencias en la matrícula, cuotas de mercado y ventajas comparativas

QUENTIN WODON*

World Bank y University of Notre Dame

qwodon@worldbank.org

<https://orcid.org/0000-0002-6846-1116>

Abstract: The Catholic Church estimates that nine million children were enrolled in K12 Catholic schools in Latin America and the Caribbean in 2016. How has the number of students in Catholic schools evolved over the last two decades? In which countries is enrollment larger, whether in absolute terms or in terms of market share? Are Catholic schools performing better than other schools once controls are introduced for the students that enroll in Catholic schools? Finally, what can be learned from the practices of well-per-

forming schools such as those managed by the Fe y Alegría network? To answer these questions, this paper provides trends in enrollment in Catholic schools in the region, estimates their market share, and discusses lessons from the literature with a focus on Fe y Alegría schools.

Keywords: K12 education, Catholic schools, Market share, Fe y Alegría, Latin America, Caribbean.

* The author is a Lead Economist at the World Bank and a Distinguished Research Affiliate with the Kellogg Institute at the University of Notre Dame. The paper was prepared on the author's own personal time and not as part of his duties at the World Bank. The analysis and views expressed in this paper are those of the author only and may not reflect the views of the World Bank, its Executive Director, or the countries they represent.

Resumen: La Iglesia Católica estima que nueve millones de niños se matricularon en escuelas católicas K12 (primaria y secundaria) en América Latina y el Caribe en 2016. ¿Cómo ha evolucionado el número de estudiantes en las escuelas católicas en las últimas dos décadas? ¿En qué países es mayor la inscripción, ya sea en términos absolutos o en términos de participación de mercado? ¿Las escuelas católicas tienen un mejor desempeño que otras escuelas, una vez que se introducen controles para los estudiantes que se matriculan en ellas? Finalmente, ¿qué se puede aprender de

las prácticas de escuelas con buen desempeño, como las que gestiona la red Fe y Alegría? Para responder a esas preguntas, este artículo presenta las tendencias de matrícula en las escuelas católicas de la región, calcula su participación de mercado y analiza las lecciones que aporta la bibliografía, centrándose en las escuelas de Fe y Alegría.

Palabras clave: Educación K12 (primaria y secundaria), Escuelas católicas, Cuota de mercado, Fe y Alegría, América Latina, Caribe.

INTRODUCTION

Faith-based schools contribute to the fourth Sustainable Development Goal, which is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Yet precise measures of their contribution are often lacking, and lessons are rarely drawn from their experience. The goal of this paper is to provide an assessment of the role played by Catholic schools in Latin America and the Caribbean (LAC hereafter) and summarize findings on the experience and practices of the Fe y Alegría federation, a large network of schools founded in 1955 in Venezuela by Fr. José María Vélaz, a Jesuit priest. The focus on Fe y Alegría for the case study stems from the fact that it aims to serve the poor, a priority for the Church (Pontifical Council for Justice and Peace, 2004; Francis, 2015). While Catholic schools contribute to the Church's evangelization mission in a way that is respectful of the fact that they welcome students of all faiths (Delfra, Mattison, McGraw and Scully, 2018), they should also contribute to the preferential option for the poor (Congregation for Catholic Education, 1977, 2017), even if this is never easy (see for example Wodon, 2014, 2015, 2019a on faith-based schools' reach to the poor in Africa).

The paper consists of two main sections. The first section relies on data from the Office of Church Statistics of the Catholic Church (Secretaria Status, 2018) to estimate changes in enrollment in Catholic schools in LAC between 1995 and 2016 and resulting market shares. Globally, the Catholic Church estimates that 62.5 million children were enrolled in its schools in 2016. Of those, 9.0 million were enrolled in LAC. Between 1995 and 2016, the number of students in K12 Catholic schools in the region increased at the preschool and secondary levels, while declining at the primary level. Overall, enrollment appears healthy, and there is a perception that the schools provide a quality education.

