2022

Social Panorama
of Latin America and the Caribbean

Transforming education as a basis
for sustainable development

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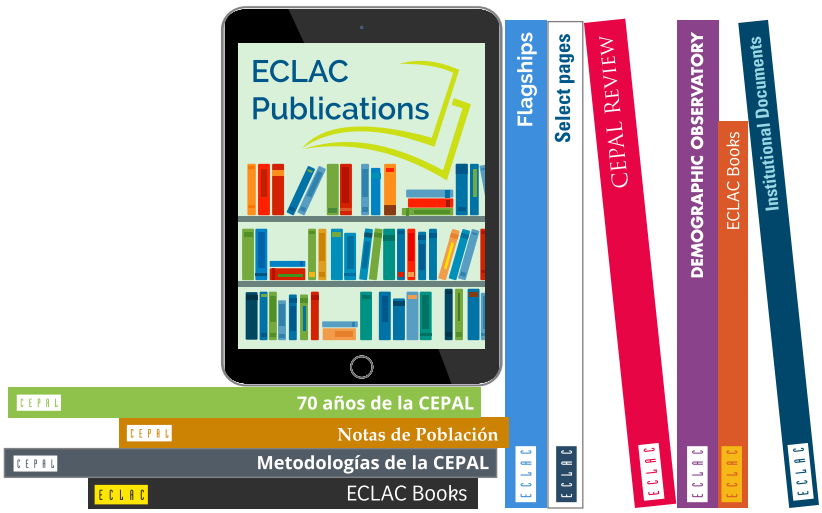

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ECLAC

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The *Social Panorama of Latin America and the Caribbean* is a publication prepared annually by the Social Development Division of the Economic Commission for Latin America and the Caribbean (ECLAC), led by Alberto Arenas de Mesa, and by the ECLAC Statistics Division, headed by Rolando Ocampo, with the collaboration of the Latin American and Caribbean Demographic Centre (CELADE)-Population Division of ECLAC, headed by Simone Cecchini, and the Division for Gender Affairs of ECLAC, headed by Ana Güezmes García.

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Explanatory notes
- Three dots (...) indicate that data are not available or are not separately reported.
- A dash (-) indicates that the amount is nil or negligible.
- A full stop (.) is used to indicate decimals.
- The word "dollars" refers to United States dollars, unless otherwise specified.
- A slash (/) between years (e.g. 2013/2014) indicates a 12-month period falling between the two years.
- Figures and percentages in graphs and tables may not always add up to the corresponding total because of rounding.

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Introduction

A. The region faces a prolonged and aggravated social crisis in a context of uncertainty into the third year of the pandemic

The Latin American and Caribbean region is navigating a complex scenario of great uncertainty that is deepening the impacts of a prolonged social crisis, with a silent and devastating impact on education. This edition of *Social Panorama of Latin America and the Caribbean* focuses on education and its place in the policy discussion for recovery in the region.

Since 2015 the region had already been seeing a deterioration in welfare levels, a stagnation in educational attainment and a slight rise in poverty rates. But the pandemic generated a major social crisis, which has now stretched into a third year. Although the COVID-19 pandemic is expected to come to an end, the region has not been able to make headway in recovering from its social impacts and regain the levels of social indicators registered in 2019, before the pandemic. Meanwhile, the region is still exposed to an unstable global geopolitical and economic scenario marked by a combination of successive crises, especially the war in Ukraine (ECLAC, 2022c, 2022g). This scenario has led to a slowdown in economic growth with slow generation of employment, especially in quality jobs, together with strong inflationary pressures that have pushed up food and energy prices, together with heavy falls in investment. Thus, after the 6.5% expansion of GDP in the region in 2021, for 2022 the Economic Commission for Latin America and the Caribbean (ECLAC) estimates growth of 3.2%, and for 2023 projects expansion of just 1.4% (ECLAC, 2022h). The lowest income quintiles are more intensely affected by high inflation, especially in the food component of the consumption basket, and the most vulnerable middle-income strata are also suffering these impacts. These factors are in addition to other ongoing risks, such as the increased frequency of disasters and the impacts of the climate emergency (ECLAC, 2021a). This context may produce a new setback in the region's social development and a scenario of instability on the social, economic and political fronts. It is therefore urgent to consolidate inclusive social policies capable of protecting and ensuring population's well-being and exercise of rights.

Of particular concern is the increase in food and nutritional insecurity amid rising food prices. According to data from FAO and others (2022), in 2021 hunger affected 56.5 million people in the region (49.4 million in Latin America and 7.2 million in the Caribbean). Rising food prices are expected to increase malnutrition, with increases in undernutrition, overweight and obesity. In 2020, 21% of the population of Latin America (117.3 million) and over 50% of the population of the Caribbean (13.9 million) could not afford to maintain a healthy diet (FAO and others, 2022). This number may be expected to have increased in the current conditions, with particular effects on children and adolescents, given the serious impact that malnutrition has on their comprehensive development and exercise of rights. ECLAC estimates indicate that 45.4% of people under 18 years of age are living in poverty in Latin America in 2022: 13.3 percentage points above the average for the total population. In particular, 18.5% of this age group are estimated to be living in extreme poverty. These young people are facing a higher risk of food insecurity because they live in households that cannot afford the basic food basket. The region urgently needs to address its ongoing debt to this age group in terms of providing universal social protection and the conditions for the full development of their capabilities, while preventing further well-being losses that would have lasting impacts over time.

This context demands a resolute response to the immediate needs of the population, while also strengthening human capacities over the medium term. This edition of *Social Panorama of Latin America and the Caribbean* makes some key warnings in relation to this objective. First, the social impacts of the pandemic have not waned and the region has been unable to regain a path of growth, poverty reduction and inequality, in a scenario marked by uncertainty, high inflation, growing labour informality and precarious job recovery. Second, the pandemic has had a heavy impact on the education sector that amounts to a silent crisis, given that face-to-face education was interrupted for a very lengthy period in the region and the immediate response to the crisis did not address learning loss effects, so that pre-existing educational inequalities were deepened further. This crisis, together with the critical deprivations faced by children and the risks of increased food insecurity, jeopardizes the development and well-being of an entire generation of children, adolescents and young people and leaves a scar that undermines development opportunities in the region. This scarring effect will be manifested in the expected impacts on the educational and employment trajectories of the generations affected by the prolonged closure of schools and the economic effects of the pandemic, with short- and medium-term losses in income, socioemotional well-being and learning opportunities, which require urgent action to remedy (see chapter II). In light of the foregoing, it is imperative to set educational processes back on track and transform the sector, in tune with the processes of change under way in the world of work, to increase investment in the education sector from early childhood, and to achieve sustainable development with equality. Third, the prolonged social crisis has once again made it all the more urgent to advance in the construction of welfare states in the countries of the region, with stronger social institutions capable of providing basic welfare guarantees and addressing structural inequalities. This requires careful consideration of the financial sustainability challenges and discussion of the criteria that will shape progressivity, planning, political will and broad consensus for the construction of the social and fiscal compacts that the region needs in order to advance towards inclusive social development.

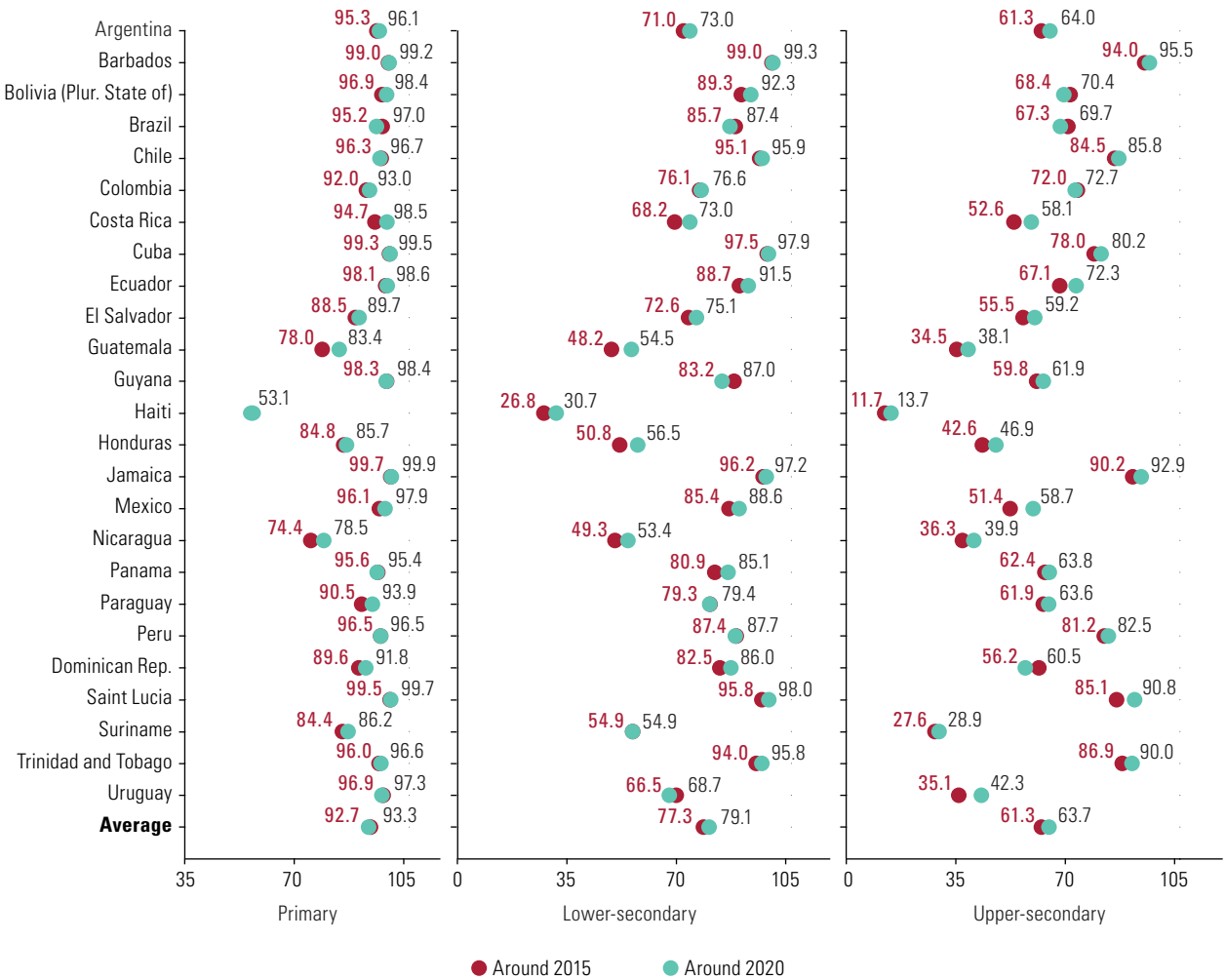
B. A silent crisis in education affecting new generations and exacerbating pre-existing inequalities

As discussed in chapter II, face-to-face classes were suspended in Latin America and the Caribbean for the lengthiest periods of any world region. An entire generation of students experienced as much as two full academic years of discontinuity of studies or patchy remote access. This, in turn, has led to gaps in skills development, loss of learning opportunities and the risk of increased school dropout. It has also contributed to weakening the protection of other essential rights of children and adolescents, including through exposure to violence (ECLAC/UNICEF/OSRSG-VAC, 2020).

This silent crisis has shown that education systems were unprepared to face these changes, exacerbating the educational inequalities that existed prior to the pandemic. The countries made major efforts to establish home-based forms of educational continuity using remote means, but infrastructure and digital equipment suffered from weaknesses and inequalities and the skills were lacking to transform teaching methods and to maintain the educational link with the entire student population.

In the past 20 years, the region has shown great progress in the proportion of the population completing different levels of education, in promoting the inclusion of populations historically excluded from education and in reducing the gap in access and coverage between different social strata. However, this progress slowed from 2015 onward. Progress also continued to be uneven and, for example, the gaps in the graduation rate were particularly evident from secondary school onwards (see figure 1). Most of the countries in the region were reaching almost universal primary education completion around 2020. The trend was more mixed in secondary education, with slow progress in recent years and some countries far from achieving target 4.1 proposed for 2030 under Sustainable Development Goal (SDG) 4[1] and indicator 4.1.2.

Figure 1
Latin America and the Caribbean (25 countries): completion rates in primary, lower-secondary and upper-secondary education, around 2015 and 2020
(Percentages)



Source: United Nations Educational, Scientific and Cultural Organization/United Nations Children's Fund/Economic Commission for Latin America and the Caribbean (UNESCO/UNICEF/ECLAC), *Education in Latin America at a crossroads. Regional monitoring report SDG4 - Education 2030*, Paris, 2022.

[1] Target 4.1 calls for: "By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes".

The sustained expansion achieved in recent decades in education access, coverage and progression, thanks to opening and diversification of the educational supply (particularly in secondary education), has also generated greater segmentation in outcomes and quality. This segmentation is reflected in different dimensions, some long-standing and others newer, but all traversed by the axes of what ECLAC has termed the matrix of social inequality in the region, such as the student socioeconomic level, their territory, meaning either urban or rural residence, and their race and ethnic origin (ECLAC, 2016). The greatest growth in access and coverage in recent years has occurred at the pre-primary and higher education levels, but significant inclusion challenges remain.

Even before the pandemic, there were troubling gaps in the quality of education and student learning outcomes. In relation to learning outcomes at the primary level, as analysed in *Education in Latin America at a crossroads. Regional monitoring report SDG4 - Education 2030* (UNESCO/UNICEF/ECLAC, 2022), comparison of the results of the Third Regional Comparative and Explanatory Study (TERCE) (2013) and the Regional Comparative and Explanatory Studies (ERCE) (2019)[2] shows performances that have remained practically stable or with very slight changes and even some setbacks.

This contrasts with the positive trends of the previous period, as shown by the comparison between the second and third regional comparative and explanatory studies (2006 and 2013), where student outcomes improved in all areas and years of study assessed. The percentage of students reaching the minimum proficiency level, as called for in SDG indicator 4.1.1,[3] reveals low learning outcomes in the region. In 2019, in the average of the countries evaluated, 54.6% of third-grade students reached this level in reading and 50.9% in mathematics, and 31.3% of sixth-grade students in reading and 17.2% in mathematics.

Approximately half of 15-year-old students from the 10 Latin American countries that participated in the 2018 Programme for International Student Assessment (PISA) of the Organisation for Economic Co-operation and Development (OECD) achieved the minimum levels of reading proficiency. This proportion was slightly lower in science, and fell to one third of students in mathematics. The results also show that the regional average did not change significantly in the three areas between 2015 and 2018.

In addition to the slowdown in the progress achieved hitherto, there are access and completion gaps in different levels of education to the detriment of Indigenous peoples and Afrodescendent populations. These have to do with the lack of cultural relevance of educational content and methodologies and shortfalls in both teacher training and intercultural approaches in education policy, particularly in relation to the use of Indigenous languages, the provision of inputs and infrastructure, including basic water, sanitation and electricity services, and the lack of digital connectivity and equipment.

The population most affected in the short term by the failings in access and quality of distance education was the level corresponding to early childhood and pre-primary education. Comparative data from pre-pandemic measurements suggests that large

2 The regional comparative and explanatory studies are carried out by the Latin American Laboratory for Assessment of the Quality of Education (LLECE), coordinated by the Regional Bureau for Education in Latin America and the Caribbean of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Santiago.

3 The indicator refers to the "proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex".

learning losses occurred in basic cognitive skills in Latin American countries in this period. The Caribbean countries are already seeing outcomes that show a fall in the proportion of secondary school students achieving grades that qualify them for higher education (see chapter II). These impacts must be understood in light of the inequalities that, even before the pandemic, coexisted with risks to the comprehensive development of children and adolescents and their exercise of rights.

Children and adolescents in Latin America and the Caribbean experience profound inequalities and deprivations stratified by income levels; this was already in evidence before the COVID-19 pandemic. As discussed in chapter I, children and adolescents living in income poverty are the worst affected by the lack of adequate services and by overcrowded housing, the low educational attainment of the adults responsible for them, and by the lack of Internet access and devices to connect online at home. This does not mean that children and adolescents who are not poor are not affected. On the contrary, there are significant levels of deprivation in access to goods and services that are important for learning among the non-poor low-income and lower-middle-income strata.

Deprivations in services and material housing conditions affect educational outcomes, because children require healthy and safe environments for learning (Cunningham and MacDonald, 2012). Around 2021, in the regional averages, 52% of children and adolescents living in income poverty experienced critical deprivations in material housing conditions and basic services, and 55% experienced overcrowding. The majority of children and adolescents living in poverty also had responsible adults with low educational attainment (in 53% of cases) and lived mainly in households without Internet connection (in 62% of cases). Overcrowding and lack of Internet access affected 40% and 44%, respectively, of children and adolescents in non-poor, but low-income households, and 26% and 29% in the lower-middle-income stratum.

Addressing the poverty and deprivation experienced by children and adolescents in the region requires a firm, high-level political commitment to achieve substantive improvements in their well-being, as indicated in the call made by the United Nations Secretary-General at the Transforming Education Summit held in September 2022. An important example of this is the action by the European Union described in box 1.

Box 1
European Union Recommendation 2021/1004 establishing a European Child Guarantee

The European Pillar of Social Rights Action Plan, which is aimed at building a fair and inclusive Europe, includes the objective of reducing the number of people at risk of poverty or social exclusion by at least 15 million, at least 5 million of them children, by 2030 (European Commission, 2021). With a view to this target, in addition to the *EU strategy on the rights of the child* (European Commission, 2022), the Council of the European Union adopted the European Child Guarantee (ECG) in June 2021. This represents unprecedented progress at the European level in terms of public policies aimed at combating child poverty and social exclusion (*Official Journal of the European Union*, 2021).

ECG provides guidance and tools for European Union countries to ensure that all children at risk of poverty or social exclusion in Europe are protected and have access to essential services to promote equal opportunities. In a context in which almost 20% (18 million) of children in the European Union are at risk of poverty, with inequalities that have been exacerbated by the crisis generated by the COVID-19 pandemic, this guarantee seeks to break the vicious circle that is generated at an early age and widens inequalities throughout the life cycle.

Under the Guarantee, each member State must determine the public policy framework and the services it will offer, depending on its own context. The basic recommendation is to ensure "effective and free access to high quality early childhood education and care, education and school-based activities, at least one healthy meal each school day and healthcare", as well as "effective access to healthy nutrition and adequate housing" (*Official Journal of the European Union*, 2021). It is also recommended that member States establish an integrated framework for action to address child social exclusion, in order to break intergenerational transmission of poverty and inequality, and that they assess economic and other barriers and consider structural and cross-sectoral reforms to materialize those guarantees. Special attention is afforded to children with disabilities or mental health problems, migrants, ethnic minorities and children in alternative care arrangements.

In relation to financing sources, national action plans for the implementation of this guarantee, in addition to domestic funds and in order to ensure that no child is left behind, countries may apply to the European Social Fund Plus (ESF+) and to the Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU) and InvestEU initiatives, and to the Recovery and Resilience Facility. The most affected countries must set aside at least 5% of the ESF+ budget for combating child poverty and social exclusion.

The European Child Guarantee offers an example of progress in concerted efforts to ensure universal and comprehensive social protection, combat social exclusion and resolutely address inequalities from early childhood.

Source: European Commission, "The EU Strategy on the Rights of the Child and the European Child Guarantee", 2022 [online] https://ec.europa.eu/info/policies/justice-and-fundamental-rights/rights-child/eu-strategy-rights-child-and-european-child-guarantee_en; "The European Pillar of Social Rights Action Plan", 2021 [online] https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/european-pillar-social-rights/european-pillar-social-rights-action-plan_en; and *Official Journal of the European Union*, "Council Recommendation (EU) 2021/1004 of 14 June 2021 establishing a European Child Guarantee", Luxembourg, 14 June 2021.

C. The region is failing to reduce poverty and extreme poverty to pre-pandemic levels

In aggregate terms, the reduction in inequality in the region came to a halt and remained virtually unchanged from 2017. The rapid decline from 2002 onward in these indicators slowed in the early 2010s, and they remained stable from 2017 on, with a slight worsening in 2020 that was reversed in 2021. In short, almost two years after the onset of the pandemic, in 2021 regional inequality may be said to have returned to the situation observed in 2019 (see figure 2).

