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# **Future of Work and Education**

# A new deal to finance LATAM education

Promoting the right level and distribution of resources to increase quality and equity

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CIPPEC (Center for the Implementation of Public Policies for Equity and Growth) is an organization that strives to create an efficient, democratic, and just state to improve the quality of life for all Argentine citizens. It focuses its efforts on analyzing and promoting public policies that encourage equity and growth in Argentina.

Education learning outcomes in Latin America and the Caribbean (LATAM) are still insufficient and unequally distributed. Several factors are behind this situation, many of which relate to education funding: low absolute expenditure per student; increasing gaps in spending levels between developed and developing countries; unequal distribution of key education inputs; inefficient use of pedagogical resources and low levels of innovation; and inadequate institutional frameworks that weaken the public sector. Recommendations to address these problems are presented in order to provide not only more investment, but also a more effective and equitable use of resources.

**CHALLENGE**

• **Absolute per-student spending is insufficient and lower than expected according to LATAM's economic development.**

While the average annual expenditure per student in OECD countries is US\$9,258, it only reaches US\$4,076 in Chile, US\$3,824 in Brazil, US\$2,877 in Mexico and US\$2,459 in Colombia (OECD, 2016). This is relevant since comparative evidence on secondary education shows that there is a strong re-

relationship between learning outcomes and expenditure, up to US\$8,000 per student per year (Vegas & Coffin, 2015).

- **The gap in per-student spending levels is increasing between developing and developed countries.** Although LATAM countries have increased the levels of absolute public expenditure in education in the last two decades, the rate of growth has been slower than that of leading developed countries. For example, the annual per-student expenditure gap between Finland and Chile increased from US\$2,995 in 2000 to US\$5,116 in 2013 (SUMMA, 2017).

## »The gap in per-student spending levels is increasing between developing and developed countries.«

- **The distribution of key education inputs is unequal across schools and between different socioeconomic groups and geographic areas.** Richer students are consistently exposed to more teaching hours and better-qualified teachers than their poorer peers. Additionally, headmasters in low-income schools declare high levels of concern about the low quality of their staff,

infrastructure and pedagogical materials (Bos et al, 2016). Furthermore, there is a lack of mechanisms to prioritize low-income students. Bezem (2012) shows that most educational supplies are distributed homogeneously in Argentina, without taking into account the socioeconomic composition and needs of students.

- **The use of resources is inefficient and schools show low levels of pedagogical innovation.** High rates of teacher absenteeism and bureaucratic decision-making processes jeopardize the capability to deal with the increasing complexity of the education systems (Hanushek, 2001; Murray et al, 1998). Furthermore, education systems experience low levels of innovation and insufficient use of effective pedagogical practices in the classroom, such as feedback, collaborative learning, metacognition, etc. (Jacob & Parkinson, 2015; Johnson et al, 2000; Kingston & Nash, 2011).

- **Inadequate and ineffective institutional frameworks hinder education systems.** Institutions, understood as formal and informal rules, are crucial for the determination of property rights, collaboration/competition dynamics, transaction costs, social outcomes and their distribution (Acemoglu & Robinson, 2012; Knight, 1992). These rules have a strong impact on education systems. Indeed, institutions that promote deregulation, marketization and privatization of the education sector, fostering student selection, vouchers and cost-sharing schemes to fund education, have had tangible negative effects on education outcomes, both in terms of equity and quality in LATAM (González, 2017).

Given the above challenges, actions should be taken on several fronts.

## **INCREASE INVESTMENT THROUGH DOMESTIC TAXATION AND REDUCTION OF EVASION**

Governments need to increase their education budget, through lower tax evasion and higher direct taxes (personal and corporate tax rates), which are low in LATAM compared to the OECD, even in a historical perspective when controlling by GDP (González, 2018).