The second section focuses on what may explain the relatively good performance of many Catholic schools, at least in comparison to other (public) schools

in the same countries. This is done through a case study on the experience of Fe y Alegría. According to its 2016 annual report (Fe y Alegría, 2016), the network had 1.6 million beneficiaries in its centers, all levels combined including non-formal education and training centers for adults. Data from Parra Osorio and Wodon (2014a) suggest that learners in formal schools account for just above a third of all beneficiaries reached by the federation. The federation is currently active in two dozen countries, including a few in Africa and Europe, but more than 95 percent of its learners live in LAC. This means that the federation accounts for a minority but still significant share of all children studying in Catholic schools in LAC. The countries where Fe y Alegría has the largest footprint are Bolivia, Venezuela, Colombia and Peru. Together those four countries account for three fourths of the total number of learners in Fe y Alegría centers. Other countries with more than 30,000 beneficiaries are the Dominican Republic, Nicaragua, Ecuador, and Guatemala. In some cases, Fe y Alegría schools may be privately funded. In other cases, they benefit from a mutually beneficial relationship with the state, as observed for example in Peru (see Klaiber, 2013, for a discussion).

This paper was prepared primarily to inform a global study on the contribution of Catholic and other faith-based schools to investments in human development. But it also serves in part as a contribution to a study at the World Bank on how to strengthen school management for better learning in LAC (Adelman and Lemos, 2018). The analysis provided in this paper should therefore be considered within the context of both progress and challenges in many education systems in the region. Most countries have succeeded in increasing educational attainment, with children now receiving on average 11.5 years of schooling (Székely and Karver, 2015; Adelman and Székely, 2016). Yet substantial disparities in attainment remain between countries and by socio-economic status within country.

In addition, learning performance often remains inadequate. The region overall performs poorly on international student assessments such as PISA (Programme for International Student Assessment). Furthermore, according to World Bank (2018), student learning in some countries as measured through international student assessments is only at just over half what educational attainment would suggest, leading to lower levels of learning-adjusted years of schooling (this is the case for Haiti for example). Even in high income countries such as Chile, one fourth of the years of schooling completed by students could be considered as 'lost' due to insufficient learning despite schooling in comparison to best performing countries.

How could learning be improved? Research suggests that pedagogical interventions tend to have the largest beneficial impact on student performance (Evans and Popova, 2016). This conclusion is based on a comparison of findings from six

systematic literature reviews by Conn (2014), Glewwe, Hanushek, Humpage and Ravina (2014), Kremer, Brannen and Glennerster (2013), Krishnaratne, White and Carpenter (2013), McEwan (2014), and Murnane and Ganimian (2014) and hundreds of experimental or quasi-experimental studies. While there are differences in findings between these reviews, there seems to be a consensus that interventions showing promise include (i) pedagogical interventions adapting teaching to individual student learning levels, (ii) tailored and repeated teacher training for specific tasks and (iii) accountability-boosting interventions.

The role of accountability-boosting reforms suggests that school management has a role to play to improve learning. As noted by World Bank (2003), a long route towards accountability in service provision to the poor works through the democratic process. This long route is, well, long and thereby often slow. A shorter route aims to make service providers accountable directly to clients, which in the case of schools are students and parents. In principle, this can be achieved in part through school management reforms. While pedagogical interventions may generate larger immediate gains in the short term than school management reforms (Crouch and DeStefano, 2015), the potential of those reforms to improve pedagogy in the classroom in the medium term should not be underestimated.

Within LAC, school management reforms have had mixed success (see di Gropello 2007; Barrera-Osorio, Fasih, Patrinos and Santibáñez, 2009; Bruns, Filmer and Patrinos, 2011; as well as Hanushek, Link and Woessmann, 2013 about cross-country evidence based on regression analysis). But this does not mean that good management cannot lead to good performance (Demas and Arcia, 2015). Adelman and Lemos (2018) argue that school management matters for student outcomes in LAC and that strengthening management can have impact even if much remains to be learned on how to do this effectively. Their work is based in part on a series of papers suggesting among others that (i) strong management was essential for schools to recover from disasters in Haiti (Adelman, Barón and Lemos, 2018); (ii) data can be used to measure how well schools operate (Adelman, Lemos, Nayar and Vargas, 2018); and (iii) gains in school management quality can be achieved by changing principal selection mechanisms (Adelman, Lemos and Teodorovicz, 2018), training school managers with a focus on student learning (de Hoyos, Ganimianz and Holland, 2017), or aligning systems towards that goal (Paes de Barros, de Carvalho, Franco, García, Henriques and Machado, 2018).