However, the regional average in the latter period masks variations in the countries that deviate from this apparent stability. Analysis of trends in nine countries where inequality can be compared as measured by the Gini and Atkinson indices allowed three groups of countries to be distinguished: those where inequality decreased in 2020 and in 2021 (Argentina, the Dominican Republic and Paraguay); a second group in which the Gini index in 2021 is similar to that of 2019 (Brazil, Colombia and Peru); and three other countries in which inequality increased during that period (Costa Rica, Ecuador and Uruguay). In almost all the countries mentioned, with the exception of the Dominican Republic, the variations in inequality reflected mainly rising or falling household income in the lower distribution quintiles.

A major setback occurred in 2020, with extreme poverty rising to levels not seen for two decades. In 2021, with the recovery of economic activity, more households were able to generate sufficient income to lift themselves out of poverty. The poverty rate in Latin America reached 32.3% of the population in 2021, or 0.5 percentage points lower than in 2020. There was no appreciable improvement in extreme poverty: the 12.9% registered in 2021 was only 0.2 percentage points below the 2020 level (13.1%) (see figure 3).

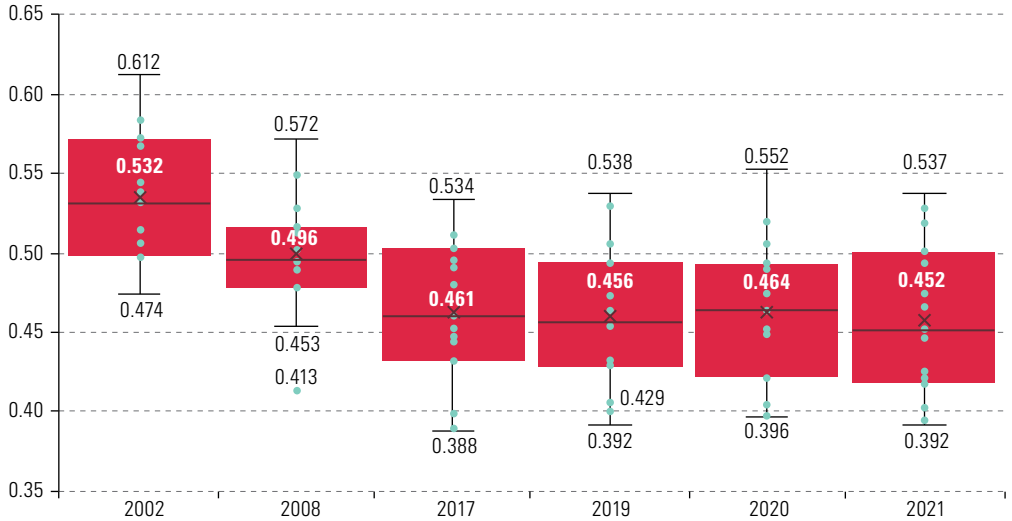


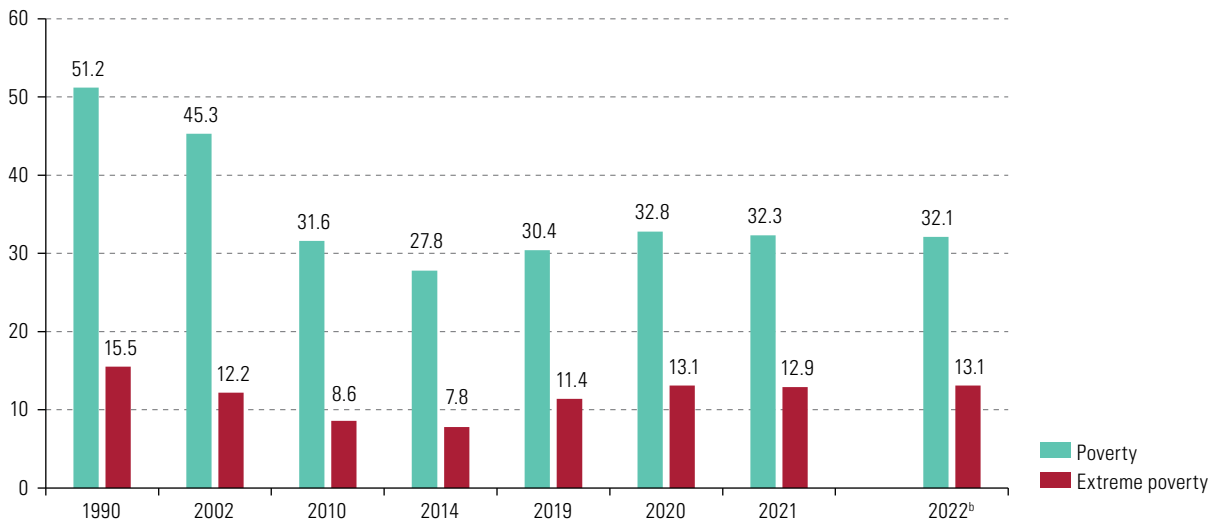
Figure 2
Latin America (15 countries):[a] Gini index of inequality, 2002–2021
(Values from 0 to 1, where 0 = no inequality and 1 = maximum inequality)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the Household Survey Data Bank (BADEHOG).

Note: Incomes equal to 0 were taken into account in calculating the Gini index. The data are for the year shown or the closest earlier year available.
The horizontal line within each box shows the median of the data, X marks the mean and the circles represent country values. The upper and lower edges of each box represent the Gini index values for the top 25% and the bottom 25% of the countries ranked by this indicator.

[a] Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

Figure 3
Latin America (18 countries):[a] poverty and extreme poverty rates, 1990–2021 and projections for 2022
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG).

[a] Weighted average for the following countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

[b] Projections.

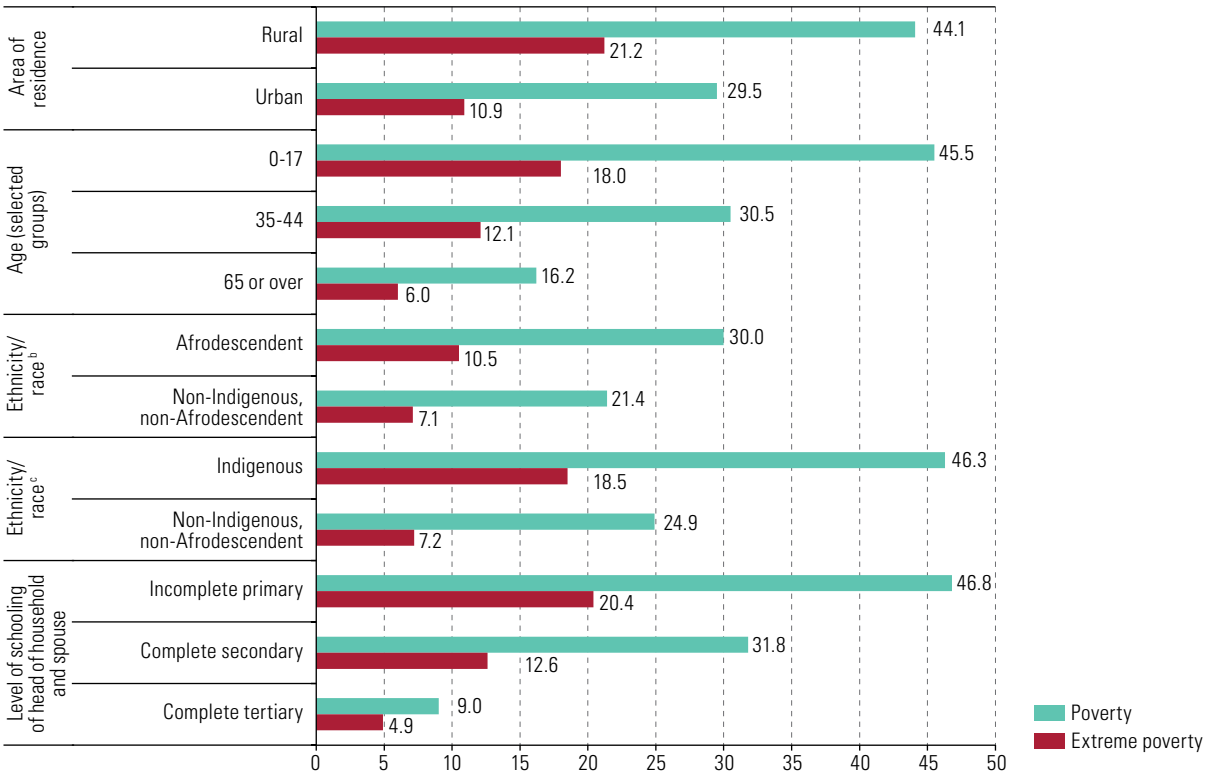
The countries showing the largest decreases in poverty in 2021 (Argentina, Colombia and Peru) are also those that experienced the largest increases in 2020. Brazil was the only country to see an appreciable increase in extreme poverty and poverty in 2021, after being the only one where both indicators fell in 2020. Despite declining in the region, poverty and extreme poverty remain higher than before the pandemic.

The drop in income that occurred in 2020 in practically all countries reflected a sharp fall in labour income, which was partially offset by an increase in public cash transfers. In 2021, the reverse occurred, with a recovery of labour income as the main factor underpinning the rise in income for low-income households. Government transfers to households tended to decline as emergency programmes implemented to cope with the loss of income during the pandemic began to be withdrawn.

The outlook for 2022 combines two opposing trends. On the one hand, the economic growth projected, though considerably lower than in 2021, should translate into an increase in employment and household income. On the other hand, the accelerating inflation seen in the course of the year has eroded the purchasing power of incomes, especially in the lower strata. The data available at the time of writing shows that real wages have fallen in several countries, but that the number of employed has also grown. Considering both factors, in 2022 poverty may be expected to reach 32.1% and extreme poverty 13.1%, i.e. a slight decrease in poverty and a slight increase in extreme poverty compared to 2021. The evolution of these indicators should be tracked with special attention, in a context marked by economic instability, high informality and weak recovery of quality jobs, which together result in widespread household vulnerability, especially for those living in poverty and extreme poverty in the region. The social protection policies that countries are able to adopt in response to the current juncture, within the framework of universal, comprehensive, sustainable and resilient systems, will be key to addressing these challenges. As discussed in chapter I, so far, several measures are in the process of implementation, although it is still too early to assess their potential to mitigate future increases in poverty and extreme poverty.

Likewise, attention must be drawn once again to the significant inequalities seen in Latin America with respect to the way in which poverty and extreme poverty affect different population groups in relation to the axes of social inequality (see figure 4). In 2021, poverty and extreme poverty disproportionately affected children and adolescents, and in the population aged 65 and over almost tripled the rate in the general population. Both rates were considerably higher among Indigenous, Afrodescendent or rural populations than among non-Indigenous, non-Afrodescendent or urban populations. The incidence of poverty and extreme poverty is significantly higher among those living in households whose main income earner and his or her spouse have only incomplete primary education: among this population, poverty is 46.8% and extreme poverty 20.4%; among those living in households whose main income earner and his or her spouse has completed tertiary education, poverty is 9% and extreme poverty, 4.9%.

Figure 4
Latin America (18 countries):[a] people living in poverty and extreme poverty by area of residence, age, ethnicity or race and educational level of head of household and of spouse, 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG).
[a] Weighted average for the following countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.
[b] Refers to 8 countries: Brazil, Colombia, Ecuador, Guatemala, Nicaragua, Panama, Peru and Uruguay.
[c] Refers to 11 countries: Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Nicaragua, Panama, Peru, Plurinational State of Bolivia and Uruguay.

D. Although the pandemic is expected to come to an end, the social crisis continues and health-related challenges are intensifying

Almost three years after the outbreak of the COVID-19 pandemic, the World Health Organization (WHO) has stated that its end is in sight, with death rates from COVID-19 declining globally and approaching the numbers reported in March 2020 (WHO, 2022a). Although this does not mean that the SARS-CoV-2 virus will disappear, mortality rates for COVID-19, both globally and in Latin America and the Caribbean, show that the virus has become much less lethal (see figure 5). COVID-19 is thus expected to become endemic, i.e. a virus that is constantly present in a clearly defined geographic area or population group, as the influenza virus is, for example (CDC, 2012).

Figure 5
Latin America and the Caribbean (33 countries) and world total: 7-day moving average of confirmed COVID-19 deaths (1 February 2020–4 September 2022)
(Thousands of persons)

Source: H. Ritchie Ritchie and others (2022), "Coronavirus Pandemic (COVID-19)", Oxford, University of Oxford, October 2020 [online database] https://ourworldindata.org/coronavirus-testing.

Although this may be a positive scenario epidemiologically speaking, the social crisis triggered by the pandemic is not over. Latin America and the Caribbean is still facing the various challenges of the impacts of the pandemic on dimensions that are central to the region's inclusive social development.

This can also be seen in the impact of the pandemic on the health of the population and the situation of the countries' health systems. Latin America and the Caribbean has been one of the regions hardest hit by the pandemic since its outbreak in February 2020, in terms of both infections and confirmed deaths from COVID-19. According to available data on confirmed COVID-19 deaths (WHO, 2022b), the region continues to show a greater vulnerability to the pandemic since, as of 2 September 2022, the region accounted for 26.7% of the total reported deaths from COVID-19, with just 8.4% of the world population (United Nations, 2019). This overrepresentation has continued over time: data on excess mortality during the first two years of the pandemic show the region with 15.2% of the global cumulative value (WHO, 2021).

The impact of the pandemic on excess mortality in Latin America and the Caribbean is such that the region's life expectancy at birth fell by 3 years between 2019 and 2021, from 75.1 years to 72.1 (ECLAC, 2022f). This is the largest drop anywhere in the world in this indicator caused by the pandemic. In addition, the effect of displacement of care for diseases other than COVID-19 during the pandemic has had a strong impact on the region's health systems, as a result of accumulated regular morbidity owing to the postponement of care or interruption of medical treatment (ECLAC, 2022b). Thus, health systems have been faced with the challenge of reorganizing to meet the population's delayed health needs in a timely manner and to meet the unmet health-care demand resulting from the pandemic itself.

Another area where significant challenges remain as a result of the pandemic is with respect to progress in vaccinating the population. This measure, together with the set of public health and social protection measures implemented by the countries of

the region, has been fundamental in containing the spread of the SARS-CoV-2 virus and mitigating its impact on human health. However, profound inequalities remain in access to vaccines, with 22 of the 33 countries in the region still not having reached 70% of the total population with at least two doses as of 10 November 2022, and 7countries below the threshold of 40% of the population fully vaccinated.[4] This inequality not only represents a violation of health rights; it also adds to uncertainty about possible alterations or mutations of the SARS-CoV-2 virus that could be more aggressive and produce a setback in the current epidemiological situation.

The region's vulnerability to the pandemic and the setbacks it suffered in various dimensions of sustainable development are largely explained by pre-existing gaps in health, which reflected the social determinants of health driven in turn by the axes of the region's social inequality matrix, together with the structural weaknesses of the health and social protection systems (ECLAC, 2022b).

Against this backdrop, the impact of the COVID-19 pandemic demonstrates both the need and the opportunity to transform health systems towards being universal, comprehensive, sustainable and resilient. This means: (i) guaranteeing universal and effective access to comprehensive and quality health services (PAHO, 2018); (ii) strengthening the first level of care under models focused on the needs of individuals, their families and communities; and (iii) improving integration and coordination of health systems with social protection systems (ECLAC, 2022b, Cid and Marinho, 2022). To this end, it is urgent to increase public spending on health, with sustainable financing, on the basis of a new social compact supported by a new fiscal covenant. This must go hand in hand with a reduction in out-of-pocket spending and a more solidarity-based financing model that will help to end the segmentation typical of the region's health systems, whereby different health subsystems specialize in different segments of the population and therefore reproduce health inequalities. It is also a priority to make health systems more resilient in order to be prepared for future crises and potential pandemics.

Along with these urgent transformations to health systems, in the short and medium terms it will be imperative to develop new mechanisms of adaptation in the event of crises. This implies challenges in multiple public policy areas. In terms of education systems, for example, the population overall needs to undergo continuous preparation to face new crisis episodes, be they health crises or events associated with the ongoing climate crisis, consolidating preventive protocols that can support continuity in students' education and avoid fresh interruptions. The pandemic also had a significant impact on the socio-emotional well-being and mental health of children, adolescents and youth, as well as on teachers and support staff working in schools. In some cases, the effects of the prolonged absence from socialization have been reflected during school reopening, with issues of conflict and school violence. Although these are expressions of deeper social problems (particularly violence), they have been exacerbated as a consequence of the interruption to educational trajectories. All this requires that health and education policies be coordinated to ensure the necessary support for the recovery of education and the educational pathways of this generation of students.

[4] The countries with less than 40% of the population fully vaccinated are Grenada, Guatemala, Haiti, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Suriname. The countries that have still to reach 70% vaccination coverage are Antigua and Barbuda, Bahamas, Barbados, Belize, the Bolivarian Republic of Venezuela, Dominica, the Dominican Republic, El Salvador, Guyana, Honduras, Mexico, Paraguay, the Plurinational State of Bolivia, Saint Kitts and Nevis, and Trinidad and Tobago.

E. The challenges of a highly informal labour market that generates and deepens inequalities

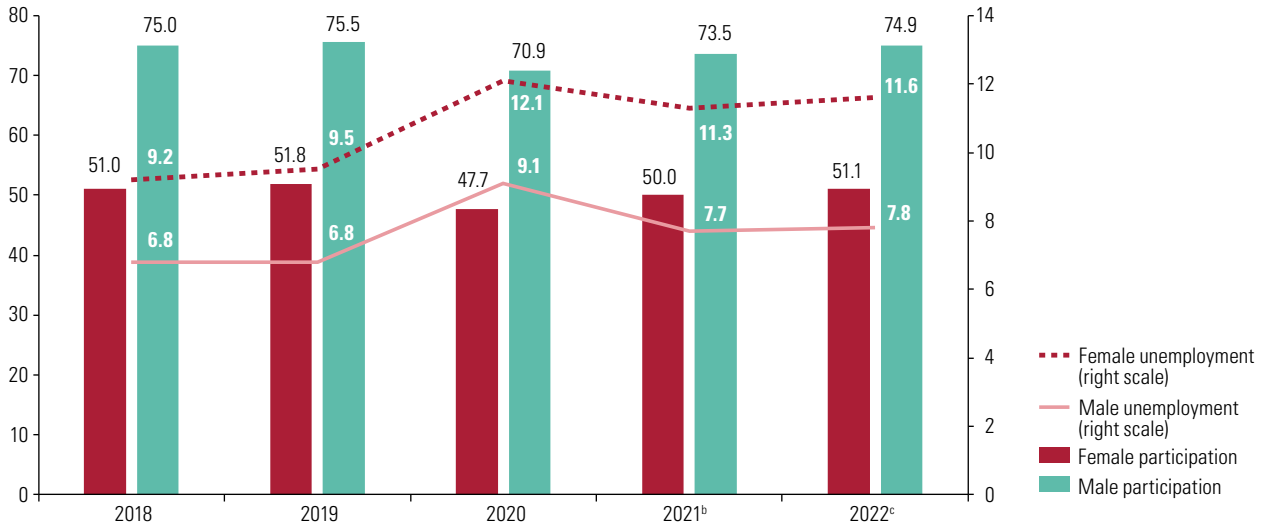
The impacts of the COVID-19 pandemic and the measures taken to contain it had a serious impact on the labour market. Almost three years after the pandemic began, Latin America and the Caribbean have seen a partial recovery in employment, although the indicators are still lower than they were before the pandemic. As ECLAC has documented (2021c, 2022a and 2022b), this recovery has been slow, incomplete and asymmetrical, with a lag in employment levels compared to economic activity and the persistence of structural inequalities, particularly for women and young people. Projections indicate that the future of the region's labour markets remains complex and uncertain, with slowing growth in the number of employed, as well as an increase in unemployment and labour informality (ECLAC, 2022a; Maurizio, 2022).

Indeed, after the historic contraction in the number of employed in the region during 2020, employment showed a strong upturn at the end of 2021, although not enough to bring it back to pre-pandemic levels (Maurizio, 2022). With the end of the lockdown measures and mobility restrictions imposed to contain the spread of the pandemic, labour market participation increased in most countries in 2021. This growth was accompanied by a significant increase in the employment rate and a fall in the unemployment rate, although to different extents in each country. As discussed in chapter I, the expansion of labour demand had a direct impact on household income, with employment income growth rates above 10% in Argentina, Costa Rica and Peru. However, given the context of slowing job creation in most countries in the region, figures for the first quarter of 2022 for 14 countries in Latin America and the Caribbean show a total employment rate of 56.2%, still lower than in 2019. Meanwhile, in the first quarter of 2022, for the same group of countries, the total participation rate also showed partial signs of recovery, at 62.4%, about one percentage point below its 2019 level. Gender inequalities in this indicator continued during the recovery in the labour markets. Unemployment rates, too, show gender asymmetries (see figure 6). Despite improving in 2021, unemployment projections for 2022 show it still higher than in 2019 (ECLAC, 2022a and 2022j).