**»The G20 should encourage governments to invest more in education due to the high social rates of return.«**

### **The G20 should encourage governments to invest more in education due to the high social rates of return**

Increasing per-student spending is crucial given the positive rates of returns from investment in education, observed across countries [Becker 1975, 1995; Psacharopoulos 1994, 1995; Cunha & Heckman 2007; Montenegro & Patrinos 2014]. Evidence demonstrates that rates of return are particularly high in early years of education because what is learned at that stage facilitates future learning, generating dynamic

complementarities in education (Heckman, 2008).

In order to finance the extra spending, governments could take advantage of several opportunities that are present in current tax systems. For example, Arelano & Corbo (2013) argue that in Chile implementing an efficient tax and transfer system is feasible by improving the tax administration, reducing evasion and avoidance, and reducing exemptions, franchises and special regimes. Nonetheless, LATAM is lagging behind in terms of direct taxation (Goñi et al, 2011). There is also a long way to go in the construction of more progressive tax systems in the region.

Regarding the amount of per student spending that should be publicly financed, empirical research has shown that the positive correlation between level of education spending and student achievement is statistically significant up to a threshold of US\$8,000 per student annually (Vegas & Coffin, 2015). Above that level, the association between expenditure and performance is not conclusive and experts recommend not focusing on resources, but on improving the way these are invested.

Also, the role of civil society organizations in monitoring progress towards investment goals and advocating for higher and more efficient investment should be fostered. The cases of Todos pela Educacao in Brazil and CIPPEC in Argentina are examples of effective advocacy in this direction.

### **PROMOTE POLICIES THAT ENSURE EQUITABLE INVESTMENTS AMONG STUDENTS**

It is essential to establish focalization criteria to deliver extra funding to excluded groups and underperforming students. In

Chile, the Preferential School Subsidy is delivered from the government to schools for each student who is identified as a priority according to their socioeconomic status. It also provides higher levels of autonomy and technical support to schools. Empirical research has found a positive impact on reducing the socioeconomic achievement gap (Carrasco et al, 2015).

**The G20 should promote the implementation of differentiated subsidies according to the socioeconomic status of students**

In LATAM, a child who is born in a family that is poor, indigenous, lives in a rural area, has a mother with little or no education, or a combination of these, will surely attend poor-quality schools and will have lower educational outcomes than their peers. For example, in Peru the Young Lives longitudinal study has followed two cohorts of students and shows that by age five, there are already large gaps between poor and non-poor children. These gaps are slightly reduced after several years of schooling (Cueto et al, 2016). Accordingly, governments should also strongly invest in pre- and in-service teacher training for developing the necessary pedagogical skills to face diversity in the classroom.

In federal countries, the gaps between jurisdictions result in unfair schemes of teacher retribution and other types of investment. In Argentina, historically rooted fiscal inequities are mirrored by inequities in educational investment. As a result, some provinces invest per student almost five times more than others (Rivas & Dborkin, 2018). The compensatory role of national states in these cases is necessary to build a more homogeneous map of educational investment.

Finally, full participation of students is another challenge that countries in LATAM must face in order to reduce gaps in access and learning. According to UNESCO (2017), there are 3 million children out of school in primary schools and 10 million children out of secondary schools in LATAM. Therefore, further investments and programs to reduce school dropout rates are needed. Conditional cash transfer programs have played a role in increasing coverage and attendance, and reducing dropouts, particularly in secondary schools, although the effects seem small (Garcia & Saavedra, 2017).

**ENCOURAGE THE EFFICIENT USE OF RESOURCES, PROMOTING EFFECTIVE PEDAGOGICAL PRACTICES**

SUMMA and the Education Endowment Foundation have been working together in synthesizing global and LATAM evidence on pedagogical strategies that have considerable impact on learning outcomes. Based on more than 10,000 academic articles and 200 meta-analyses, several key classroom strategies have been identified. Collaborative Learning and Feedback are among the most cost effective strategies.