In this respect, some of the practices put in place by Fe y Alegría are worth documenting. While Fe y Alegría has been operating for more than 60 years, relatively little work has been conducted to assess the network's performance and document its practices. When Parra Osorio and Wodon (2014a) edited a volume

of case studies on Fe y Alegría, only a handful of studies of various depths had been conducted on the network during the previous ten years (e.g., Navarro and de la Cruz, 1998; Swope and Latorre, 2000; Martiniello, 2001; World Bank, 2004; González and Arévalo, 2005; Peters, 2009; and Alcott and Ortega, 2009). These studies discussed only to a limited extent the innovative management and pedagogical practices of the federation, and only one study provided an econometrics-based assessment of performance for Venezuela (Alcott and Ortega, 2009). Since then, apart from the papers in Parra Osorio and Wodon (2014a) a few additional studies measuring performance have been completed (see especially Lavado, Cueto, Yamada and Wensjoe, 2016). Together with discussions of management practices, this emerging body of knowledge provides insights on how to improve learning for disadvantaged students.

Having provided the context for this paper, the rest of the paper is structured as follows. For background on the role of Catholic schools, the next section provides a rapid assessment of the scale of education provision by the Church in LAC. Thereafter, as a case study, the performance of Fe y Alegría schools is reviewed based on existing empirical studies, and some of the management practices that seem to lead to good performance in Fe y Alegría schools are discussed. A brief conclusion follows.

ENROLLMENT TRENDS AND MARKET SHARES

Data on the number of students in K12 Catholic schools in LAC are available in the Catholic Church's annual statistical yearbooks, with the most recent data available for 2016 (Secretaria Status, 2018). The yearbooks provide data on enrollment in K12 schools by level, considering separately nurseries and preschools, primary schools, and secondary schools. The data are self-reported by the chancery offices of ecclesiastical jurisdictions through an annual questionnaire. In a typical year, only about five percent of (typically small) jurisdictions do not fill the questionnaire¹. This suggests that broadly speaking, the data are likely to be reasonably accurate even though there may be exceptions. However, readers should be aware that there are issues in terms of how Catholic schools are defined, identified, and quantified across countries. In some low income countries especially, there are major data capacity issues. The statistics should thus be treated as suggestive estimates.

1 The Church reports that in 2016, some 3,016 out of 3,162 jurisdictions filled the questionnaire on which the data are based. Jurisdictions that were not able to provide data tended to be small, thus generating limited downward bias.

Tables 1 through 3 provide estimates of enrollment in Catholic schools for nurseries and preschools, primary schools, and secondary schools for respectively Central America, the Caribbean, and South America. Data are provided for 1995 and 2016 to give an idea of trends over time (estimates for 1995 can be obtained by considering growth rates in enrollment over time and estimates for 2016). In 2016, the estimates suggest that 9.0 million children were enrolled in Catholic schools in the region, with 1.2 million students enrolled in preschools, 4.7 million in primary schools, and 3.1 million in secondary school. Two decades earlier, the estimates suggest that enrollment was slightly lower at 8.5 million students, with 0.8 million students enrolled in preschools, 4.9 million in primary schools, and 2.7 million in secondary school. Enrollment thus grew the most for preschools (increase in enrollment of 46.7 percent since 1995). This is good news given the importance of investments in early childhood development and the high returns to these investments (Black, Walker, Fernald, Andersen, DiGirolamo, Lu, McCoy, Fink, Shawar, Shiffman, Devercelli, Wodon, Vargas-Barón and Grantham-McGregor, 2017). Enrollment also grew at the secondary level (gain of 13.9 percent since 1995), but it dropped slightly for primary (loss of 6.1 percent since 1995).

Table 1. Enrollment Trends and Market Share of Catholic Schools in Central America

	STUDENTS IN 2016			PERCENTAGE CHANGE VS. 1995 (%)			MARKET SHARES (%)			
	PRESCHOOL	PRIMARY	SECONDARY	PRESCHOOL	PRIMARY	SECONDARY	PR. 2016	PR. 1995	SEC. 2016	SEC. 1995
Belize	817	29,131	7,130		-0.1%	0.8%	55.7%	72.0%	17.4%	29.7%
Costa Rica	570	4,602	8,230	-6.9%	-4.8%	-3.6%	1.0%	2.6%	1.8%	9.9%
El Salvador	4,352	49,821	27,026	-2.6%	0.4%	3.6%	7.0%	5.4%	4.7%	3.5%
Guatemala	13,610	42,748	42,535	9.1%	-3.2%	1.6%	1.8%	5.8%	3.5%	8.3%
Honduras	4,899	16,008	9,626	3.7%	1.8%	-4.0%	1.4%	1.1%	1.5%	6.1%
Mexico	159,736	522,679	394,965	3.2%	-0.9%	1.4%	3.7%	4.3%	2.9%	4.1%
Nicaragua	10,812	46,559	28,282	0.9%	0.2%	0.1%	5.2%	5.8%	5.7%	10.3%
Panama	3,436	9,995	12,986	0.3%	-4.3%	-0.4%	2.4%	7.0%	4.0%	6.5%
Central America	198,232	721,543	530,780	2.8%	-1.0%	1.0%	3.5%	4.5%	3.0%	4.7%