The partial recovery of employment has occurred mostly in the informal sector, which accounts for around 70% of net job creation in several countries in the region (ILO, 2021). Figure 7 shows the evolution of the informal employment rate taking 2019 as a reference. It shows an initial drop between the first and second quarters of 2020, followed by an upturn which, by the end of 2021, took the rate slightly above pre-pandemic levels. The recovery of employment driven by the informal sector is a sign of great vulnerability, over the long term, to the risk of falling into poverty or to the effects of inflation, given the lack of access to social protection mechanisms and a high level of job insecurity.

Figure 6

Latin America and the Caribbean (24 countries):[a] labour force participation and unemployment rates, by sex, 2018–2022
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries and projections.

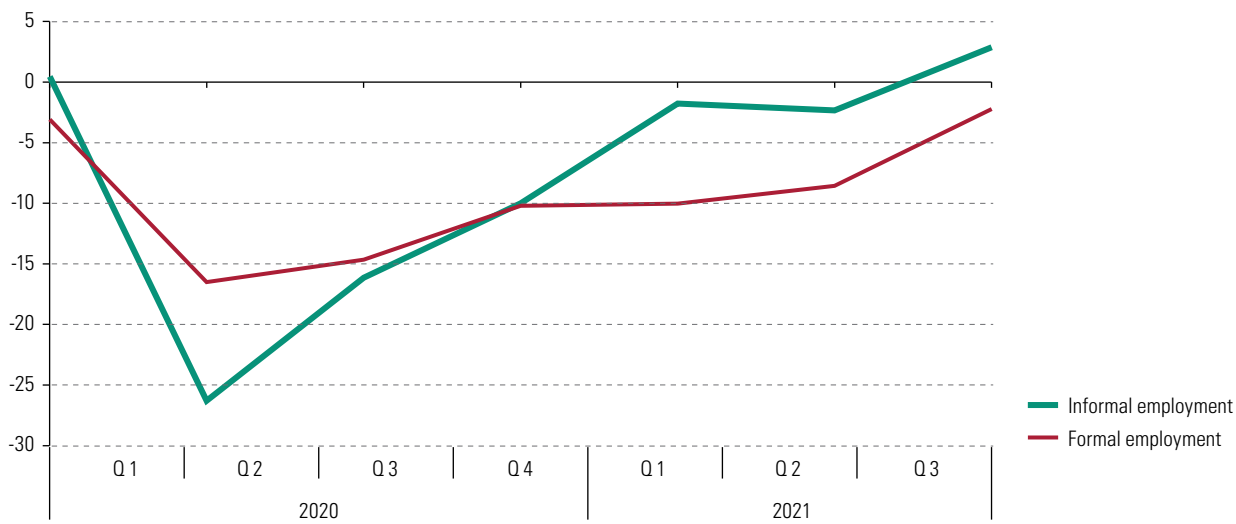
[a] Weighted average for the following countries: Argentina, Bahamas, Barbados, Belize, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia, Trinidad and Tobago, and Uruguay.

[b] Preliminary figures.

[c] Values projected for 2022 in ECLAC, *Economic Survey of Latin America and the Caribbean, 2022* [online] https://www.cepal.org/sites/default/files/presentation/files/ppt_eei_2022_rev_jl_05092022.pdf.

Figure 7

Latin America (10 countries):[a] number of workers (formal and informal), with respect to 2019
(Percentage variation)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Towards transformation of the development model in Latin America and the Caribbean: production, inclusion and sustainability* (LC/SES.39/3-P), Santiago, 2022, on the basis of International Labour Organization (ILO), ILOSTAT [online database] https://ilostat.ilo.org/.

[a] Argentina, Brazil, Chile, Costa Rica, Dominican Republic, Ecuador, Mexico, Peru, Plurinational State of Bolivia and Uruguay.

The recovery and strengthening of education systems will play a key role in the transformation of the current context of deep structural inequalities and gaps in access to social protection, in order to make outright progress towards labour inclusion and decent work and to face the renewed risks arising from changes and transformations in the world of work and the current scenario of recurring crises.

F. Gender inequalities in educational and employment trajectories

Increased access to education by girls, young women and women in Latin America and the Caribbean has been considered one of the region's great advances in terms of education in recent decades. In fact, women's rates of completion of secondary and higher education are higher than men's. On average, 67.4% of women between 20 and 24 years of age have completed secondary education, compared to 60.9% of men in the same age range (ECLAC, 2022d). Similarly, the percentage of women exceeds men at all levels of higher education, as seen in the gross enrolment rate gender parity index, which shows that 12 countries in the region have exceeded the parity threshold in women's favour, ranging from 1.05 in Mexico to 1.45 in Cuba (UIS, 2022).

However, advances in women's access to education have not translated into equal conditions in the labour market. The structural challenges of gender inequality, which are a historical and persistent hallmark of the region, are manifested in occupational segregation, the underrepresentation of women in higher-productivity and economy-driving sectors relating, for example, to the areas of science, technology, engineering and mathematics (STEM), in wage gaps and, in general, in lower participation in the labour market. In this context, the unequal burden of unpaid care work constitutes a critical structural challenge that prevents women's full participation and impedes progress towards their economic autonomy.

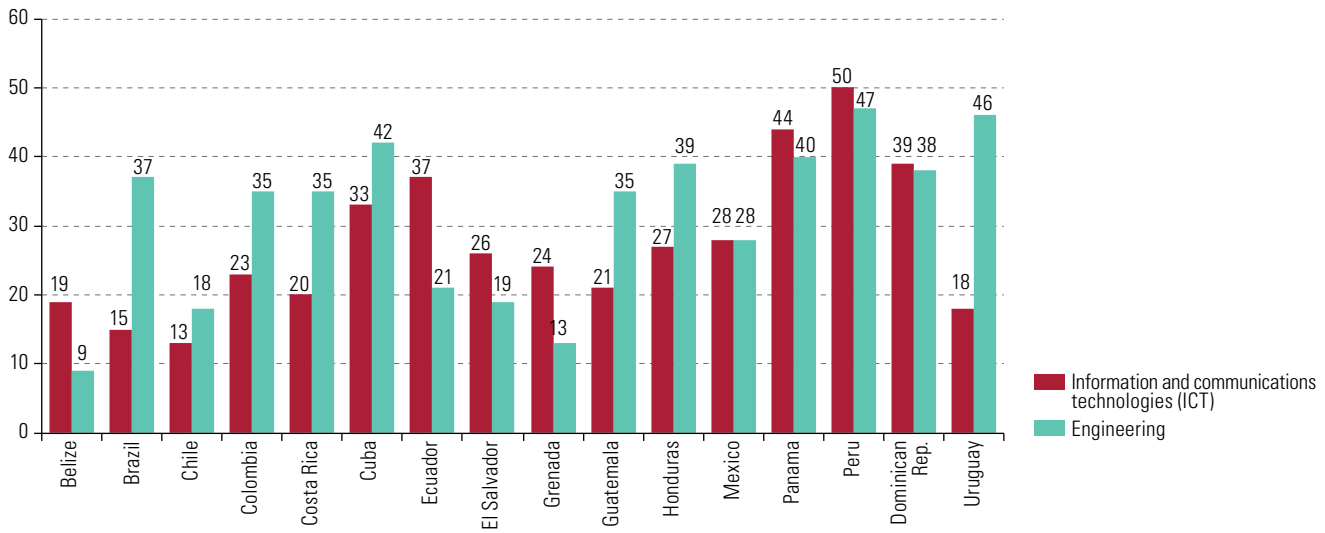
The impacts of the COVID-19 pandemic have highlighted and even deepened these structural challenges of gender inequality, as women absorbed the effects of the crisis through increased unemployment, informality, poverty, unpaid domestic and care work, and more precarious living conditions. In 2020, during the pandemic, there was a sharp exodus of women from the labour force, setting their participation rates back by almost two decades (ECLAC, 2021b).

At the same time, the effects of the pandemic have accelerated trends that were already present in the region, such as technological changes that have occurred at exponential rates and transformed entire production, management and governance systems (ECLAC, 2018). One of the main challenges in this situation is to equip the population with the capabilities and skills they need to cope with a context marked by both transformation and uncertainty (ECLAC, 2019). Education plays a fundamental role in this, as well as in the challenges linked to the potential negative effects of job automation and the gendered exposure to them.

One of the gaps in education that is most significant and impacts women's the labour market situation is their low representation in STEM courses. Women have lower rates of entry and completion in these areas. These gaps appear early in women's educational

trajectories, widen at the secondary level and have an impact on career choices and, consequently, on women's labour trajectories and economic autonomy. In Latin America and the Caribbean, less than 30% of total graduates from tertiary education between 2002 and 2017 were from STEM courses, and fewer than 40% of these were women in all except five countries and territories (Argentina, Belize, British Virgin Islands, Panama and Uruguay). In that period, some countries appear to have seen a decrease in female STEM graduates. For example, the proportion fell from 22.8% in 2008 to 18.8% in 2017 in Chile, from 34.9% in 2011 to 34.1% in 2017 in Colombia, from 32.3% in 2008 to 29.2% in 2016 in Ecuador, and from 47.8% in 2008 to 44.6% in 2016 in Uruguay (ECLAC, 2019). According to information from the United Nations Educational, Scientific and Cultural Organization (UNESCO), women are underrepresented in fields related to information and communications technologies (ICTs) and engineering, industry and construction, with less than 50% in all the countries considered (see figure 8). These gender gaps also contribute to perpetuating the low participation rate of women in research and development (R&D), scientific production, publication of academic research, patenting and representation in academic leadership positions.

Figure 8
Latin America and the Caribbean (16 countries): women as a proportion of total tertiary education graduates in information and communications technologies (ICT) and engineering, latest data available[a]
(Percentages)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), *Global Education Monitoring Report. 2020 Latin America and the Caribbean report-inclusion and education: all means all*, Paris, 2020.
[a] Percentage of female graduates from tertiary education according to UNESCO Institute for Statistics classifications in ICT and in engineering, manufacturing and construction.

A similar challenge is evident in technical and vocational education and training (TVET), which has great potential to boost the labour and educational trajectories of women in the region, especially those in low-income sectors. Secondary school TVET could be positioned as a potential area for development of applied STEM skills, since it is estimated that 50% of workforce occupations in STEM fields require technical and vocational qualifications at either the secondary or post-secondary level. However, TVET programmes are highly segregated by gender, and there are a series of curricular, organizational and cultural obstacles to girls and young women taking advantage of the potential of this type of education to develop their futures (Sevilla, 2021).

It is necessary to progress towards an economic recovery that fosters women's participation in sectors capable of driving the economy, thereby contributing to progress in the three dimensions of sustainable development (ECLAC, 2020a), eliminating income barriers, guaranteeing labour rights and ensuring, through the entire education system, the equal development of the skills necessary for the jobs of the future. This requires gender-responsive comprehensive public policies that are multidimensional and that address the structural challenges of gender inequality in a synergistic manner. This means mainstreaming the gender perspective in all employment and education policies, affording special emphasis to the link between education and employment, in order to enhance women's educational and employment trajectories. Another area of opportunity is to include TVET as an area of great potential for expanding opportunities in STEM, especially for low-income women. Finally, in line with the Regional Gender Agenda, public policies are needed to strengthen STEM vocations that represent progress regarding the elimination of gender stereotypes and the development of digital skills among women, especially those with lower income levels. This implies making progress towards ending the sexual division of labour and the unfair social organization of care, which is one of the barriers that has the greatest impact on women's educational and employment trajectories. To this end, it is essential to promote social co-responsibility for care, reduce the burden of care in households and move towards systems that ensure care as a right, as well as to invest in the care economy as a central element of sustainable development with equality.

G. The crisis in education opens opportunities to address its structural problems

The education crisis opens up an unprecedented opportunity to drive the recovery and transformation of education systems to foster comprehensive development and human capabilities that can have an impact on strategies for sustainable development with equality. In particular, the pandemic has opened a space to debate, disseminate and identify the structural problems that the education sector was already suffering and that need to be addressed in order to transform the sector. It has become clear that it is imperative to design, invest in and implement strategies and policies for the recovery and transformation of education, in order to make the leap needed to face the uncertainties, new challenges and rapid changes of the twenty-first century (Huepe, Palma and Trucco, 2022).

Social Panorama of Latin America and the Caribbean, 2022, in line with the United Nations Secretary-General's call to convene the Transforming Education Summit in the framework of the 2022 General Assembly, offers recommendations for education in Latin America and the Caribbean, with a sense of the opportunity that lies ahead. The Vision Statement of the Secretary-General on Transforming Education (United Nations, 2022) argues that the crisis in education makes it necessary to rethink the purpose and content of education in the twenty-first century. This transformation should be based on four key areas to support student development: learning to learn, learning to live together, learning to do and learning to be. The Summit agreed upon five thematic action tracks that require attention in order to mobilize the transformation of education, and this edition of *Social Panorama* puts forth recommendations for education policies for the region in line with these action tracks.

The first action track concerns the need for inclusive, equitable, safe and healthy schools, and to this end, makes these recommendations for the region:

- Expand the coverage of early childhood education, which should be a priority in the regional policy agenda for equality, because the foundations of learning and the main drivers of inequality are present from early childhood.
- Continue and accelerate progress towards universal secondary education, which, as ECLAC has been arguing for over a decade, is the minimum standard for fostering pathways out of poverty and giving people greater opportunities for well-being. Chapter II identifies the institutional conditions needed to support this process and regain the path towards one of the central targets of Sustainable Development Goal 4.
- Coordinate education with other public policy sectors to address the gaps in educational inclusion structured by the axes of the matrix of social inequality in the region (in terms of gender, socioeconomic level, ethnicity and race, territory, disability and migratory status).

The second action track adopted at the Transforming Education Summit addresses learning and skills for life, work and sustainable development. In the context of the learning crisis that the region is experiencing and the risks of widening gaps, it is crucial to:

- Resume evaluation processes in order to ascertain more clearly the impact that the closure of educational establishments and distance education has had on learning processes, in order to be able to design better recovery strategies.
- Take advantage of the lessons in innovation gained during the crisis to rethink the set of core competencies and skills to be developed.
- Foster the development of cognitive and socioemotional competencies. The importance of transferable skills, which help to increased resilience and flexibility to cope with the changes and uncertainties of the twenty-first century, has become very apparent in recent years.
- Develop training and education policies for lifelong learning that are coordinated with world of work and the productive sectors, in a context of rapid technological change. In the highly dynamic context of today, both young people and adults must have multiple opportunities to acquire new skills to complement those they already have.
- Foster higher education access and, especially, completion as the backbone of an inclusion policy. Technical and professional programmes have a strategic role to play in the region and should be strengthened.

The third action track concerns teachers, teaching and the teaching profession. During this period of protracted social crisis, education systems showed that they had major capacity to innovate, rapidly establishing different strategies to maintain teaching and learning processes (ECLAC/UNESCO, 2020). Within this framework, this edition of *Social Panorama of Latin America and the Caribbean* recommends the following (see chapter II):

- Retain successful experiences and build in strategies that have served to renew and update ways of teaching or ways of increasing educational coverage.

- Continue fostering spaces for flexibility and creativity in order to encourage innovation to increase quality, inclusiveness and educational relevance.
- Afford greater value to the role of teachers and encourage their professionalization in order to carry forward the necessary transformation in education.

The fourth action track agreed upon in the framework of the Transforming Education Summit refers to digital learning and transformation. It has become clear that education over digital media is here to stay and that certain paradigms about means of teaching no longer hold. Both digital learning and transformation must be maintained in the process of transforming education. There can be no going back to previous means of educating. Accordingly, it is important to:

- Harness digital technologies to accelerate learning recovery, improve the quality of education and reach excluded populations.
- Ensure effective connectivity, which includes connection to the Internet and electric power, as well as access to appropriate digital devices, in coordination with the digital agendas of each country. For example, to achieve this connectivity, ECLAC (2021e) estimated that the annual cost of guaranteeing a basic digital basket, which includes monthly connectivity plans, a laptop, a smartphone and a tablet per household, would amount to 1.8% of GDP in the countries where the estimate could be made.
- Invest in the development of the digital skills of the educational community, in order to make use of the resources available to improve inclusion and learning.
- Progress with implementing hybrid teaching formats, which combine face-to-face and online arenas, while allowing people greater flexibility in educational trajectories, as well as new forms of teaching that include technological tools and innovative educational resources.
- Strengthen educational management and, as part of this, instances of inclusion, follow-up and monitoring of educational processes, by means of digital media.
- The pandemic has demonstrated the need for an integrated information system to obtain data about the overall state of educational communities in relation to the possibility of crisis, in order to make systems more resilient.

The fifth and final action track agreed upon at the Transforming Education Summit, which is fundamental for the implementation of this education policy agenda, refers to financing. This is discussed in greater detail in section J. Taken together, these policies and the transformation of the education system will contribute directly over the medium term to the social and economic recovery of the region and to sustainable development, laying the foundations for the development of the skills necessary for labour inclusion under decent working conditions in the changing world of work.

H. The role of the social institutional framework in the face of a prolonged social crisis

Given the prolonged social crisis in the region, it is essential to strengthen social institutions to address the challenges identified, as well as to take advantage of the opportunity to promote strategies to advance inclusive social development. Strengthening of social institutional frameworks is one of the four pillars of the Regional Agenda

for Inclusive Social Development (ECLAC, 2020a), together with the construction of universal, comprehensive, sustainable and resilient social protection systems, quality social and labour inclusion policies, and regional cooperation and integration. Four key elements must underpin progress towards strengthening the social institutional framework: (i) coordination between regulations adapted to the challenges of the region and essential principles such as the rights-based approach, the gender approach and universalism sensitive to differences (juridical and normative dimension); (ii) coherent organizational frameworks, with clear and effective mandates, and management and personnel policies (organizational dimension); (iii) management and implementation tools supported by information and communications technologies that enable the design, execution and monitoring of quality social policies (technical and operational dimension); and (iv) sustainable financing, which must be sufficient, efficient and transparent (financing dimension).

Strengthening social institutional frameworks is a necessary structural task, as an essential part of generating good-quality social policies, as well as for ensuring the efficient, transparent and legitimate use of social investment. However, in times of crisis it is common for emergencies and the social demands to run up against a weak, fragile, unstable, opaque and unpredictable social institutional framework. This ultimately forms a bottleneck that limits the effective implementation of public policies in response to these crises and demands, and hinders legitimate shifts in social policies towards new government programmes.

Accordingly, a strengthened social institutional framework is not an obstacle to change or innovation in social policies; on the contrary, it allows them to occur in a comprehensive and less disruptive manner. Conversely, weak social institutions tend to lead to inefficient action, resources that are insufficient or not spent, and a high risk of waste, diversion or misappropriation, which together contribute to keeping institutions highly opaque and fuelling public distrust of government action.