Collaborative Learning develops a strategy in which students work together in groups to develop learning tasks. This model incentivizes collaboration among students to reach a common objective. Feedback consists of giving information to the learner and/or the teacher about the learner's performance relative to learning goals. The aim is to redirect actions, and to align efforts and activities. Evidence demonstrates that this practice has a positive impact. In fact, compared to a control group, students whose teacher provides adequate and timely feedback tend to progress eight

additional months in an academic year in terms of their learning outcomes. Moreover, this practice is one of the cheapest to implement, among more than 30 identified strategies (SUMMA, 2018).

### **Implementing the most cost-effective pedagogical practices identified by empirical research is the key**

The G20 should promote focusing public resources on effective pedagogical practices to allow LATAM countries to catch up several additional months of learning a year. Nevertheless, this is not likely to happen by itself. Governments should push forward a national agenda addressing the most pertinent practices for each locality, and providing resources and technical advice for a successful implementation.

Additionally, the G20 should encourage governments to increase the access to information and communication technologies. However, research shows that just providing technology, without considerations to pedagogical planning, will not deliver higher levels of learning. Thus, use of technology under a guided model would seem to be more promising (Arias & Cristia, 2014).

### **ESTABLISH ADEQUATE AND EFFECTIVE INSTITUTIONAL FRAMEWORKS IN EDUCATION**

Evidence suggests the need to promote national policies that strengthen public education and collaboration among schools, instead of privatisation and competition. Cooperation networks among schools seem to be a crucial factor behind quality improvement (Muijs, 2010). Comparative evidence shows that when these networks exist, schools help each other by discuss-

ing relevant topics, evaluating each other in order to identify weaknesses, and most importantly, sharing resources, experiences and strategies (Hill and Matthews, 2010).

## **»Governments should strongly invest in pre- and in-service teacher training«**

### **The G20 should promote a change of the prevailing education paradigm to foster more collaborative school systems**

Students in LATAM would also benefit from integrated interventions that combine programs addressing nutrition, health, and the reduction of poverty. Perhaps the first obstacle is the lack of integrated information systems; thus, strengthening these systems is proposed.

Also, LATAM countries would benefit from educational pilot projects that are rigorously tested and carefully expanded. A good example is the MINEDU Lab, developed by the Ministry of Education in Peru, which has carefully tested several interventions in that country, in collaboration with academia and the private sector. Accordingly, developing capacity to do high-quality and policy-relevant research in education would be beneficial to LATAM.

Acemoglu, D. & Robinson, J.A. (2012). *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. New York: Crown.

Arias, E. & Cristia, J. (2014). *The IDB and Technology in Education: How to Promote Effective Programs?* Inter-American Development Bank No. IDB-TN-670. Washington, D.C. Report available at <https://publications.iadb.org/handle/11319/6550#sthash.0M08AJpW.dpuf>

Becker, G. S. (1975). *Front matter, human capital: a theoretical and empirical analysis, with special reference to education*. In *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, Second Edition (pp. 22-0). NBER.

Becker, G. S. (1995). *Human capital and poverty alleviation*. World Bank, Human Resources Development and Operations Policy.

Bezem, P. (2012). *Equidad en la distribución de la oferta educativa*. Documento de Trabajo N° 91. Retrieved from: <https://www.cippec.org/wp-content/uploads/2017/03/2513.pdf>

Carrasco, R., Pérez, M., & Núñez, D. (2015). *Hacia una distribución más equitativa de las oportunidades educativas: ¿cuál es el impacto de la política de Subvención Preferencial en el desempeño académico de los alumnos más vulnerables en Chile?*. *Pensamiento Educativo*, 52(2).