Source: Author, based on data from the statistical yearbook of the Catholic Church.

Table 2. Enrollment Trends and Market Share of Catholic Schools in the Caribbean

	STUDENTS IN 2016			PERCENTAGE CHANGE VS. 1995 (%)			MARKET SHARES (%)			
	PRESCHOOL	PRIMARY	SECONDARY	PRESCHOOL	PRIMARY	SECONDARY	PR. 2016	PR. 1995	SEC. 2016	SEC. 1995
Antigua	94	453	563	-	-1.2%	0.0%	4.6%	5.4%	7.1%	10.2%
Aruba	1,011	3,869	2,129	-3.3%	-2.1%	0.3%	41.2%	72.6%	28.0%	38.3%
Bahamas	0	1,796	1,689	-100.0%	-1.9%	-0.5%	5.9%	8.2%	6.0%	6.6%
Barbados	156	370	212	-3.2%	-0.3%	-3.3%	1.8%	1.5%	1.0%	1.9%
Bermuda	26	216	109	-1.4%	-1.8%	-2.0%	5.3%	5.3%	2.7%	3.3%
Caiman Islands	77	272	276	-	-1.2%	-	9.7%	11.3%	7.1%	0.0%
Cuba	280	0	0	-	-	-	-	-	-	0.0%
Dominica	498	1,996	1,257	-2.1%	-1.3%	0.1%	27.3%	20.7%	23.6%	18.9%
Dominican Republic	16,728	146,191	119,075	2.7%	2.1%	3.9%	11.4%	8.4%	12.8%	11.8%
Grenada	1,326	6,050	3,549	0.6%	-0.3%	7.5%	45.8%	28.6%	38.6%	7.5%
Guadeloupe	7,215	20,000	13,640	7.1%	9.8%	6.8%	-	-	-	-
Haiti	87,528	357,394	91,950	10.6%	-1.0%	5.9%	18.1%	36.9%		-
Jamaica	5,859	21,843	13,692	2.1%	-2.2%	-1.1%	8.6%	10.5%	6.3%	7.5%
Martinique	523	1,924	2,299	0.6%	0.6%	1.6%	-	-	-	-
Montserrat	-	162	0	-	1.0%	-	-	-	-	-
Netherlands Antilles	2,202	8,104	5,710	-3.5%	-2.9%	-1.0%	-	-	-	-
Puerto Rico	1,658	23,860	33,677	-5.6%	-2.6%	1.2%	9.9%	11.7%	12.2%	8.9%
Saint-Kitts	30	281	151	-	-2.2%	-0.2%	5.2%	6.5%	3.6%	3.4%
Saint Lucia	1,500	3,500	1,500	-	-8.3%	-0.9%	21.3%	70.5%	11.8%	17.7%
St-Vincent	79	624	1,307	-7.0%	-0.3%	0.8%	4.7%	3.4%	12.9%	13.1%
Trinidad	130	24,000	3,000	-4.6%	-3.4%	-6.7%	18.0%	26.1%	2.2%	12.2%
Turkish Islands	25	65	67	-	-	-	2.5%	-	3.3%	-
Virgin Islands (US)	-	233	109	-100.0%	-5.2%	-5.8%	1.9%	5.0%	0.9%	3.0%
Caribbean	126,945	623,203	295,961	5.4%	-0.7%	2.9%	13.1%	16.4%	11.8%	8.5%

Source: Author, based on data from the statistical yearbook of the Catholic Church.