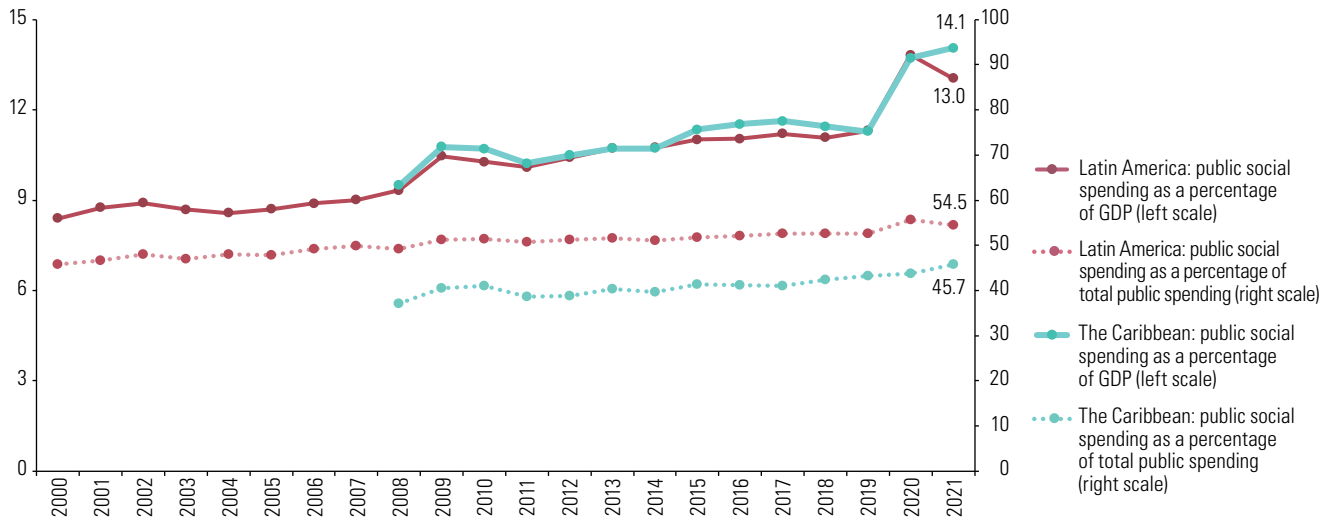
Beyond the sphere of social policies, the transformative role of the State in general, and the construction of true welfare states in particular, rest on a strengthened social institutional framework. This has a financial dimension both in terms of mobilizing the necessary resources in a sustainable manner, and in terms of ensuring effective implementation with broad legitimacy. In turn, efficiency and legitimacy in resource use make up an indispensable condition for building long-term consensus around a new social and fiscal compact.

I. Social investment for advancing inclusive social development

The financing of social policies —that is, of social investment— is one of the four interdependent dimensions of the social institutional framework and it is crucial that countries treat it in a joined-up manner with their development strategies. From the point of view of social investment, this means that the quality of social spending and its impacts are inseparable both from the volume of resources and from the social institutional framework that enables resources to fulfil their purpose in a sustainable, effective, efficient and transparent manner, through social policies and programmes that offer confidence and certainty to citizens. Given the volumes of resources mobilized for social investment and how these have evolved, there is a clear need to ensure that they are used within a framework of transparency and accountability.

As described in *Social Panorama of Latin America, 2021* (ECLAC, 2022b), during the first two decades of this century, average central government social spending in 17 Latin American countries grew relatively steadily in relation to GDP, with two significant increases during the economic crises experienced in 2000 and 2008, both followed by three years of partial reversal. In 2020, the first year of the COVID-19 crisis, central government social spending reached a new milestone, at its highest ever level (13.8% of GDP), reflecting both real growth in social spending and the fall in GDP in Latin American countries.[5] As in previous crises, the level of social spending decreased in 2021, but nevertheless remained far higher than in the years prior to the pandemic, at 13% of GDP on average, now in a year with positive economic growth rates and heterogeneous trends in social spending in the countries (see figure 9).

Figure 9
Latin America and the Caribbean (22 countries): central government social spending, 2000–2021[a]
(Percentages of GDP and of total public spending)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures from the countries and projections.
[a] For Latin America, the figures shown correspond to the arithmetic mean for 17 countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay. Coverage in the Plurinational State of Bolivia corresponds to central administration and that of Peru to general government. The data for Colombia, Panama and the Plurinational State of Bolivia refer to 2020. For the Caribbean, the averages correspond to the arithmetic mean of the values for five countries: Bahamas, Barbados, Guyana, Jamaica and Trinidad and Tobago.

Similarly, social spending as a share of total central government public spending in Latin America came down by 1.2 percentage points, on average, with respect to 2020, and stood at 54.5% in 2021. Thus, it continued to be the largest component of total public spending.

In the five English-speaking Caribbean countries for which comparable data on central government social spending were available for the period between 2008 and 2021, the historical trend in the average has been relatively similar to those in Latin America. In 2020, the first year of the COVID-19 pandemic, the level of central government social spending also rose significantly, by 2.4 GDP percentage points over 2019. In 2021, unlike in the Latin American average, public social spending continued to grow and reached a new record of 14.1% of GDP (see chapter IV).

[5] According to the 2021 figures published in *Economic Survey of Latin America and the Caribbean, 2022* (ECLAC, 2022a), all countries except the Bolivarian Republic of Venezuela and Haiti show positive annual GDP growth rates, and in 29 countries in Latin America and the Caribbean the average growth rate was 6.5%.

Social spending also increased sharply —by 2 percentage points— as a share of total central government spending between 2020 and 2021 in these Caribbean countries. This trend was the opposite to that seen in the Latin American countries, although the average proportion remains lower.[6] Conversely, in the average of total public spending as a percentage of GDP, the difference is in favour of the Caribbean countries, where it was 1.1 percentage points higher than in the average of Latin American countries in 2021.[7]

Real-term growth in the countries' central government social spending (in constant 2018 dollars) remained positive in 2021, but at significantly lower rates than in 2020. In 2021, growth in this indicator among Latin American countries averaged 1.3% (1.4% in South America and 1.3% in Central America). This is one of the lowest rates in the series analysed and, when combined with a year of higher economic growth than the previous one (6.5%, on average, in 2021), it translates into a drop in public social spending relative to GDP. In the case of the five Caribbean countries, public social spending growth has remained above the 2010–2019 average (2%), and in 2021 was in the order of 10.3%.

The distribution of resources among government functions retained the same profile of the past two decades. Spending on the health function is notable, as, on average, it has sustained the level of growth of the last two years marked by the pandemic. Central government social spending remains heterogenous across the region: in three countries it exceeded 17% of GDP (Barbados, Brazil and Chile), while in five it remained below 10.5% (the Dominican Republic, Guatemala, Honduras, Mexico and Paraguay). In yearly per capita terms, while four countries (Bahamas, Barbados, Chile and Uruguay) spent between US$ 2,730 and US$ 4,045 in 2021, six countries (El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and the Plurinational State of Bolivia) spent under US$ 600. In order to make the region's public social spending more effective and efficient, the fundamental challenges remain of increasing the adequacy and sustainability of that spending, in order to close the gaps with respect to developed countries and make greater progress in consolidating information on social investment and its outcomes.

J. Investing in education is investing in people, in the inclusiveness of development and in the capacity to adapt to change

Social spending on education at the central government level has historically been a priority in the region, with average values close to 4% or 4.5% of GDP in the past decade. These levels are much higher in some of the countries that publish data for broader institutional coverage. Most of the resources are invested at the primary and secondary levels, although the tertiary level receives the most resources per student. Spending is heterogenous in the case of education as well, particularly in the distribution at the pre-primary and tertiary levels. The significant gap with developed economies is also noteworthy: the countries with the highest levels of spending in the region are at the lower end of the distribution compared to OECD members.

6 In some counties, this is attributable to the heavy weight of interest payments, rather than to fiscal policy initiatives. This is particularly evident in the case of Jamaica.

7 The figure for total government spending by the central government published in *Fiscal Panorama of Latin America and the Caribbean, 2021* (ECLAC, 2022i) includes 12 Caribbean countries.

In addition, in the Latin American and Caribbean region it is important to consider the role of household spending in financing education. This is very uneven within and between countries, particularly with respect to the educational levels to which resources are allocated and the amounts that the different socioeconomic strata devote to education. However, this unevenness diminishes when the weight of these expenditures is analysed in relation to total household spending.

Although the countries of the region have prioritized spending on education in recent decades, before the pandemic they were already facing difficulties in achieving the targets set out under SDG 4 by 2030 (Gajardo, 2020; UNESCO, 2017; UNESCO/UNICEF/ECLAC, 2022), and these difficulties have increased over the past two years. In this regard, three key points stand out. First, given the impacts of the COVID-19 pandemic, more investment in education is needed to finance learning recovery measures, strategies to mitigate the rise in school dropout rates, and new resources to improve school infrastructure and equipment to comply with health protocols (UNESCO, 2020). Second, the current economic slowdown and the consequent decrease in household income make it likely that demand in the public sector will rise, as students migrate from the private sector. Finally, the impact of the technological revolution makes it necessary to invest resources in adapting the system to improve effectiveness and inclusion and reduce gaps. This effort goes beyond the education sector and requires an intersectoral policy involving various stakeholders, from both the government and the private sector, aimed at ensuring effective connectivity for the entire population.

K. Moving towards universal, comprehensive, sustainable and resilient social protection systems

The various challenges outlined in this edition of *Social Panorama* show that it is essential to address short- and medium-term needs in order to generate the conditions for progress towards sustainable development with equality. On the one hand, the region should focus on strategies to expand and strengthen human capacities in the short and medium terms. This is a key objective for social and labour inclusion, strengthening and supporting transformations in educational policies and health systems. On the other hand, in order to move in this direction, it is necessary to coordinate multisectoral efforts, as demonstrated by the pandemic. For example, health and social protection policies need to be increasingly coordinated, under the social determinants of health approach (Cid and Marinho, 2022). In the case of education, the serious impacts of the pandemic show the growing need for greater coordination between education policy and other sectors. In particular, coordination is essential between education, social protection and health policies. Access to social protection and health systems plays a key role in the continuity of educational processes, providing basic conditions to enable students to continue and complete their educational trajectories.

The worsening of the population's living conditions is evidence of the serious shortcomings of social protection systems in terms of ensuring adequate levels of well-being and fully guaranteeing the exercise of economic, social and cultural rights. Income protection is a fundamental dimension of these systems and is particularly important when household consumption levels are being impacted by inflation

and food price rises, and the emergency social protection measures implemented in the first two years of the pandemic are being drastically reduced. The available information shows a sharp fall in the levels of spending and coverage of these measures in 2022. Whereas they covered 50.2% of the population of Latin America and the Caribbean in 2020 and 47.2% in 2021, by August 2022 they covered only 15.6%. Likewise, while spending was estimated to be close to US$ 90 billion in 2020 and commitments were announced in 2021 for an estimated US$ 45.271 billion, between January and August 2022 this amount fell to less than US$ 6.2 billion (Atuesta and Van Hemelryck, 2022).

In a context of ongoing social crisis that is becoming more complex in the new economic scenario, it is essential to establish mechanisms to ensure a certain level of welfare and income. To this end, use should be made of the lessons learned from the experience of expanding emergency social protection measures and employment protection policies during the pandemic (Salazar-Xirinachs, 2022).[8] An initial review of the measures implemented to contain the deterioration of the welfare of the most vulnerable households in the face of rising prices shows that, as well as expanding the coverage or amounts allocated to pre-existing programmes, even those implemented during the pandemic, some countries have opted for new emergency cash transfers. There is thus a risk that, amid successive crisis, the institutional weaknesses of social protection systems and their policies will end up fragmenting, rather than uniting, efforts to guarantee permanent income protection. In order to consolidate mechanisms to protect income levels against any occurrence, at this point it is necessary to seek ways to institutionalize emergency benefits, as well as to coordinate the existing schemes (Holz and Robles, 2022; Robles and Rossel, 2022). Another possibility is to review options aimed at linking transfer programmes more strongly with labour inclusion measures (Salazar-Xirinachs, 2022). It is essential to protect food and nutritional security and income levels, especially for children and adolescents and their households. This makes it crucial to strengthen multisectoral policies concerning the availability of good-quality food and access to it, in conjunction with education policies, school meals programmes (ECLAC, 2021a), family benefits and other policies aimed at protecting the income of these households (ECLAC, 2021d).

In order to make progress towards both sustainable development with equality and the achievement of the 2030 Agenda, it is essential to strengthen social protection systems with: (i) universality that is sensitive to differences, leaving no one behind; (ii) comprehensiveness, to be able to face numerous and renewed risks; (iii) sustainability, fulfilling commitments to this and future generations; and (iv) resilience, to face consecutive crises with capacity and flexibility. This requires progress in the construction of welfare states based on social rights that ensure quality public services, reduce vulnerability to social risks and ensure sustainable income levels (Briggs, 1961; ECLAC, 2021d). The construction of a welfare state requires a solid social institutional framework based on social and fiscal compacts, underpinned by a broad social consensus to advance along this path, with solidarity and progressiveness, and with a view to strengthening democracy, political stability, social cohesion and sustainable development with equality.

[8] For information on emergency social protection measures and employment-related measures, see the ECLAC COVID-19 Observatory in Latin America and the Caribbean [online database] https://www.cepal.org/en/topics/covid-19; and the website "Social protection measures to confront COVID-19", Social Development and COVID-19 in Latin America and the Caribbean [online database] https://dds.cepal.org/observatorio/socialcovid19/en/listamedidas.php.

L. Presentation and summary of the key messages of the chapters

Following this introduction, *Social Panorama of Latin America and the Caribbean, 2022* has four chapters. Chapter I presents the relevant macroeconomic background in terms of the evolution of per capita GDP, employment, household income distribution and the consumer price index, and looks at how income inequality and poverty have changed over the past two decades (2002–2021). The data do not indicate any improvement with respect to the situation prior to the pandemic, and they give cause for concern over the increased impact of the higher inflation rate on low-income households due, among other factors, to the greater share of food in their consumption basket. The chapter also discusses changes that occurred in social stratification during the pandemic. Given the focus of this edition on the impacts of the pandemic on the region's educational landscape, it also considers factors that directly or indirectly influence the educational opportunities and outcomes of children and adolescents from different income strata. To this end, it compares the incidence by income strata of certain critical deprivations in access to goods and services that impact learning opportunities.

Chapter II addresses the worrying silent crisis of education as another of the pandemic's major consequences, as well as the successive crises that have accompanied it. Despite previous progress in access to education, the lengthy interruption of face-to-face educational services during the pandemic deepened long-standing educational inequalities, reflected in gaps in access to quality alternatives for continuing education and in the availability of resources for remote learning. Despite the measures adopted by governments to mitigate these inequalities (such as providing digital devices or grants for buying them, and direct financial support to low-income households), the prolonged closure of schools and the economic effects of the pandemic will have large educational costs and will scar the educational and labour trajectories of the generations affected, damaging their income and general welfare conditions in the short and medium terms. The gaps are wider in the case of population groups that already faced greater barriers to accessing quality educational services, such as persons with disabilities and migrants, and, in the case of challenges concerning intercultural education and the promotion of Indigenous languages, Indigenous people and Afrodescendants. However, this silent crisis in education also represents an opportunity for transformation. The chapter addresses a number of priorities, including maintaining safe conditions for reopening schools, investing in strategies to identify the costs of disruption to face-to-face education, in terms of both learning and socioemotional well-being, and designing and implementing recovery strategies aimed at leaving no one behind. In this context, digital education emerges as an opportunity to accelerate learning recovery, include students in more vulnerable situations and prevent increases in school dropout rates.

Chapter III looks at access to education and the unequal labour impacts of the pandemic on men and women. The severe setbacks experienced by women in the labour market contrast with their notable advances in access to education, which, paradoxically, have not translated into greater equality in the labour market. The chapter considers in particular the role to be played by the development of more knowledge-intensive sectors, especially in STEM-related fields, in advancing towards progressive structural change. These sectors offer higher productivity jobs, better pay and more high-value production chains. Nevertheless, it is one of the fields of

education where women face the largest gaps. This has repercussions, among other factors, in their low representation in the labour market in these areas. Chapter III also examines the gender segregation in access to technical and vocational education and training in the region that tends to go unnoticed in STEM fields and skills. Lastly, it offers a set of policies with a gender perspective that can contribute to progress towards the achievement of SDGs 4 and 5, as well as to full gender equality and women's autonomy in the region.

Chapter IV analyses the social institutional framework and the evolution of social spending in Latin America and the Caribbean. Social institutions are crucial for establishing universal, comprehensive, sustainable and resilient social protection systems. After historic levels of public social spending in 2020 amid an unprecedented contraction in economic activity, in 2021 the fiscal deficit declined and both overall public spending and public social spending showed lower growth. ECLAC advocates an approach focusing not only on the evolution, volume, destination and financial sustainability of the public resources that make up social spending, but also on other institutional dimensions. This would enable those resources to fulfil their purpose in an effective, efficient, transparent and accountable manner by means of high-quality social policies, as set forth in the Regional Agenda for Inclusive Social Development.

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CHAPTER I

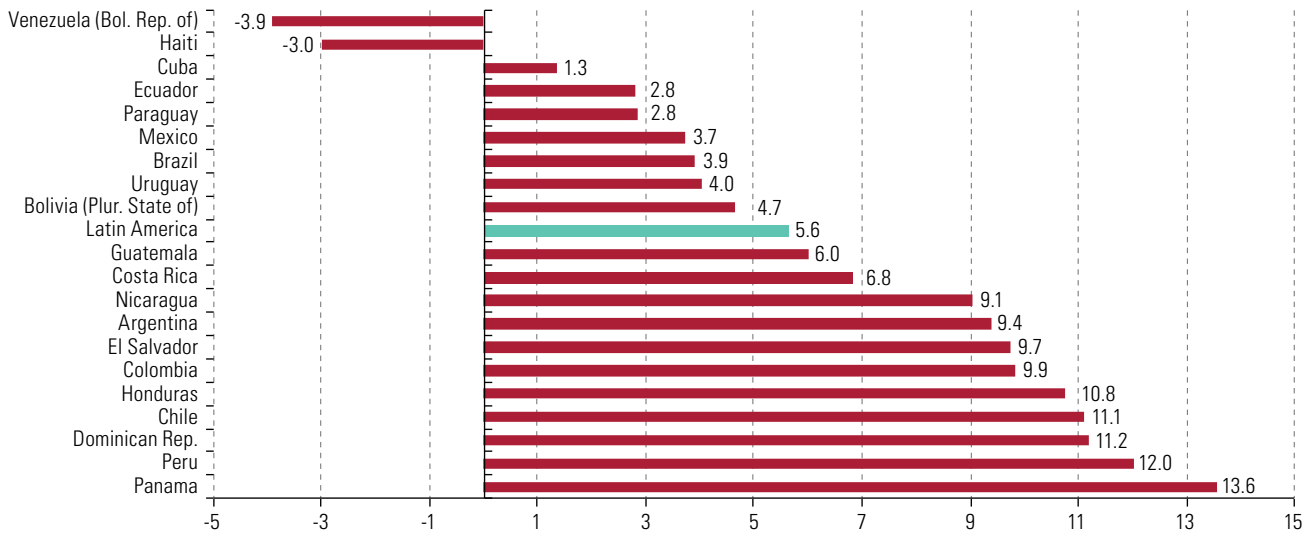
Inequality, poverty and critical deprivations in the face of the COVID-19 pandemic

Introduction

Virtually all the countries of Latin America grew strongly in 2021, albeit with variations, in an environment marked by a significant rise in both regional and global inflation. Employment and labour force participation also grew in 2021, without returning to the levels seen prior to the COVID-19 pandemic.

After falling in 2020 because of the pandemic, Latin America's GDP increased by 6.6% in 2021, which translates into per capita growth of 5.6%. Panama, Peru, the Dominican Republic, Chile and Honduras were the economies that expanded the most, with per capita GDP growth of more than 10%. Other countries that also grew by more than the regional average were Colombia, El Salvador, Argentina, Nicaragua, Costa Rica and Guatemala. Per capita GDP grew by between 1% and 5% in seven countries (the Plurinational State of Bolivia, Uruguay, Brazil, Mexico, Paraguay, Ecuador and Cuba), while in Haiti and the Bolivarian Republic of Venezuela it fell by 3% and almost 4%, respectively (see figure I.1).

Figure I.1
Latin America (20 countries): changes in per capita GDP at constant prices, 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

With the end of quarantines and pandemic-related restrictions, labour market participation increased in most countries in 2021. However, the rise in the participation rate, of 2.4% as of December 2021, was not enough to reverse the 4.5% drop in 2020. The participation rate closed 2021 at 62.6%, 0.8 percentage points lower than the rate at the end of 2019 (63.4%) (ECLAC, 2022).

In addition, there was a significant increase in the employment rate and a fall in the unemployment rate. While the number of employed persons was 2.1% higher in the fourth quarter of 2021 than in the same quarter of 2019, the employment rate was still lower (57.6%, compared with 58.5% in the same quarter of 2019). Similarly, the unemployment rate was still above its 2019 level (ECLAC/ILO, 2022).[1]

[1] The calculations are averages for 14 countries of Latin America and the Caribbean: Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Jamaica, Mexico, Nicaragua, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay.