- Cueto, S., Miranda, A., León, J. & Vásquez, M. C. (2016). *Education Trajectories: From Early Childhood to Early Adulthood in Peru*. Country Report. University of Oxford: Young Lives.
- Cunha, F. and J. Heckman (2007). The Technology of Skill Formation, *American Economic Review*
- Duflo, Esther, Rema Hanna, & Stephen P. Ryan. "Incentives work: Getting teachers to come to school." *The American Economic Review* 102, no. 4 (2012): 1241-1278.
- García, S. & Saavedra, J. E. (2017). Educational Impacts and Cost-Effectiveness of Conditional Cash Transfer Programs in Developing Countries: A Meta-Analysis. *Review of Educational Research*, 87 (5).
- Goñi, E., López, H. & Servén, L. (2011). "Fiscal Redistribution and Income Inequality in Latin America". *World Development*, Vol. 39, No 9, pp. 1558-1569.
- González, J. (2017). "Putting Social Rights at Risk: Assessing the Impact of Education Market Reforms in Chile". In B.S. Ndimande & C. Lubienski (Eds.) *Privatization and the Education of Marginalized Children: Policies, Impacts and Global lessons*. New York: Routledge
- Gonzalez, J. (2018). "The Political Economy of Inequality in Chile: Institutions and Power". In Anand, Comim, Fennell and Weiss (eds), *The Oxford Handbook of BRICS and Emerging Economies*. Oxford University Press. Forthcoming 2018.
- Hanushek, E. A. (1994), *Making Schools Work: Improving Performance and Controlling Costs*, Washington, DC: Brookings Institution, 1994.
- Hanushek, E. A. (1991), "When School Finance 'Reform' May Not Be Good Policy," *Harvard Journal on Legislation*, 28 (2) (Summer 1991), pp. 423-56, has a discussion of various aspects of the common litigation.
- Heckman, J. (2008), *Schools, Skills and Synapses*, *Economic Inquiry*, 46(3), 289-324.
- Jacob, R. & Parkinson, J. (2015). "The potential for school-based interventions that target executive function to improve academic achievement: A review." *Review of Educational Research* 85.4 (2015): 512-552.
- Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). "Cooperative learning methods: A meta-analysis" Kingston, N. and Nash, B. (2011). "Formative assessment: A meta-analysis and a call for research." *Educational measurement: Issues and practice* 30.4 (2011): 28-37.
- Knight, J. (1992). *Institutions and Social Conflict*. Cambridge: Cambridge University Press.
- Murray, S. E., Evans, W. N., & Schwab, R. M. (1998), "Education Finance Reform and the Distribution of Education Resources," *American Economic Review*, 88 (4) (September 1998), pp. 789-812.
- OECD (2016), *Education at a glance: Educational finance indicators*, OECD Education Statistics (database)
- Patrinos, H. & Montenegro, C. E. (2014). *Comparable estimates of returns to schooling around the world*. World Bank Policy Research Working Paper, 7020
- Psacharopoulos, G. (1994). Returns to investment in education: A global update. *World development*, 22(9), 1325-1343.
- Psacharopoulos, G. (1995). *The profitability of investment in education: concepts and methods*. Washington, DC: World Bank.
- Rivas, A. (2015). *América Latina después de PISA: lecciones aprendidas de la educación en siete países*. Buenos Aires: CIPPEC, Natura, Instituto Natura.
- Rivas, A. & Dborkin, D. (2018). *¿Qué cambió en el financiamiento educativo en Argentina?* Buenos Aires: CIPPEC.
- SUMMA (2017), *Innovation in Education for the 21st Century. How to accelerate change in Latin America and the Caribbean to include and develop every child's potential*. SUMMA, Laboratory of Education Research and Innovation for Latin America and the Caribbean. September 2017.
- SUMMA (2018), *Technical Appendices on Effective Education Practices*, available at <http://www.summaedu.org/effectiveducation-practices-platform/?lang=en>
- UNESCO (2017) *Global Education monitoring report 2017/8. Accountability in education: Meeting our commitments*. Paris. UNESCO. Available at: <http://unesdoc.unesco.org/images/0025/002593/259338e.pdf>
- Vegas, E. & Coffin, C. (2015). When education expenditure matters: An empirical analysis of recent international data. *Comparative Education Review*, 59(2), 289-304.