Table 3. Enrollment Trends and Market Share of Catholic Schools in South America

	STUDENTS IN 2016			PERCENTAGE CHANGE VS. 1995 (%)			MARKET SHARES (%)			
	PRESCHOOL	PRIMARY	SECONDARY	PRESCHOOL	PRIMARY	SECONDARY	PR. 2016	PR. 1995	SEC. 2016	SEC. 1995
Argentina	202,488	660,087	521,978	1.4%	-0.1%	1.5%	13.9%	13.5%	11.4%	12.7%
Bolivia	47,041	360,968	177,723	6.8%	3.2%	3.6%	26.6%	14.5%	15.3%	12.2%
Brazil	196,160	595,159	242,310	-1.6%	-2.0%	-2.0%	3.5%	4.5%	1.0%	2.1%
Chile	75,293	378,704	203,627	4.3%	1.0%	2.7%	25.4%	18.0%	13.3%	9.3%
Colombia	165,402	488,000	668,343	2.8%	-0.2%	0.0%	11.0%	10.8%	14.0%	22.0%
Ecuador	20,606	269,024	138,836	-0.1%	1.1%	0.1%	13.5%	12.0%	7.2%	15.8%
Guyana	117	407	467	-	-	-	0.5%	-	0.5%	-
Paraguay	11,654	60,177	26,252	4.1%	0.8%	1.1%	8.3%	5.9%	4.4%	7.9%
Peru	50,227	180,649	176,814	4.5%	-0.7%	-0.9%	5.1%	5.1%	6.4%	11.6%
Suriname	3,560	13,210	3,019	0.2%	-0.6%	0.1%	18.4%	23.8%	5.4%	7.9%
Uruguay	10,393	36,397	28,360	0.0%	-0.8%	0.1%	11.7%	12.6%	8.1%	10.5%
Venezuela	77,161	274,831	115,505	3.6%	0.7%	-0.9%	8.1%	7.5%	4.8%	10.2%
South America	860,102	3,317,613	2,303,234	1.3%	-0.1%	0.3%	8.5%	7.7%	5.3%	7.1%

Source: Author, based on data from the statistical yearbook of the Catholic Church.

According to the estimates, the five countries with the largest number of students in Catholic schools all three K12 levels combined are Argentina (1.4 million students), Colombia (1.3 million), Mexico (1.1 million), Brazil (1.0 million), and Chile (0.7 million). Next come Bolivia (0.6 million), Haiti (0.5 million), Venezuela (0.5 million), Ecuador (0.4 million) and Peru (0.4 million). Large countries dominate in terms of enrollment, but not necessarily in terms of market shares. To compute the market share of Catholic schools, estimates from the statistical yearbook of the Church are compared to the total number of pupils enrolled in primary and secondary school as available from the UNESCO Institute of Statistics. Market shares for preschools are not provided because data for preschool enrollment are less reliable, especially for comparisons with the data provided by the statistical yearbooks

of the Church which also include nurseries. When data on total enrollment are not available for those specific years for a country, simple interpolations and extrapolations are implemented based on the available data for each country for other years.

In Central America overall, the market share of Catholic schools is estimated at 3.5 percent in 2016, while for secondary schools the estimate is 3.0 percent. In the Caribbean, market shares are higher at 13.1 percent for primary schools and 11.8 percent for secondary schools. In South America, the estimates of the market shares are at 8.5 percent for primary schools and 5.3 percent for secondary schools. Market shares have declined in several cases between 1995 and 2016, but there are exceptions. The market shares increased for secondary schools in the Caribbean and in primary schools for South America. Overall, Catholic schools have maintained significant enrollment and market shares over time. These market shares tend to be higher than those measured at the global level (Wodon, 2018). This is not too surprising given that many households in the region identify themselves as Catholic.

There are as expected large differences in market shares between countries. When countries are small in terms of the size of their student population, estimated market shares may need to be considered with some caution given that different datasets are combined to measure them, with possible discrepancies between datasets. Still, it is clear that market shares differ quite considerably between countries. At the primary level, the market share of Catholic schools is highest in Belize at 55.7 percent, followed by Grenada and Aruba, both at between 40 and 50 percent. In Dominica, Bolivia, Chile, and Saint Lucia, the market share of Catholic primary schools is at between 20 and 30 percent. In the rest of the countries, it is below 20 percent. At the secondary level, market shares are comparatively higher for Catholic schools in many of the same countries, but they tend to be slightly lower on average than for primary schools. This is a phenomenon observed in many other regions of the world probably in part because of the growth of the private secular sector at the secondary level (see for example Heyneman and Stern, 2014, and World Bank, 2017, on the growth of low-cost private schools).