Information from the surveys used to measure income poverty and inequality that form part of the Household Survey Data Bank (BADEHOG) of the Economic Commission for Latin America and the Caribbean (ECLAC) reflects trends similar to those reported by employment surveys.[2] The number in employment fell by almost 2% in the Plurinational State of Bolivia compared to 2020, but employment rose in each of the other nine countries for which information is available for both 2020 and 2021. The largest increases in employment were in Costa Rica, Peru, Argentina and Colombia, while the sharpest declines in the number of people unemployed or out of the labour force were in Peru, Argentina, Colombia, Costa Rica and Uruguay (see figure I.2).

Figure I.2
Latin America (10 countries): year-on-year changes in the numbers employed, unemployed and out of the labour force, by sex, 2021
(Percentages)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The changes are in the period 2020–2021. For ease of reading, figure B includes changes in the numbers of people in work and the numbers out of the labour force in 2021 while omitting changes in the numbers of unemployed, which did not differ greatly by sex.

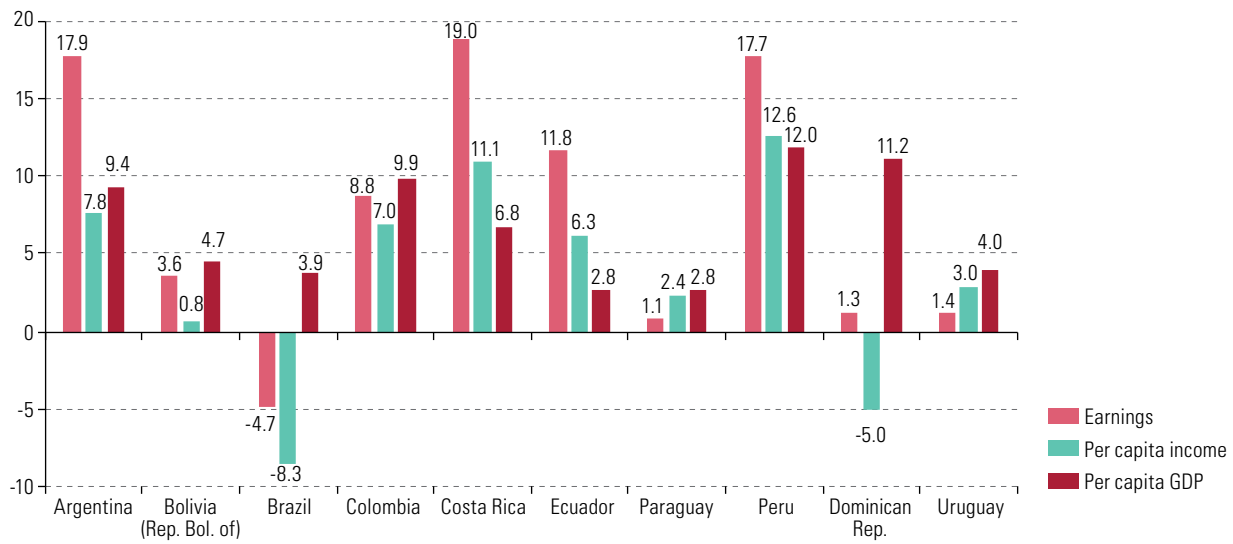
[2] At the time this edition of the *Social Panorama of Latin America and the Caribbean* went to press, BADEHOG had 2021 data from the following 11 countries' household surveys: Argentina, Brazil, Colombia, Costa Rica, the Dominican Republic, Ecuador, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay.

Consistently with the increase in the number of jobs, the number of people out of the labour force declined in all countries except the Plurinational State of Bolivia, Costa Rica and Paraguay, where it increased. In parallel, the number of unemployed decreased in seven countries: Argentina, Colombia, Costa Rica, Peru, Paraguay, the Plurinational State of Bolivia and Uruguay.

Disaggregation by sex shows that in six of the nine countries where the number of employed increased, the number of employed women grew by more than that of employed men. The opposite situation, i.e., a larger increase in the number of employed men, was seen only in Argentina, Brazil and Paraguay. In the case of the Plurinational State of Bolivia, the number of employed women fell by somewhat more than the number of employed men. The situation regarding changes in the number of people out of the labour force was similar: in five of the seven countries where this number fell, the decline was greater for women than for men. Conversely, in the three countries where it increased, the change was larger for women.

Earnings grew in eight of the nine countries analysed in 2021, the exception being Brazil, where they fell by almost 5%. The countries with the largest real increases in earnings over 2020 were Costa Rica (19%), Argentina (18%), Peru (18%), Ecuador (12%) and Colombia (9%), while in the Dominican Republic, Paraguay and Uruguay they grew by between 1% and 2% above inflation (see figure I.3).[3]

Figure I.3
Latin America (10 countries): real per capita changes in earnings, household income and GDP, 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Economic Survey of Latin America and the Caribbean, 2022* (LC/PUB.2022/9-P), Santiago, 2022, and Household Survey Data Bank (BADEHOG).

[3] Changes in earnings expressed in poverty lines.

Meanwhile, per capita household income[4] grew in almost all the countries mentioned, partly as a result of rising earnings. Per capita household incomes grew by less than earnings in Argentina, Colombia, Costa Rica, Ecuador and Peru, which may have been a consequence of the sharp reduction in transfers received, due to the partial or total cessation of transfer programmes linked to COVID-19. In Paraguay and Uruguay, meanwhile, per capita household incomes grew faster than earnings, which might have been due to larger increases in property income or transfer income.

At the same time, economic growth was not directly reflected in improved per capita household incomes. The most striking cases were Brazil and the Dominican Republic, where per capita GDP grew by 4% and 11%, respectively, while per capita household income fell by 8% in the former and 5% in the latter. The economy grew faster than per capita household income in Argentina, Colombia, Paraguay, the Plurinational State of Bolivia and Uruguay, while the reverse was true in Costa Rica, Ecuador and Peru.

Lastly, an issue that started to become important in 2021 and became entrenched in the first half of 2022 is the increase in inflation. Having been below 2% in early 2020, the region's 12-month inflation rate rose to 6.6% in December 2021 and had increased further to 8.5% by mid-2022 (ECLAC, 2022).

This rise in consumer prices was driven especially by two items, namely food and energy (with the latter feeding through to housing and transport costs). Food inflation in the region was 7.4% at the end of 2021 and had risen to 11.9% by June 2022 (ECLAC, 2022).

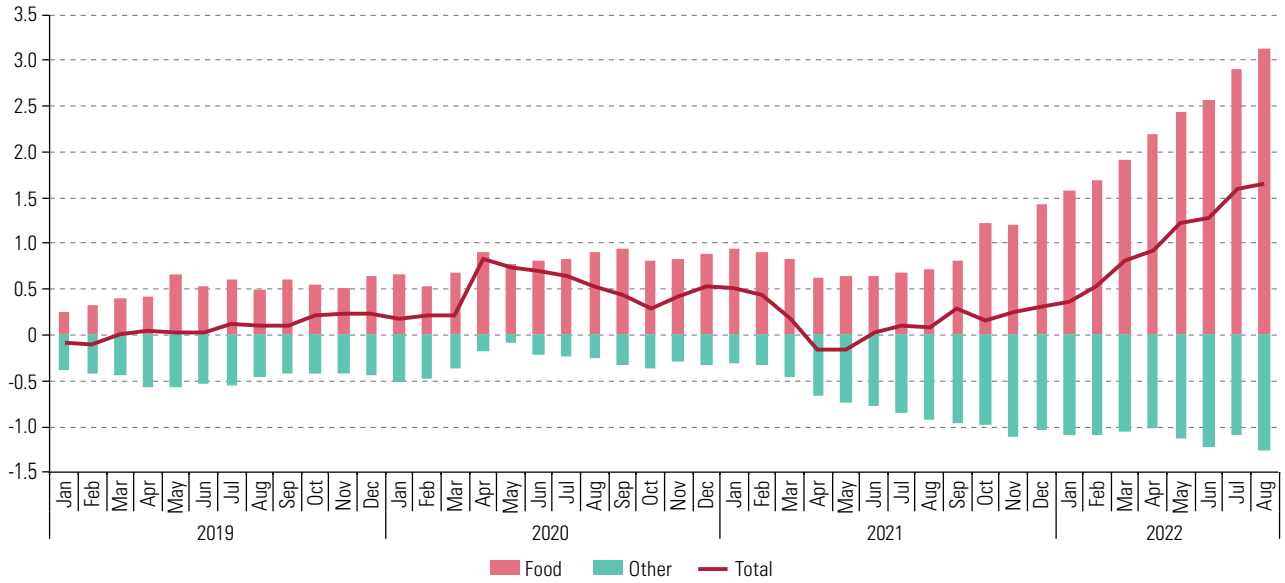
The larger share of food in the consumption basket of lower-income households means that their inflation rate has been higher than the average. This can be seen in figure I.4, which shows the difference in inflation by item between households in the lowest income quintile (first quintile) and the highest income quintile (fifth quintile). It can be seen that, because food has a larger share in the consumption basket of the poorest households, changes in food prices have a greater impact on inflation in these. The reverse is true for the rest of the consumption basket, which accounts for a larger share in high-income households and therefore has a greater impact on the price changes affecting them. From the difference between the two it is possible to calculate the inflation differential between households in the first quintile and those in the fifth quintile.

Figure I.4 shows that the prices in the consumption basket of first quintile households increased by more than those in the basket of households in the highest-income quintile from mid-2019 onward, as food prices rose by more than those of other goods and services. In April 2020 there was a step change, coinciding with the onset of the pandemic, which then moderated until the difference briefly turned negative between April and May 2021. From June 2021 to the latest month with information available at the time this publication went to press, there was a pick-up in inflation that particularly affected food prices and thus had a greater impact on lower-income households. As of mid-2022, year-on-year inflation was more than 1.5 percentage points higher for households in the first quintile than for those in the fifth quintile.

As a result, a number of countries in the region have adopted various policy actions to alleviate the effects of inflation on the purchasing power of the most vulnerable households. These include cash transfers, the distribution of free or low-priced food, fuel and transport price subsidies, and reductions in value added tax (VAT) for some essential products (see box I.1).

[4] Per capita household income is the variable used by ECLAC for its poverty and inequality measurements. It is obtained by dividing total household income from different sources (work, asset ownership and transfers) by the number of people in the household. Per capita earnings, meanwhile, are arrived at in the same way, but considering only income from work, which is the largest source of household income.

Figure I.4
Latin America (17 countries):[a] difference in year-on-year changes in the consumer price index (CPI) between the top and bottom household income quintiles, by item, 2019–2022
(Percentage points)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEPALSTAT and the Household Survey Data Bank (BADEHOG).
Note: The inflation difference between the quintiles is calculated as the median of the differences in the countries listed. The median value was chosen to minimize the impact that any extreme values might have on a measure like the mean that is sensitive to them.
[a] Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay.

Box I.1
Policies to contain the impact of inflation on the most vulnerable households

During 2022, the countries of the region have used a wide range of tools to alleviate the effects of inflation on the most vulnerable households. Among these tools are cash transfers (including the creation of new programmes to address the emergency or the reinforcement of some programmes put in place before or during the coronavirus disease (COVID-19) pandemic), the sale or distribution of food at low prices or free of charge to isolated and socially marginalized populations, fuel and transport price subsidies, value added tax (VAT) reductions for some core products in the consumption basket of the poorest and most vulnerable, support for the food supply (with emphasis on family farming), the abolition or reduction of tariffs on some food goods, and reductions in certain charges.

In Argentina, for example, an income support payment of 18,000 pesos was provided to protect the purchasing power of low-paid workers, domestic workers, *monotributistas* (those covered by the simplified regime for small taxpayers) in categories A and B and the social category, and the unemployed. The income support, worth a total of US$ 152.7, was delivered in two payments, in May and June 2022 (Argentina, National Executive, 2022a). At June 2022 prices, that month's instalment covered 60% of the cost of the basic food basket and was equivalent to 27% of the official overall poverty line in Argentina.[a] Another similar initiative was the implementation of an extraordinary bonus of US$ 101.8 for recipients of pensions[b] from the Argentine Integrated Pension System (SIPA) and for recipients of non-contributory pensions (Argentina, National Executive, 2022b).

The Brazilian Senate approved a constitutional reform (PEC 1/2022) that set aside additional resources to mitigate the effects of inflation on household purchasing power. One of the main measures was the expansion of the coverage of the Auxílio Brasil programme (which replaced the Bolsa Família programme from November 2021) to incorporate all eligible families, implying the inclusion 2 million additional families. At the same time, an increase in the monthly transfer to all households benefiting from the Auxílio Brasil programme was authorized for five months (between 1 August and 31 December 2022), bringing it to the equivalent of US$ 203.3.[c] The reform also includes funding to cover 50% of the national average price of a 13 kg liquefied gas cylinder for households benefiting from the Auxílio Gás programme, issue vouchers to hauliers, finance free public transport for older persons and strengthen the Alimenta Brasil programme, which buys food from family farmers, small-scale fishermen and Indigenous Peoples and distributes it to groups in a situation of food insecurity (Brazil, Office of the President of the Republic, 2022).

Chile has brought in specific measures to contain the impact of inflation as part of Chile Apoya: Inclusive Recovery Plan. These include initiatives to curb the rise in the price of fuel (oil, petrol and paraffin), foster competition in the liquefied gas market and freeze the price of regulated public transport for the whole of 2022, a measure that should benefit 5.6 million users in Santiago and the regions (Marcel, 2022). Subsequently, the Chile Apoya winter voucher was implemented to help the most vulnerable sectors cope with food price rises. This was a one-off transfer targeted at the lowest-income 60% of the population, as identified from the information held in the Social Register of Households. The Chile Apoya voucher is worth US$ 142.7 per person,[d] representing 60% of the overall poverty line and 89% of the cost of the basic food basket at June 2022 values.[e]

Colombia has also implemented measures to enhance the food supply, including the reduction of tariffs on imports of agricultural inputs and products that affect the household consumption basket (Ministry of Trade, Industry and Tourism, 2022a and 2022b). Other measures focus on improvements in the logistics chain and the provision of subsidized credit for agriculture. As for income transfers, the Social Investment Law expanded the coverage of Solidarity Income, a programme originally created to address the economic effects of the COVID-19 pandemic, and extended it until the end of 2022 (Colombia, Congress of the Republic, 2021). The programme's coverage increased by a little over 2 million households as a result, bringing the total number of beneficiary households to over 4 million by April 2022.[f]

The Package against Inflation and Scarcity (PACIC) aims to mitigate the effects of inflation on Mexico's most vulnerable households. This package, which concentrates on the strategic pillars of production, distribution and foreign trade, includes actions to boost the supply of food (especially grains), such as the implementation of a fertilizer delivery programme and the temporary removal of import tariffs on 5 inputs that are strategic for food production and 21 products that form part of the basic food basket. PACIC also freezes transport costs, seeks to stabilize petrol and diesel prices and aims to avert increases in tolls and railway freight charges. PACIC additionally provides for the strengthening of traditional food security programmes, such as Abasto Rural (run by DICONSA) and Abasto Social de Leche (SHCP, 2022). Through 24,000 fixed community shops and 300 mobile shops, the Abasto Rural programme brings foodstuffs in the basic food basket and other essential products to highly and very highly marginalized areas at subsidized prices. It is estimated that the Abasto Rural programme provides people with savings of between 15% and 19% (Mexico, Government of, 2022a; DICONSA, 2019; SEGOB, 2021), with an estimated 22 million direct beneficiaries (Mexico, Government of, 2022b).

In Peru, Emergency Decree 007-2022 authorized an additional one-off payment to beneficiaries of the non-contributory programmes Juntos (conditional transfers to households with children), Pensión 65 and Contigo (for people with severe disabilities). All three programmes were in operation before the pandemic. The amounts of the special transfers are US$ 53.3, US$ 66.7 and US$ 80, respectively (Peru, Executive Authority, 2022).[g] Products in the basic food basket such as chicken, eggs, bread, noodles and sugar, as well as their main ingredients, were also temporarily exempted from the general sales tax (Ministry of Economy and Finance, 2022a). In addition, a gas price subsidy was implemented and actions were taken to stabilize petrol and diesel prices (Ministry of Economy and Finance, 2022b).

Lastly, in Uruguay, measures to deal with rising prices for food and other basic goods are intended to benefit approximately a million people belonging to the most vulnerable groups in the population. Resources were earmarked to increase transfers by the Ministry of Social Development's Family Allowances-Equity Plan and Uruguay Social Card programmes, which were already in operation in the country before the pandemic, by 4%. The Bono Crianza scheme for households containing pregnant women and children under 4 years of age was also temporarily boosted, and a programme of temporary jobs for the unemployed was implemented. Targeted VAT rebates were also applied to products consumed by recipients of these non-contributory programmes. Other actions have included the reduction of tariffs on imported oils and flours, the freezing of the price of liquefied petroleum gas (LPG) for domestic use and a 50% reduction in the price of LPG refills.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Argentina, National Executive, "Refuerzo de Ingresos. Decreto 216/2022", 28 April 2022 [online] https://www.argentina.gob.ar/normativa/national/decreto-216-2022-363966/texto, and "Seguridad social: Decreto 2015/222", 26 April 2022 [online] https://www.argentina.gob.ar/normativa/national/decreto-215-2022-363925/texto; Brazil, Office of the President of the Republic, "Emenda constitucional Nº 123, de 14 de julho de 2022", 2022 [online] http://www.planalto.gov.br/ccivil_03/constituicao/Emendas/Emc/emc123.htm; M. Marcel, "Plan de Recuperación Inclusiva Chile Apoya", Ministry of Finance, 10 May 2022 [online] http://bibliotecadigital.dipres.cl/bitstream/handle/11626/18710/03_120422_PRI%20Comisin%20Hacienda%20Cmara.pdf?sequence=2&isAllowed=y; ChileAtiende [online] https://www.bonoinviernochileapoya.cl/; Ministry of Trade, Industry and Tourism, "Decreto 307 de 2022", 3 March 2022 [online] https://www.mincit.gov.co/getattachment/95c8e2b3-242e-4e19-b2e6-e11c26f9ac9f/Decreto-307-del-3-de-March-de-2022.aspx, and "Decreto 504 de 2022", 4 April 2022 [online] https://www.mincit.gov.co/getattachment/f9eebd45-f32d-486d-902c-ea3b89fe516d/Decreto-504-del-4-de-abril-de-2022.aspx; Colombia, Congress of the Republic, "Ley 2155 de 2021", 2021 [online] https://www.funcionpublica.gov.co/eva/gestornormativo/norma.php?i=170902#:~:text=Cr%C3%A9ase%20para%20el%20a%C3%B1o%202022,activos%20omitidos%20o%20pasivos%20inexistentes; Ministry of Finance and Public Credit (SHCP), "Paquete contra la inflación y la carestía (PACIC)", 4 May 2022 [online] https://www.gob.mx/cms/uploads/attachment/file/723331/CPM_SHCP_Pacic__04may22.pdf; Mexico, Government of, "Llega Canasta Básica SEGALMEX-DICONSA hasta el último rincón de México", 12 July 2022 [online] https://www.gob.mx/diconsa/articulos/llega-canasta-basica-segalmex-diconsa-hasta-el-ultimo-rincon-de-mexico?idiom=es, and "Más de 22 millones de personas con acceso a la canasta básica a través de Diconsa", 12 May 2022 [online] https://www.gob.mx/diconsa/articulos/mas-de-22-millones-de-personas-con-acceso-a-la-canasta-basica-a-traves-de-diconsa?idiom=es; DICONSA, *Programa Institucional 2020-2024: DICONSA S.A. de C.V.,* Ministry of Agriculture and Rural Development/Seguridad Alimentaria Mexicana (SEGALMEX)/DICONSA, S.A. de C.V., 2019 [online] https://www.gob.mx/cms/uploads/attachment/file/616126/Programa_Institucional_2020-2024_DICONSA_S.A._de_CV_.pdf; Ministry of the Interior (SEGOB), "Acuerdo por el que se emiten las Reglas de Operación del Programa de Abasto Rural a cargo de DICONSA, S.A. de C.V. (DICONSA) para el ejercicio fiscal 2022", *Diario Oficial de la Federación,* 22 December 2021 [online] https://www.dof.gob.mx/nota_detalle.php?codigo=5639067&fecha=22/12/2021#gsc.tab=0; Peru, Executive Authority, "Decreto de Urgencia Nº 007-2022", *El Peruano,* 28 April 2022 [online] https://cdn.www.gob.pe/uploads/document/file/3055081/DU007_2022.pdf.pdf; Ministry of Economy and Finance, "Se presentó al Congreso de la República proyecto de ley que permitirá rebaja de alimentos de mayor incidencia en la canasta básica familiar", 7 April 2022 [online] https://www.gob.pe/institucion/mef/noticias/598299-se-presento-al-congreso-de-la-republica-proyecto-de-ley-que-permitira-rebaja-de-alimentos-de-mayor-incidencia-en-la-canasta-basica-familiar, and "Exoneración del ISC e inclusión al FEPC del diésel y gasolinas de 84 y 90 octanos permitió atenuar el alza en el precio de estos productos", 20 May 2022 [online] https://www.gob.pe/institucion/mef/noticias/608359-exoneracion-del-isc-e-inclusion-al-fepc-del-diesel-y-gasolinas-de-84-y-90-octanos-permitio-atenuar-el-alza-en-el-precio-de-estos-productos; Uruguay, Office of the President of the Republic, "Gobierno anuncia beneficios sociales y medidas para mitigar impacto sobre precios", 17 May 2022 [online] https://www.gub.uy/ministerio-desarrollo-social/comunicacion/comunicados/gobierno-anuncia-beneficios-sociales-medidas-para-mitigar-impacto-sobre.