It is worth noting that enrollment growth (or decline) may come from a larger (smaller) number of schools, a larger (smaller) number of students in existing schools, or both since the growth rate in enrollment is simply the sum of the growth rates for the number of schools and for the average size of schools (Wodon, 2019b). Since the Office of Church Statistics provides data on both the number of schools and the number of students enrolled by country, the role of larger schools or more schools in enrollment growth can be computed. It turns out that for preschools, most of the growth in Central America came from an increase in the number of

schools, while in the Caribbean and in South America, gains came primarily from larger preschools. At the primary level, there was a slight decline in enrollment in Central America and the Caribbean due to smaller schools and despite a small increase in the number of schools. In South America, a small increase in the size of schools compensate for the corresponding small decrease in the number of schools. Finally, at the secondary level, gains were achieved in all three sub-regions thanks to a larger number of schools, despite a small reduction in the size of schools in Central and South America and no change in school size in the Caribbean.

In summary, K12 Catholic schools seem by and large to be holding their own in LAC in terms of student enrollment and market shares. In some countries, market shares are increasing, while in others they are decreasing, but overall the sub-sector has been relatively steady. A key question is however whether students are learning enough while in (Catholic) school. The next section discusses this issue.

COMPARATIVE ADVANTAGE? CASE STUDY ON FE Y ALEGRÍA

There is a common perception that Catholic and other private schools may provide better education services than public schools. This assertion is not universally accepted, however. In the United States for example, Evans and Schwab (1995) and Altonji, Elder and Taber (2005) suggest positive effects, but Jepsen (2003) and Elder and Jepsen (2014) do not. On balance though, more studies suggest positive effects than not. Assuming that positive effects are at work, the literature suggests various reasons as to why this might be the case. Catholic and private schools more generally often have more flexibility than public schools in the management of teachers and other resources, including for hiring and firing. This may lead to the selection of better teachers over time. Private schools also tend to be exposed more to competitive pressures than public schools, especially when they do not receive subsidies from the state. When costs are paid by households, this can lead to selection over time and the survival of only the better schools. In the case of faith-based schools, additional intrinsic motivation, or what Grace (2002a, 2002b) termed in the case of Catholic schools their ‘spiritual capital’, may also play a role in the quality of the education being provided. As noted by Reinikka and Svensson (2010) for healthcare provision in Uganda, staff in faith-based schools may be motivated by a desire to be ‘working for God’, which could possibly lead to extra effort without extra pay (see also Olivier, Tsimpo, Gemignani, Shojo, Coulombe, Dimmock, Nguyen, Hines, Mills, Dieleman, Haakenstad and Wodon, 2017, on faith-based healthcare in sub-Saharan Africa more generally).

Importantly, Catholic and other private schools may also have positive externalities for education sectors overall. By introducing competition, they may raise overall quality. But this is not a given. Critics of charter schools and other programs such as vouchers mention the risk of ‘creaming’, which weakens public schools when the best students tend to go to private schools. This risk, while manageable when resorting to lottery systems for the assignment of students to schools benefitting from state support, should not be underestimated. Without delving into all of these issues here, this section considers specifically what can be learned from the experience of Fe y Alegría schools in LAC. A summary of available empirical studies aiming to measure performance is first provided. This is followed by a discussion of management practices focusing in part on the experience of the federation in Peru.

Student Performance

Two empirical case studies on student performance in Fe y Alegría schools were included in the volume edited by Parra Osorio and Wodon (2014a). The first by Allcott and Ortega (2014) was a reprint of their paper using data for Venezuela (Allcott and Ortega, 2009). The second study by Parra Osorio and Wodon (2014b) relied on data for Colombia. Both studies used propensity score matching or similar non-experimental methods to compare the performance of students in Fe y Alegría schools to that of students in other schools. While propensity score matching does not control for self-selection into the schools, it does eliminate the risk of bias in measures of student performance due to observable characteristics of students. Still, results must be taken with a bit of caution, as the estimates do not necessarily represent causal effects on learning outcomes of attending Fe y Alegría schools.