[a] For the official poverty and extreme poverty line values in Argentina as of June 2022, see Institute of Statistics and Censuses (INDEC), "Valorización mensual de la canasta básica alimentaria y de la canasta básica total. Gran Buenos Aires", *Condiciones de Vida*, vol. 6, No. 9, Buenos Aires, 2022 [online] https://www.indec.gob.ar/uploads/informesdeprensa/canasta_07_22E10EE2CAD1.pdf.

[b] The dollar value of this bonus was calculated using the average exchange rate in the second quarter of 2022.

[c] The sum total provided to households over five months. The dollar value was estimated using the average exchange rate in the second quarter of 2022.

[d] The dollar value of this voucher was estimated using the average exchange rate in the second quarter of 2022.

[e] The value of the poverty line in Chile was obtained from the Ministry of Social Development and Family [online] https://www.desarrollosocialyfamilia.gob.cl/noticias/ya-esta-disponible-el-informe-mensual-del-valor-de-la-canasta-basica-de-alimentos-y-lineas-de-pobrez#:~:text=Por%20su%20parte%2C%20el%20valor,meses%20de%2013%2C6%25.

[f] See Prosperidad Social [online] https://ingresosolidario.prosperidadsocial.gov.co/.

[g] The dollar values of these transfers were estimated using the average exchange rate in the second quarter of 2022.

A. Inequality, poverty and socioeconomic strata

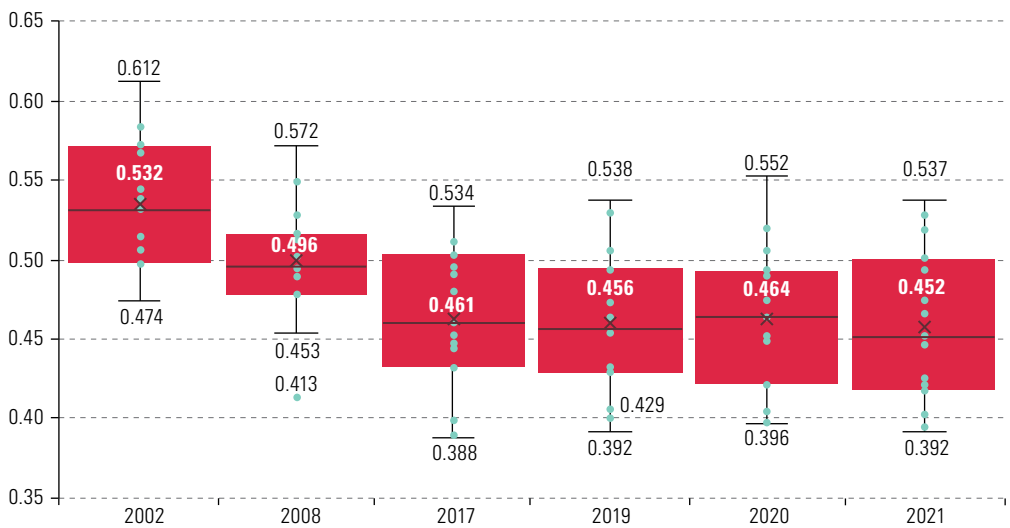
After a sharp increase in poverty and a slight increase in income inequality in 2020 as a result of the COVID-19 pandemic, the extreme poverty and poverty rates declined in 2021 and the middle-income strata grew, but not by enough to fully reverse the negative effects of the pandemic. The changes in poverty and inequality stemmed mainly from growth in the incomes of the lowest quintiles driven by a recovery in earnings at a time when the government support received by households during the pandemic was being reduced.

1. The absence of significant improvements in income distribution

The COVID-19 pandemic had both macroeconomic and microeconomic consequences in the countries of Latin America. The fall in GDP and the implementation of transfer programmes in 2020 was followed by economic growth and a total or partial withdrawal of transfer programmes throughout 2021, developments that had a direct impact on household incomes. This section uses the most recent information available to analyse how the distribution of these incomes has changed.

Following standard practice, income inequality and its evolution are estimated from the household surveys of the region's countries. From these, it can be concluded that inequality diminished rapidly in the 2000s, but that the decline then slowed in the early 2010s, with a situation of relative stability since 2017. Comparing the situation in 2017 with subsequent years shows that the average value of the Gini index has held steady between 0.45 and 0.46 (see figure I.5).[5]

Figure I.5
Latin America (15 countries):[a] Gini index of inequality, 2002–2021
(Values from 0 to 1, where 0 = no inequality and 1 = maximum inequality)

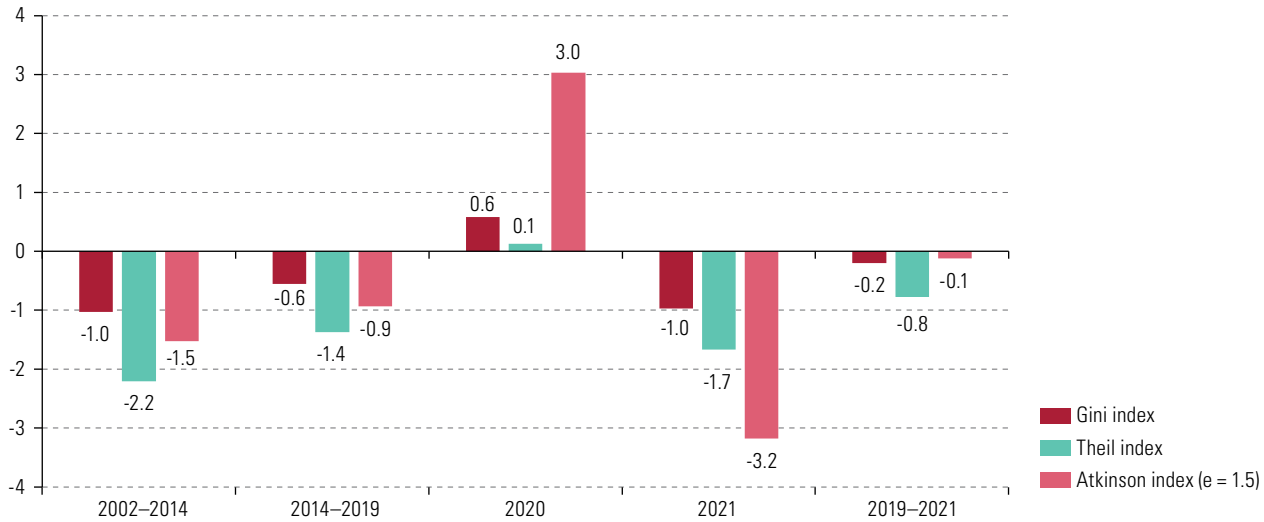


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: Incomes equal to 0 were taken into account in calculating the Gini index. The data are for the year shown or the closest earlier year available. The horizontal line within each box shows the median of the data, X marks the mean and the circles represent country values. The upper and lower edges of each box represent the Gini index values for the top 25% and the bottom 25% of the countries ranked by this indicator.
[a] Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay. See table I.A1.5 in the annex for detailed country figures.

[5] The median Gini index has moved by somewhat more than the average, rising by 1.6% in 2020 and falling by 2.6% in 2021.

The use of complementary inequality indicators such as the Theil and Atkinson indices reveals a more dynamic pattern in recent years and brings out more clearly a slight distributional deterioration in 2020, followed by an improvement in 2021. The Atkinson index, the most sensitive of the three presented to changes in the lower part of the distribution (with an inequality aversion parameter of 1.5), also shows a substantial distributional deterioration in 2020, which the other two indicators reflect to a lesser extent. This shows that the effects of both the distributional deterioration in 2020 and its reversal in 2021 were mainly felt in the lower-income part of the household distribution. Comparing the 2021 results with those of 2019 shows that, at least in terms of averages, all three indices have returned to pre-pandemic levels of inequality (see figure I.6).

Figure I.6
Latin America (15 countries):[a] annualized rates of change in different inequality indices, 2002–2021
(Percentages)

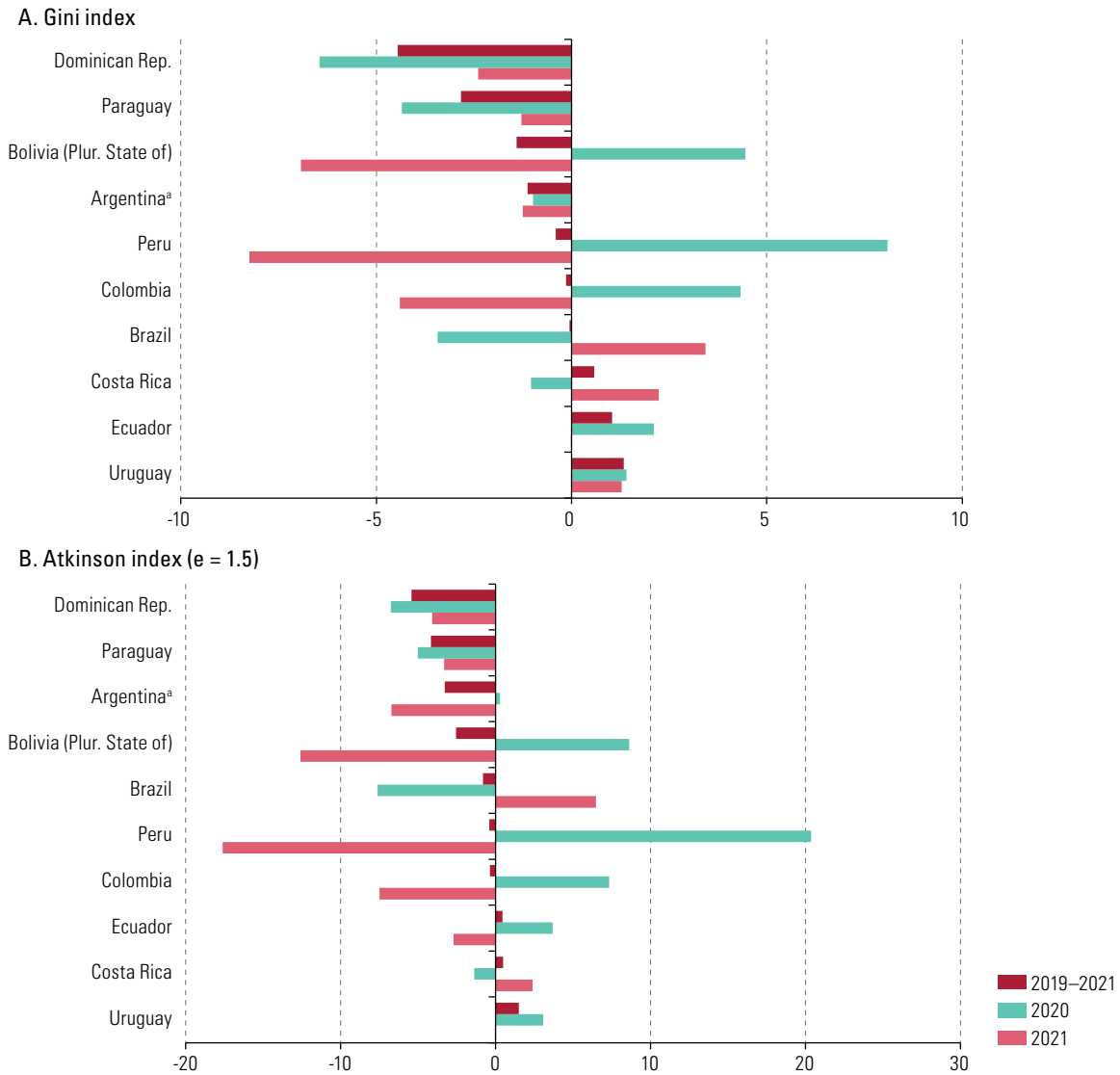


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Simple averages calculated on the basis of information from the nearest year with data available for each of the 15 countries: Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay.

The evolution of inequality in 2020 and 2021 presented a variety of patterns in the region's countries, consistent with the fact that the impact of the pandemic on income distribution was not direct but was mediated by other factors, such as the effects on employment resulting from restrictions on people's mobility and the scale and distribution of economic support policies to deal with the health crisis.

This heterogeneity between countries can be seen in figure I.7, which shows the recent evolution of inequality as measured by the Gini and Atkinson indices. When the Gini index is used, the Dominican Republic, Paraguay, the Plurinational State of Bolivia and Argentina stand out as the countries where inequality fell in the period from 2019 to 2021. Distribution improved in both 2020 and 2021 in all of them except the Plurinational State of Bolivia, where there was a sharp increase in inequality in 2020 that was more than offset by the decrease in the following year. In the Dominican Republic, Paraguay and the Plurinational State of Bolivia, this decrease was associated with changes at the bottom of the distribution over both years, as can be seen from the changes in the Theil index. A similar situation occurred in Argentina, but was limited to 2021.

Figure I.7
Latin America (10 countries): annualized rates of change in inequality indicators, 2019–2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: Includes countries with data available for all three years. The countries are ranked in ascending order of the change in each index over the whole period 2019–2021. See table I.A1.5 in the annex for detailed country figures.
[a] Urban total.

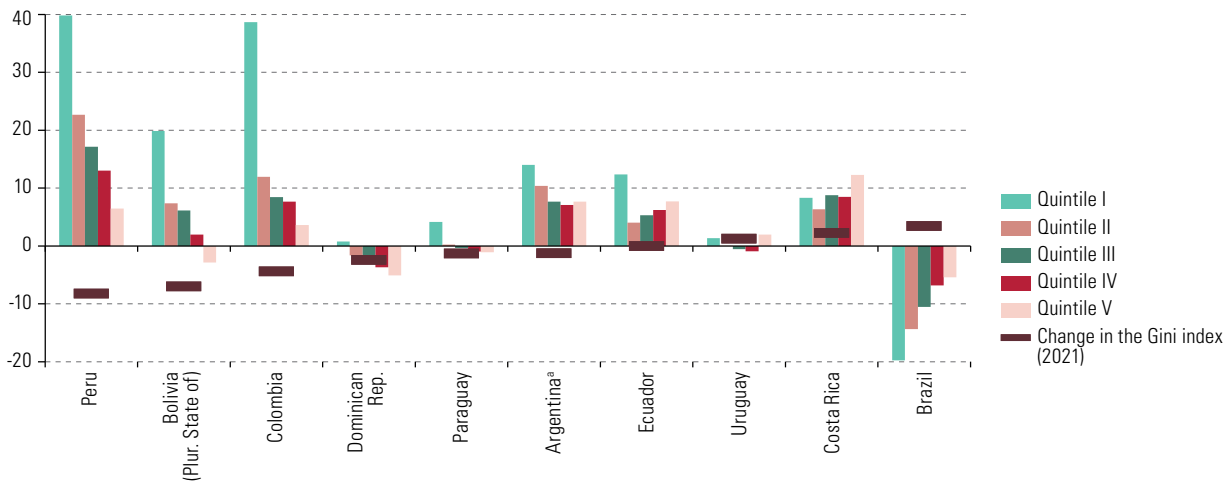
In a second group of countries, consisting of Peru, Colombia and Brazil, there were no major changes overall in the Gini index between 2019 and 2021. However, all three countries experienced strong movements in the index in that period. Inequality in Peru and Colombia increased in 2020 but then declined by almost the same amount in 2021. In Brazil, by contrast, the movement was exactly the opposite. What all three countries had in common was that these changes affected the lowest-income population the most, as measured by changes in the Atkinson index.

Lastly, inequality as measured by the Gini index increased in Costa Rica, Ecuador and Uruguay between 2019 and 2021. In the case of Ecuador, the increase was mainly in 2020, with no change in 2021, while in Costa Rica inequality increased in 2021 after

falling in the first period. In the case of Uruguay, inequality increased by a fairly similar amount in both years. As with the rest of the countries mentioned above, these changes had a greater impact on lower-income households than on the rest of the distribution.

The changes in mean household income (expressed in poverty lines) by income quintile provide an understanding of how inequality evolved in each of the countries in 2021. In the group of six countries where inequality fell that year, three different patterns can be distinguished. The first is seen in Peru, the Plurinational State of Bolivia and Colombia, where incomes grew in all or almost all quintiles, but most strongly in the lower-income quintiles, leading to a distributional improvement. The second pattern is seen in the Dominican Republic, where there was a relative increase in the incomes of the lowest quintiles due to a fall in the incomes of the highest quintiles. The third pattern occurred in Paraguay and Argentina, where the slight improvements in distributional inequality recorded in 2021 went together with a relative increase in incomes in the top and bottom quintiles (see figure I.8).

Figure I.8
Latin America (10 countries): changes in the Gini index and in average incomes by income quintile, 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked in ascending order of changes in the Gini index in 2021. The percentage rate of change in average income in each quintile between 2020 and 2021 is expressed in multiples of the poverty line each year.
[a] Urban total.

In Ecuador, the Gini index remained unchanged because the increase in incomes in the top quintiles offset the increase in the bottom quintile. Lastly, there are the countries where inequality increased in 2021. This was the result of a slight increase in incomes at the top and bottom of the distribution and a slight decrease in the middle quintiles in the case of Uruguay and of a larger increase in incomes in the top quintiles in Costa Rica. In Brazil, household incomes declined sharply in all quintiles, but the lower they were to begin with, the more they fell.

As mentioned in previous editions of the *Social Panorama of Latin America*, the measurement of income inequality is mainly based on household surveys. However, there is conclusive evidence for the need to supplement these measurements by bringing in data from different information sources, in particular administrative records and national accounts statistics. The application of such methods yields distributional indicators that complement the usual ones and serve to illuminate other aspects of inequality beyond what can be ascertained from household surveys (see box I.2).

Box I.2
The Dominican Republic: estimating inequality by combining information sources

In recent years, various methodologies have been developed to measure income distribution more comprehensively, supplementing surveys with information from other sources such as tax and national accounts data. The different specialists and institutions studying inequality agree about the limitations of studies based exclusively on household survey data, owing to the difficulties these instruments have in capturing very high-income individuals and the incomes characteristic of them, such as rents from the ownership of physical and financial assets.