Allcott and Ortega (2014) based their analysis on a single year of data for student performance on mathematics. They found an average ‘treatment effect’ or gain from being in a Fe y Alegría school on the order of 0.1 standard deviation of the average student performance on the mathematics test. This was relatively small, but nevertheless statistically significant. The authors noted that costs per pupils were not higher in Fe y Alegría schools than other schools, with teachers not receiving retirement benefits. Gains in the schools were therefore not related to higher spending, but they might relate according to the authors to the network’s decentralized administrative structure, flexibility in labor contracts, and an emphasis on family culture. The schools were often created and supported by local communities and private donations. This led to local decision making, including

the ability of principals to hire and fire teachers after a trial period during which teachers are assessed and coached by experienced peers. This may have led to the selection of better or more motivated teachers. The schools also cultivated a sense of belonging for both teachers and students, with possibly as a result an increase in effort from both groups that could result in higher performance on examinations.

The econometric analysis by Parra Osorio and Wodon (2014b) was more detailed because it relied on a richer multi-year data set and test scores on a wider range of subjects as well as more detailed information on the characteristics of the household to which students belonged. This enabled the authors to test whether differences in performance were robust over time. Simple statistics on test scores suggested that students in Fe y Alegría schools performed worse than those in other schools for all years and all subjects. However, Fe y Alegría schools served on average poorer students. Once controls for student characteristics were included in the analysis, students in Fe y Alegría schools performed on average across years as well as those in other schools in mathematics and Spanish, which was more encouraging. The results changed slightly from year to year, but appeared robust across years. Nevertheless, Fe y Alegría students did slightly less well in physics, chemistry and biology, although the difference with other schools was much smaller after matching than before matching.

More recently, Lavado *et al.* (2016) relied on a school lottery selection process in Peru to estimate the effect of attending Fe y Alegría schools on student performance in mathematics and reading comprehension between 2007 and 2012. Given that a random draw was used by Fe y Alegría to decide on who enters the schools in the first grade of primary school, the authors in principle had a more robust identification strategy than previous work. The estimates suggested that attending a Fe y Alegría school was associated with a gain of 0.4 standard deviations in performance in mathematics and reading comprehension, which was rather large. These gains appear to have increased over the five-year period. The authors concluded that it might be worth expanding the number of Fe y Alegría schools and document what practices in these schools may be leading to stronger learning outcomes for students.

Finally, it is worth noting that Guaipatin and Humphreys (2014) reviewed the experience of a technology-based Fe y Alegría project for children with disabilities in a poor neighborhood in Ecuador. The project generated positive outcomes for both well-being and academic aspirations among students, suggesting potential answers to the question of how to use technology for inclusive education.

School Management Practices

The evidence reviewed so far suggests that many Fe y Alegría schools may perform relatively well in comparison to other schools. Why would this be the case? Without providing definitive answers, lessons can be learned from studies about the management model used by the schools. One of these studies was included in the volume by Para Osorio and Wodon (2014a). Relying on focus groups and interviews, Alcázar and Valdivia (2014) analyzed factors that might lead to good performance by Fe y Alegría schools in Peru. The factors include a high degree of independence for generating and managing resources; a favorable institutional climate; the selection, tutoring, supervision, and training of teachers; more autonomy and authority for school principals; and the capacity to adapt to local realities.

Many of these factors relate to autonomy, local control, and decentralized governance. However, as pointed out by a reviewer of this paper, a paradox is worth noting. Hanushek, Link and Woessmann (2013) suggest that school autonomy has a positive effect in higher income countries, but may be associated with worse outcomes in lower-income countries. Given that many countries where Fe y Alegría are present are middle income countries, the direction of the effects in those countries may not be clear. In addition, de Grauwe (2000) suggests limits in the ability of school autonomy to improve quality and the importance of systems of support to foster improvement in decentralized systems. Autonomy alone, without adequate capacity, support, and incentives, may not be sufficient. Apart from autonomy, other factors that also matter are likely to include a strong and coherent organizational culture around common values and beliefs as well as adequate systems of support from a tertiary organization.

In the case of Fe y Alegría, all these factors are inter-related. The schools benefit from in-kind support from the federation's Central Office (for example in terms of materials and approaches to be used for in-service teacher training) as well as funding for teacher salaries from the Ministry of Education. But they also raise funds locally through parental fees and have the ability to attract donations nationally and internationally. Given these resources, they tend to, as the authors put it, to "make good use of everything they receive, both tangible and intangible". Principals establish "a sense of responsibility and authority within the school" to engage not only teachers and students, but also parents which leads to higher levels of community support. The ability to test the attitude and motivation of teachers during a trial period enables principals to select the right teachers for the jobs. In turn, teachers tend to be highly motivated by the sense of purpose that they witness

in the schools, and they value the opportunity to benefit from coaching by more experienced teachers who serve as mentors for new recruits.

Are these factors leading to success replicable in public schools? Alcázar and Valdivia suggest that if public school principals were able to instill a similar sense of belonging, as well as clear objectives and common goals all based on a commitment to student success in their school, the model might be replicable. Having the means to provide high quality mentoring for teachers would help. The authors also note the importance of the ‘pedagogical proposal’ regularly put together by Fe y Alegría schools to establish priorities specific to each school. This practice could also be adopted by public schools.

On the other hand, in some areas –such as the support received by Fe y Alegría from donors and especially the ability to use available funds wisely and nimbly as decided by principals– replication may be more difficult in public schools. Furthermore, public schools would probably not be able to rely to the same extent on the intrinsic motivation that comes from the faith commitment shared by many Fe y Alegría staff. The fact that the authority of principals is weaker in public schools, including for hiring and firing teachers, would also be a constraint for replication unless new regulations were adopted in the public school system to provide more autonomy to principals for human resources functions.

Other case studies included in the edited volume by Parra Osorio and Wodon (2014a) also point to the fact that factors leading to good performance are often less related to the amount of inputs or resources available than to the management of these resources and the ability to test innovative ideas that can be expanded if successful. Sprovera (2014) describes an experience on teaching literacy in schools serving highly disadvantaged students in Chile. A customized program revised multiple times led to gains in reading speed and made it feasible to achieve basic literacy by the end of first grade. Despite some initial resistance, training sessions and materials ultimately gained the teachers’ approval. Borjas and Soto (2014) describe a plan by the federation to strengthen in-service training on how to apply the popular education model. Based on a needs diagnosis, the plan created a training proposal consistent with Fe y Alegría’s principles to achieve humane, sociopolitical and cultural, learn to learn, and pedagogical transformation. Finally, Rivera (2014) describes how Fe y Alegría started to operate in Peru’s rural areas with a focus on developing skills for work and technical-productive education.

CONCLUSION

Despite rising competitive pressures, the demand from some parents for a Catholic education for their children remains strong in LAC. This demand may be due in part to the Catholic identity of the schools which is often valued by parents who are themselves Catholic. But it is also likely to reflect the fact that many Catholic schools are perceived to perform relatively well in comparison to other schools, including on standard measures of performance such as test scores on examinations. This is the case for Fe y Alegría schools, with multiple studies suggesting relatively good student performance in several countries after controlling for a range of other factors that may affect student performance.

The good performance of Fe y Alegría schools appears to stem in part from good school management. Principals have substantial autonomy, including for hiring and training teachers. They use this autonomy and their knowledge of local realities to mobilize resources and foster an institutional climate that emphasizes learning as well as human values, including service to the poor. As mentioned earlier however, in addition to school autonomy, other factors such as a strong and coherent organizational culture around common values and adequate systems of support from a tertiary organization (such as the federation in the case of Fe y Alegría) probably also matter. While not all characteristics of Fe y Alegría schools might be transferable to public schools, many probably could.

Strengthening school management is of course no panacea for better learning and there is no guarantee that the good performance of Fe y Alegría schools is reflective of what happens in Catholic schools more generally, not to speak of all private schools. Knowledge remains still limited on how to achieve good school management in a diversity of settings and regulatory frameworks. Lastly, the gains achieved through better school management may be limited in comparison to gaps in learning revealed by frontier estimates of learning performance across countries under the harmonized learning outcomes measurement program at the World Bank (on this measurement approach, see again World Bank, 2018). But the lesson from the experience of Fe y Alegría reviewed in this paper is that school management has a key role to play to strengthen student learning outcomes and more generally achieve the full benefits of education beyond performance on standardized tests.

In terms of additional avenues for research, a few options can be suggested. First, in terms of trends in enrollment in Catholic schools, more detailed analysis could be conducted at the country level to understand the factors leading to gains in market shares for Catholic schools in some countries, and losses in others. Is-

sues of funding and affordability are likely to play a role, but the comparative advantage of the schools also matters, not only for traditional measures of learning performance, but also for socio-emotional skills and the extent to which schools succeed in sharing core values with students, a factor that often matters when parents choose Catholic schools for their children. Second, as regards to Fe y Alegría specifically, beyond the case studies presented in this paper, more research would help in identifying factors leading to success. The federation collects substantial information in schools on various aspects of the student experience that could be invaluable for such future research.

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