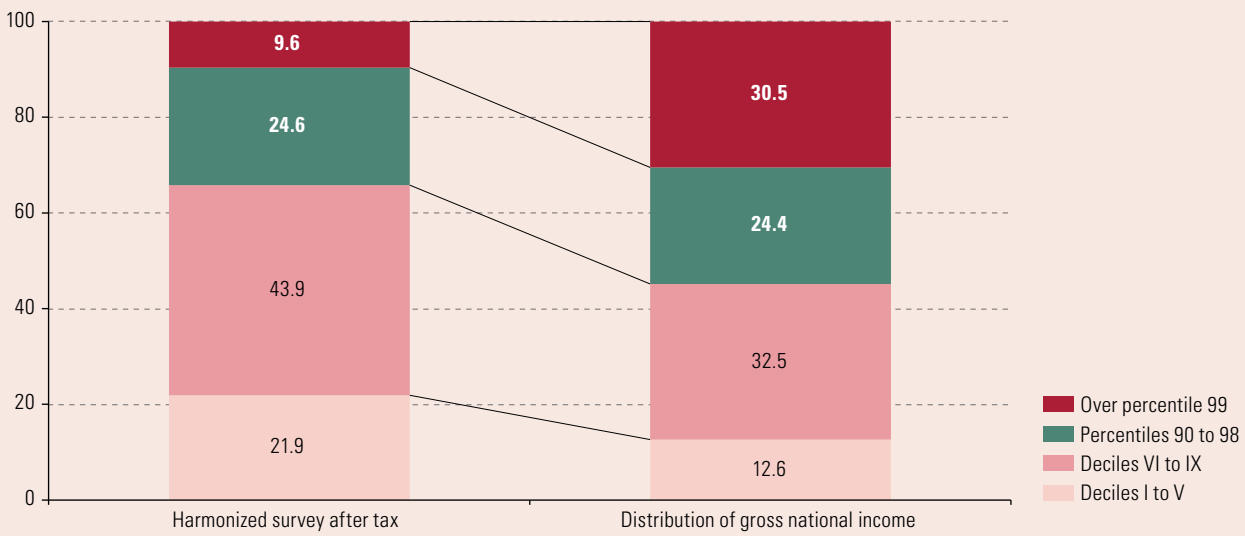
These methodologies have been applied with a view to adjusting survey microdata in various ways, drawing on both tax and national accounts information. This has made it possible to obtain inequality measures that specifically address the issues mentioned and extend the definition of income to include gross national income. While the results of these methodologies cannot yet be considered definitive, they do provide a more comprehensive view of income distribution.

With the objective of measuring inequality more fully, the Economic Commission for Latin America and the Caribbean (ECLAC) has worked with the Ministry of Economy, Planning and Development (MEPyD) of the Dominican Republic and the World Inequality Lab (WIL) of the Paris School of Economics to obtain new measurements of inequality in the country as part of the project "Innovative approaches for examining inequality through integration of different data sources in Latin America and the Caribbean".

The process in the Dominican Republic was carried out jointly with the entities of the Poverty Measurement Task Force, composed of MEPyD and the Central Bank of the Dominican Republic (BCRD) as the institution producing the national accounts and responsible for the labour force survey, plus the National Statistical Office (ONE) and the Bureau of Internal Revenue (DGII), which have provided access to aggregated tax information. These combined institutional efforts allowed WIL researchers to implement the methodology for estimating income inequality on the basis of the data sources made available by both BCRD and DGII.

One of the main results obtained made it possible to estimate the percentage of gross national income received by the different income strata and, in particular, to compare the situation of the highest-income 1% and 10% with the rest of the population. According to the Continuous National Labour Force Survey (ENCFT), which draws on income variables harmonized by ECLAC, the highest-income 1% received 9.6% of total income in 2019, while the lowest-income 50% received 21.9% of total income (see chart).

Dominican Republic: income shares by percentile groups, by information source, 2019
(Percentages)



Source: A. Fuentes, "Desigualdad del ingreso en la República Dominicana 2012-2019: resumen metodológico y resultados comparados", *Project Documents* (LC/TS.2022/155), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2022, on the basis of F. Alvaredo and others, "Desigualdad del ingreso en la República Dominicana 2012-2019: una revisión a partir de la combinación de fuentes de datos", *Project Documents* (LC/TS.2022/75), Santiago, ECLAC, 2022.

This gap, which is already very significant given that 1% of the population receives almost half of what half the population receives, widens considerably when the inequality of gross national income is measured by combining the results of the survey with information from tax records and the national accounts.

This shows that the richest 1% received 30.5% of gross national income in 2019, while the lowest-income half of the population received 12.6%. In other words, the top 1% captured 2.4 times the gross national income share of the lowest-income half of the population, indicating very high inequality.

Meanwhile, according to the usual estimates based on the ENCFT, the highest-income 10% of the population received slightly more than a third of all income. However, when the definition of income is broadened to arrive at national income, this group is estimated to receive more than the rest of the population combined (54.9% as against 45.1% for the other 90%).

The middle-income strata (defined in this case as people who fall between the fiftieth and ninetieth percentiles of the income distribution) lose share when the definition of income is extended by combining statistical sources. Thus, according to the ENCFT as harmonized by ECLAC, this group's income share in 2019 was 43.9%, while its national income share was only 32.5%.

Although the differences are large, it should be borne in mind that each stratum's share is based on the distribution of income types that are conceptually different. The income concept applied in the survey is total household income net of taxes and social security contributions, while the second type is gross national income from the national accounts, which incorporates not only social security contributions but also other sources of household income, such as the undistributed profits of enterprises owned by households.

The systematic production of such measurements will provide the region's countries with a deeper understanding of the sources and determinants of inequality. It is also an exercise that will be very helpful in improving the quality and transparency of income statistics.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of A. Fuentes, "Desigualdad del ingreso en la República Dominicana 2012-2019: resumen metodológico y resultados comparados", *Project Documents* (LC/TS.2022/155), Santiago, ECLAC, 2022; F. Alvaredo and others, "Desigualdad del ingreso en la República Dominicana 2012-2019: una revisión a partir de la combinación de fuentes de datos", *Project Documents* (LC/TS.2022/75), Santiago, ECLAC, 2022; T. Blanchet, I. Flores and M. Morgan, "The weight of the rich: improving surveys using tax data", *Journal of Economic Inequality*, vol. 20, No. 1, February 2022; ECLAC, *Social Panorama of Latin America, 2021* (LC/PUB.2021/17-P), Santiago, 2022; ECLAC, *Social Panorama of Latin America, 2018* (LC/PUB.2019/3-P), Santiago, 2019; M. De Rosa, I. Flores and M. Morgan, "Income inequality series for Latin America", *Technical Note*, No. 2020/02, World Inequality Lab, 2020; Organisation for Economic Co-operation and Development (OECD), *OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth*, Paris, OECD Publishing, 2013; T. Blanchet and others, *Distributional National Accounts Guidelines: Methods and Concepts Used in the World Inequality Database*, 2021.

2. The reduction in extreme poverty and poverty has not been enough to reverse the deterioration caused by the pandemic

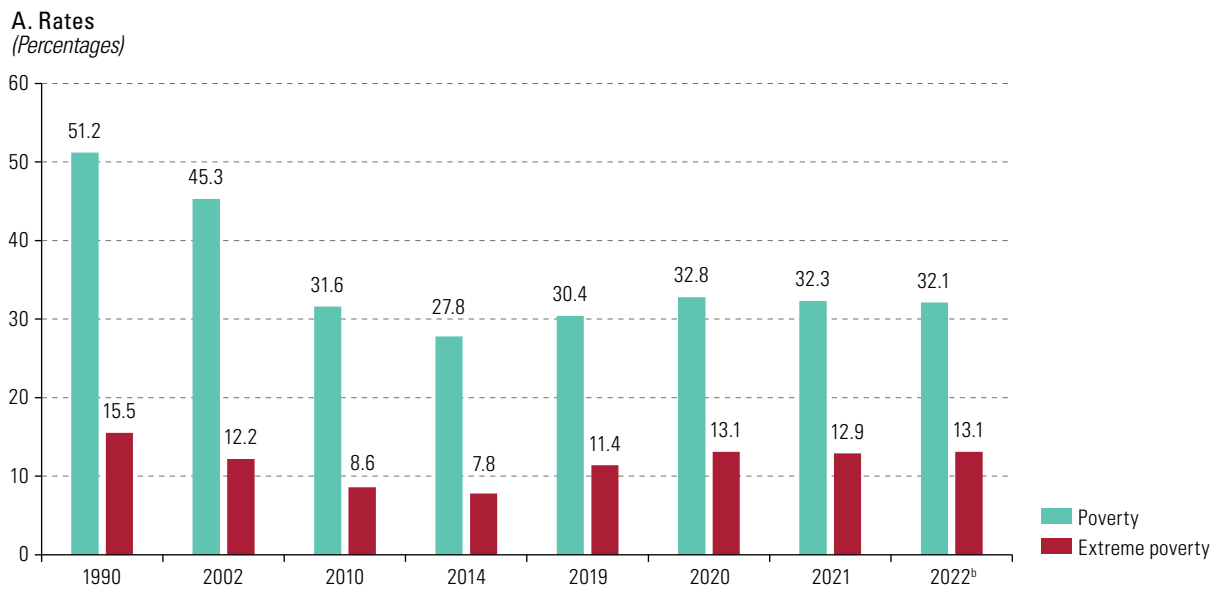
In 2021, 32.3% of Latin America's population was poor, while the extreme poverty rate was 12.9%. Thus, 201 million people did not have enough income to cover their basic needs, including 80 million people whose income was less than the value of a basic food basket.

After a sharp reversal in 2020, when extreme poverty rose to levels not seen for 20 years, the recovery in economic activity meant that many households were able once again to generate enough income to raise themselves out of poverty. Thus, the poverty rate in 2021 was 0.5 percentage points lower than in 2020. In the case of extreme poverty, there was no appreciable improvement, since the level was only 0.2 percentage points lower in 2021 than in 2020.

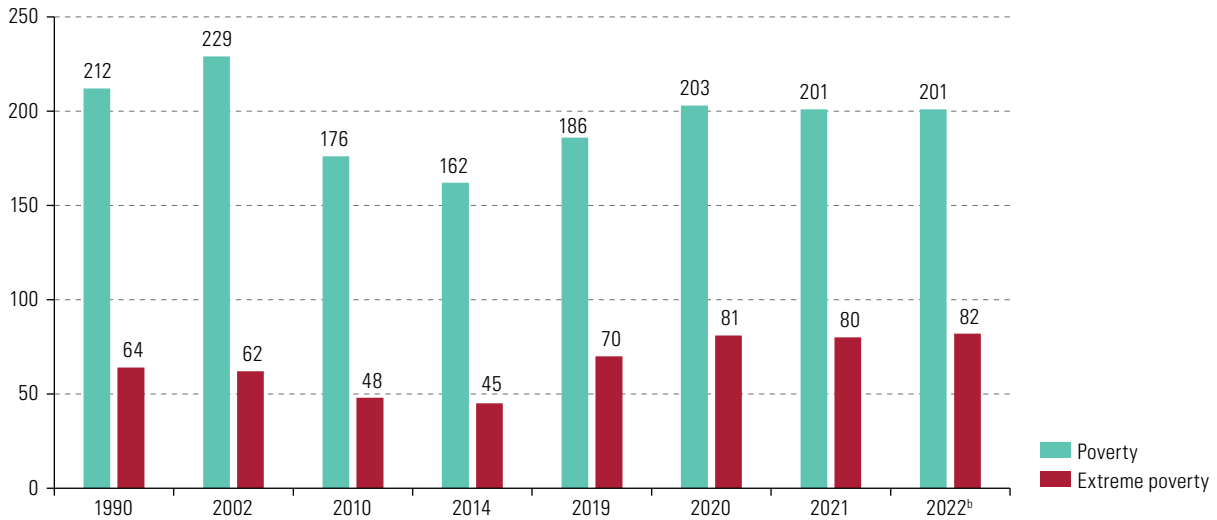
The slight decline in these indicators was not sufficient to bring poverty and extreme poverty back to pre-pandemic levels. The incidence of poverty was 1.9 percentage points higher in 2021 than in 2019, and the difference for extreme poverty was 1.5 percentage points. Thus, poverty was at its highest level since the beginning of the previous decade, while extreme poverty was higher than it had been in two decades, which represented a serious setback in the commitment to eradicate poverty in all its forms and dimensions that forms part of the Sustainable Development Goals (SDGs).

The outlook for 2022 combines two opposing trends. On the one hand, the economic growth projected, although considerably lower than in 2021, should lead to higher employment and household earnings. On the other hand, 2022 has been characterized by accelerating inflation, which erodes the purchasing power of incomes. Data available at the time this edition went to press show that real wages have fallen in several countries, but that the number of employed persons has also increased. Taking both factors into account, the poverty rate is expected to end 2022 at 32.1% and the extreme poverty rate at 13.1%, indicating a slight decrease in poverty and a slight increase in extreme poverty compared to 2021. These figures imply that an additional 15 million people will be poor compared to the pre-pandemic situation and that the number of people in extreme poverty will be 12 million higher than in 2019 (see figure I.9).

Figure I.9
Latin America (18 countries):[a] poverty and extreme poverty rates and number of people in poverty and extreme poverty, 1990–2021 and projections for 2022
(Percentages and millions of people)



B. Number of people
(Millions)

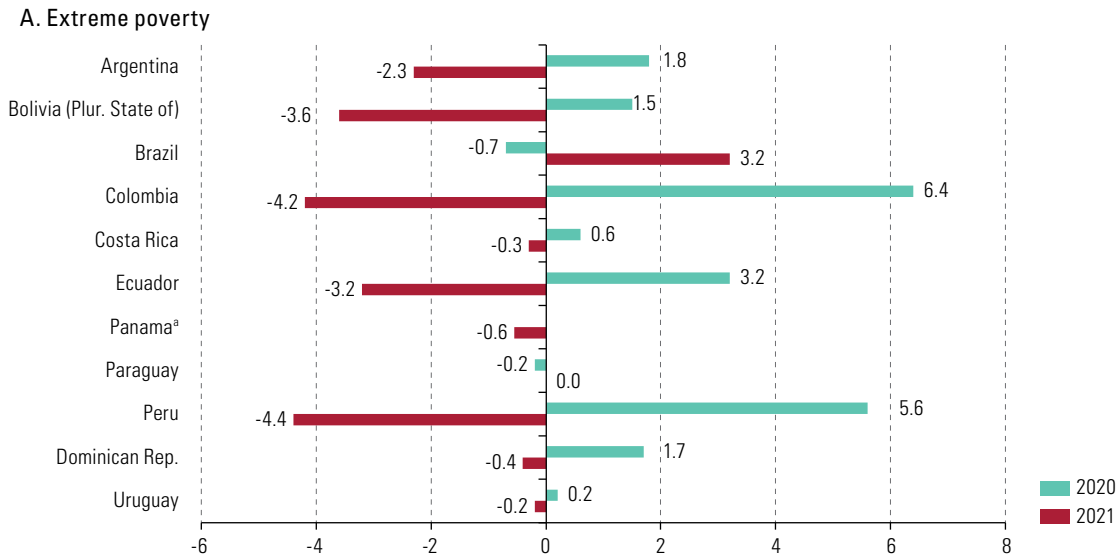


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Weighted average of the following countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.
[b] Projections.

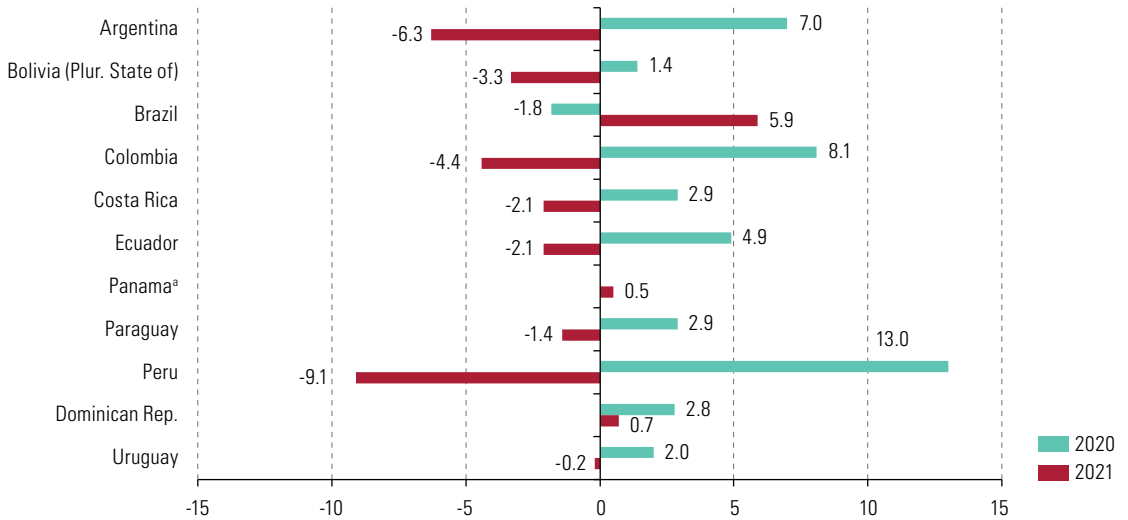
The regionwide decline in poverty in 2021 was reflected in most of the countries with information available that year. Of a total of 11 countries, the poverty rate fell by at least 1 percentage point in 7, while extreme poverty declined by a similar amount in 5. In most cases, the trend described represented a rebound after the large increases in 2020 resulting from the COVID-19 pandemic (see figure I.10).

Figure I.10
Latin America (11 countries): annual changes in the extreme poverty and poverty rates, 2020 and 2021
(Percentage points)

A. Extreme poverty



B. Poverty



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG) and official figures from the countries.
[a] Panama does not have information for 2020.

The countries where poverty declined the most in 2021, namely Argentina (-6.3 percentage points), Colombia (-4.4 percentage points) and Peru (-9.1 percentage points), were the ones where it had increased the most in 2020. These countries, together with Ecuador and the Plurinational State of Bolivia, were also characterized by the largest reductions in the extreme poverty rate (between 2.3 and 4.4 percentage points).

The proportion of people living in poverty in Costa Rica, Ecuador, Paraguay and the Plurinational State of Bolivia decreased by between 1.4 and 3.3 percentage points. Extreme poverty did not behave similarly in these countries: this indicator did not show significant changes in Costa Rica or Paraguay, while in the Plurinational State of Bolivia and Ecuador it fell more sharply than poverty.

Brazil was the only country with an appreciable increase in extreme poverty and poverty in 2021, after also being the only one where both indicators fell in 2020. The increases in 2021, of 3.2 percentage points in extreme poverty and almost 6 points in poverty, considerably exceeded the decreases in 2020 (0.7 and 1.8 percentage points, respectively).

In the Dominican Republic, Panama and Uruguay, lastly, there were no appreciable changes in the poverty and extreme poverty indicators.

The outcome of the changes observed is that poverty and extreme poverty remain higher than before the pandemic. Both ECLAC and official country estimates show that poverty rates were at least 1 percentage point higher in 2021 than in 2019 in Argentina, Colombia, the Dominican Republic, Ecuador, Paraguay, Peru and Uruguay. If only official estimates are considered, these countries are joined by Costa Rica and Honduras (see table I.A1.2 of the annex for the country figures and box I.3 for an explanation of the ECLAC methodology).

If the benchmark taken is a remoter period such as 2014 (the year the regional poverty rate fell to its lowest value), the current situation is more favourable than the past for several countries of the region. However, the most recent poverty figures are higher than those of 2014 in Argentina, Brazil, Colombia and Ecuador. This is also true of extreme poverty in these countries, as well as in Chile and Honduras (going by data for 2020 and 2019, respectively) (see figure I.11).

Box I.3
Economic Commission for Latin America and the Caribbean (ECLAC) income poverty measurements

ECLAC uses a common methodology to calculate the poverty and extreme poverty figures presented in this chapter. This is designed to provide a regional overview that is as comparable as possible, given the heterogeneity of the measurement instruments and data collection procedures used in each country.

The approach used by ECLAC to estimate poverty is to classify a person as "poor" when their per capita household income is below the poverty line. Poverty lines represent the level of income required for each household to meet the basic needs of all its members. The basic basket for poverty measurement comprises a selection of foods sufficient to cover the nutritional needs of the population, taking into account people's level of physical activity, consumption habits, actual food availability and prices in each country and geographical area.

The cost of this basic basket, referred to as the "extreme poverty line", is augmented by the amount households require to meet basic non-food needs in order to calculate the total value of the poverty line. To do this, the extreme poverty line is multiplied by a factor known as the Orshansky ratio, defined as the ratio between total expenditure and food expenditure for a reference population group. This takes different values in each country and between urban and rural areas.

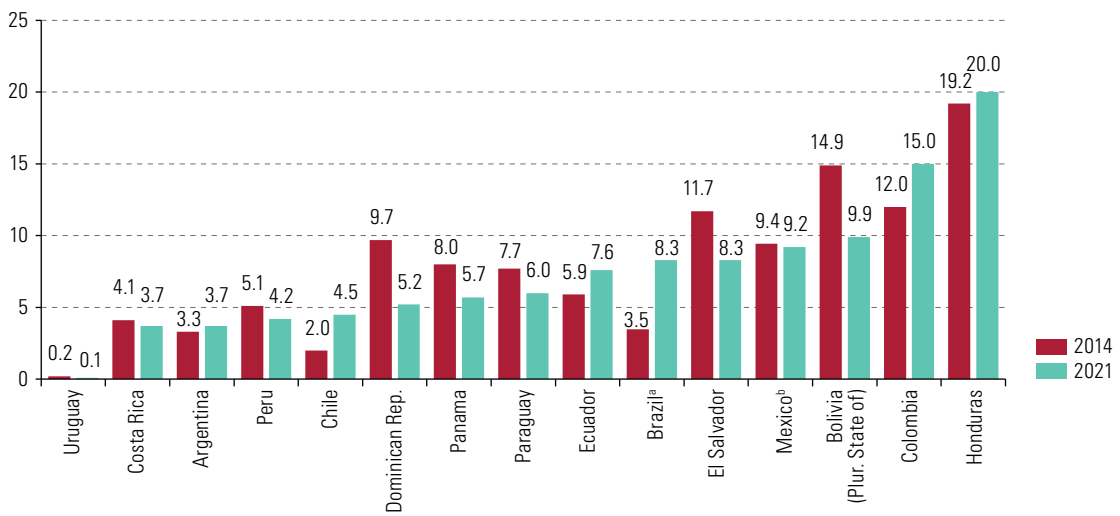
The value of the poverty and extreme poverty lines is updated annually according to the cumulative change in the consumer price index (CPI): the extreme poverty line is updated by the change in the food CPI, while the part of the poverty line that corresponds to expenditure on non-food products is updated by the change in the non-food CPI. The Orshansky ratio implicit in the poverty line thus changes from year to year in accordance with relative price movements. The use of different price deflators for the two components of the poverty line means that in periods when inflation is higher for food than for other goods, extreme poverty increases by more than poverty.

The percentages of households and the population living in poverty and extreme poverty were obtained by comparing the value of the two lines with each household's total per capita income. Total household income is obtained by aggregating all income (both in cash and in kind) received by its members, including earnings, income from retirement and other pensions and other transfers, income from asset ownership and other income (including imputed rent as part of aggregate income).

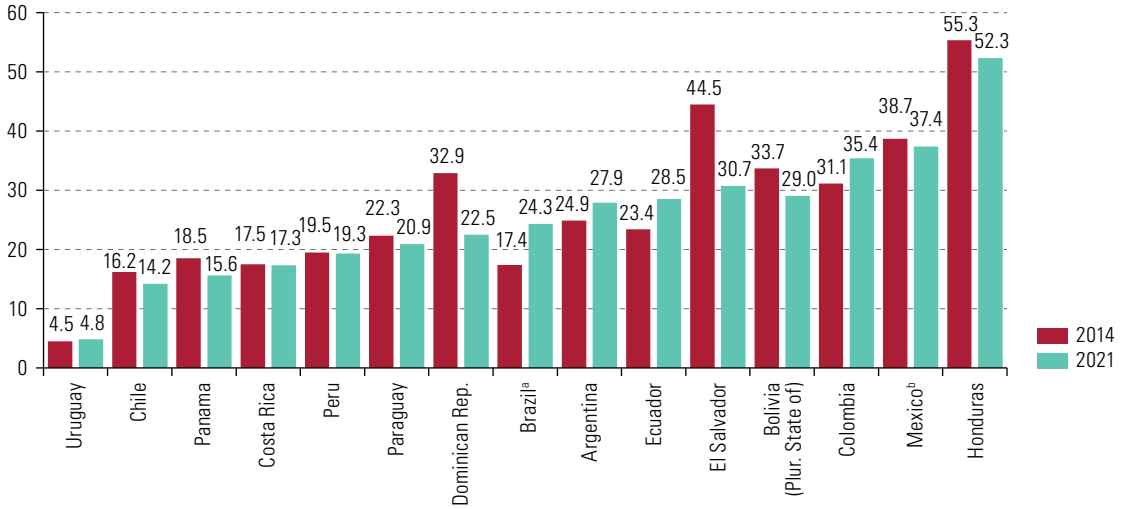
Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Income poverty measurement: updated methodology and results*, ECLAC Methodologies, No. 2 (LC/PUB.2018/22-P), Santiago, 2019.

Figure I.11
Latin America (15 countries): extreme poverty and poverty rates, 2014 and 2021
(Percentages)

A. Extreme poverty



B. Poverty



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG) and official figures.
Note: The 2014 figure is from 2013 in the case of Chile. The 2021 figures are from 2020 in the cases of Chile, El Salvador and Mexico and from 2019 in that of Honduras.
[a] In the case of Brazil, to make the 2014 figure comparable with the 2021 figure, a correction factor of 0.948 was applied to extreme poverty and 0.950 to poverty, reflecting the effect of the new expansion factors in the 2019 Continuous National Household Survey (PNAD *Contínua*).
[b] In the case of Mexico, to make the 2014 figure comparable with the 2020 figure, a correction factor of 1.377 was applied to extreme poverty and 1.169 to poverty, based on the difference obtained in 2018 between the data from the National Household Income and Expenditure Survey (ENIGH) and the National Institute of Statistics and Geography (INEGI) 2020 Statistical Model for the continuity of the ENIGH Socioeconomic Conditions Module.

Thus, poverty levels in the 15 countries of the region with information available for recent years are spread over a wide range: 5 countries have poverty rates below 20%, in 6 countries they are between 20% and 30%, and in 4 countries they are 30% or more.

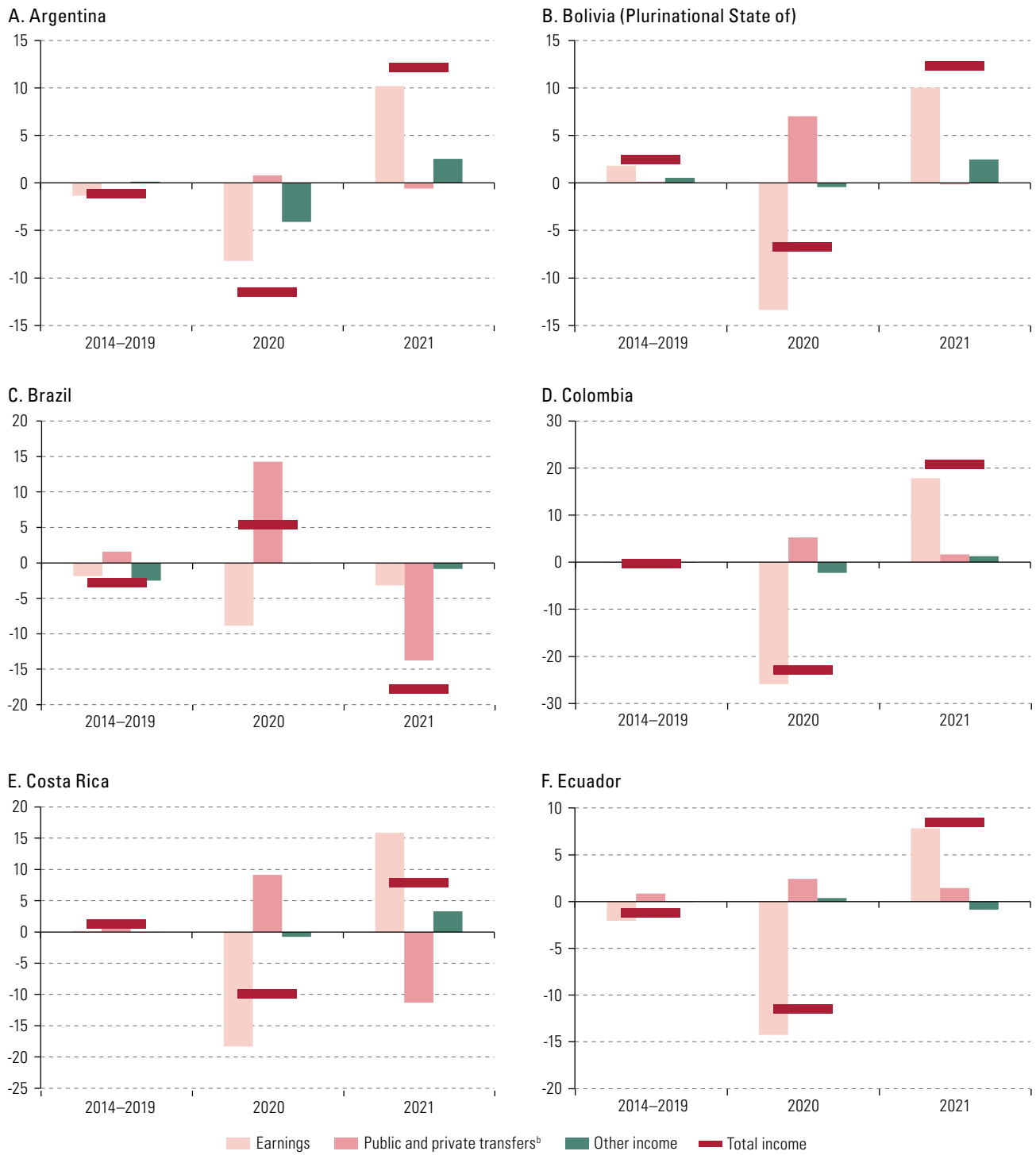
In the *Social Panorama of Latin America,* changes in poverty are generally analysed by looking at the evolution of each source of income in low-income households.[6] Viewed from this perspective, the fall in income that occurred in 2020 in virtually all countries of the region stemmed from a sharp decline in earnings that was partially offset by an increase in income from State cash transfers.

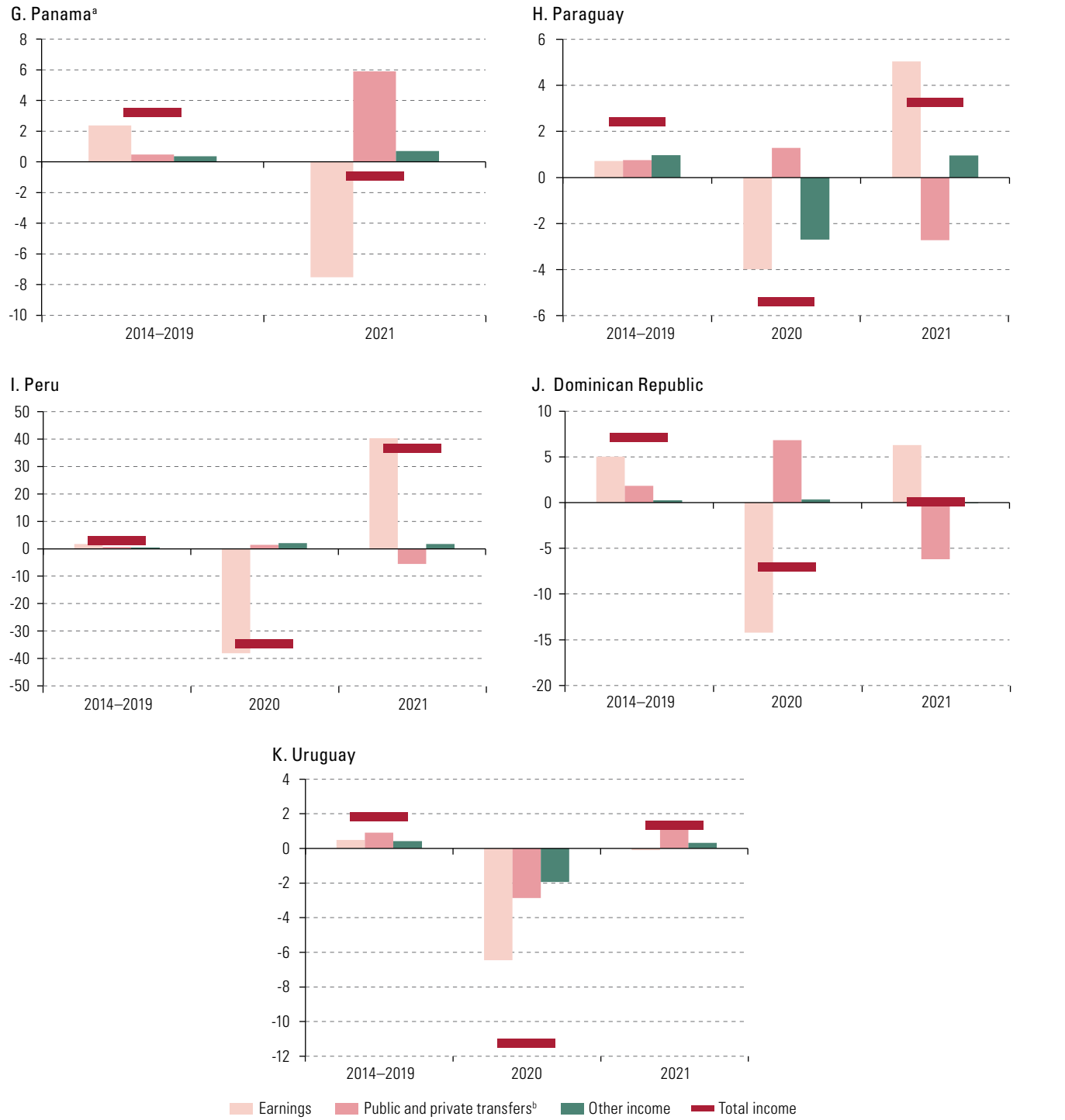
The reverse happened in 2021, with a clear recovery in earnings as the main factor behind the increase in incomes for low-income households and the consequent reduction in poverty. Transfers received by households from the government and from other households (such as remittances) tended to decline in several countries as a result of the withdrawal of emergency programmes implemented to cope with the loss of income during the pandemic.

Consistently with the evolution of the poverty indicators, the largest real increases in per capita income for low-income households during 2021 were recorded in Peru (37%), Colombia (21%) and Argentina (12%). In Argentina and Peru, higher earnings were partially offset by a decline in transfers, while in Colombia transfers contributed to household income growth. In all three countries, higher earnings accounted for at least 85% of the rise in total income (see figure I.12).

[6] The same percentage of households is used in the initial and final year. To determine the cut-off point for the distribution in each country, the poverty rate of the year (initial or final) in which this rate was highest was taken and 5 percentage points were added to take account of households situated just above the poverty line.

Figure I.12
Latin America (11 countries): decomposition of annual changes in the total per capita income of the lowest-income households, by income source, 2014–2019, 2020 and 2021
(Percentages)





Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

Note: Changes in total per capita income are the sum of the contributions from each income source. The size of the lowest-income group is the percentage of people shown in brackets: Argentina (33%), Brazil (29%), Chile (19%), Colombia (40%), Costa Rica (22%), the Dominican Republic (28%), Ecuador (34%), El Salvador (36%), Honduras (60%), Mexico (42%), Panama (21%), Paraguay (26%), Peru (24%), the Plurinational State of Bolivia (37%) and Uruguay (10%).

[a] In the case of Panama, the 2021 figure is the annualized change between 2019 and 2021.

[b] Public transfers include emergency transfers implemented during the coronavirus disease (COVID-19) pandemic and other non-contributory public transfers.

In Costa Rica and Ecuador, per capita income increased by some 8% in the households analysed, although with a marked difference between the two countries in the behaviour of transfers. In Costa Rica, the increase in earnings would have meant a 16% increase in household income, only it was offset by a fall in transfers. In Ecuador, the increase in earnings, at just under 8%, was supplemented by a slight increase in transfer income.

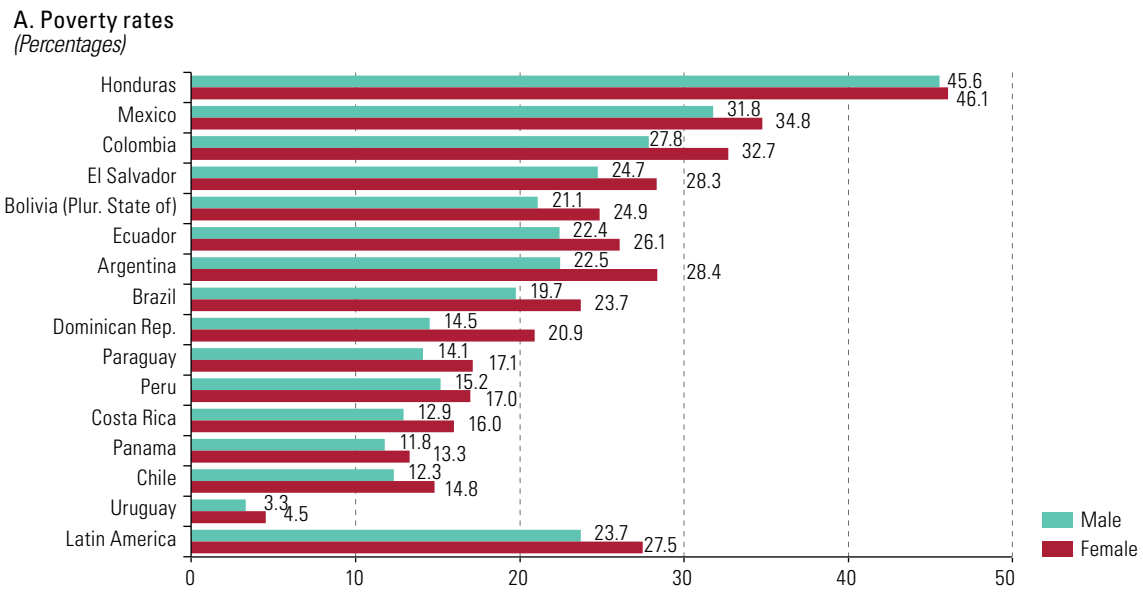
In contrast to the situations described, earnings and transfers in the Dominican Republic and Panama moved by similar amounts but in opposite directions, resulting in total per capita incomes similar to those of 2020. In the Dominican Republic, the increase in earnings would have raised total income by 6% but for the reduction in transfers. In the case of Panama, where the information relates to cumulative changes between 2019 and 2021, the annualized change in earnings by itself would have resulted in an 8% fall in per capita income, rather than the 1% fall actually seen.

Brazil's exceptionalism in the evolution of poverty in 2020 and 2021 is also evident in the composition of income changes for the poorest households. In contrast to the other countries mentioned, transfer income contributed appreciably more than earnings to changes in total income. Thus, just as transfers contributed to a reduction in poverty in 2020 despite the fall in earnings, in 2021 the reduction in this flow was the largest factor behind the drop in household income (with a further decline in earnings also contributing).

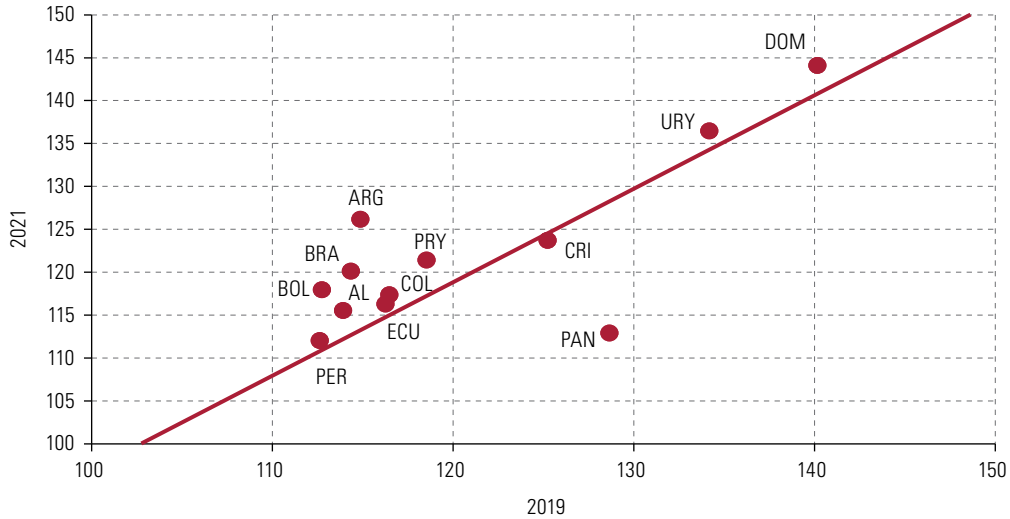
The large changes in almost all the countries in 2020 and 2021 contrast with the previous period (between 2014 and 2019), when the different income streams of the lowest-income households tended to change by smaller amounts.

One of the recurrent manifestations of the structural constraints on gender inequality is the higher incidence of poverty among women than among men at the ages of greatest participation in the labour market (20 to 59 years). Figure I.13A shows that, regardless of the poverty level in the countries, the female poverty rate in this age range is always higher than the male rate, with differences that can exceed 5 percentage points, as in Argentina and Brazil. Female poverty exceeds male poverty by an average of 3.4 percentage points in Latin America.

Figure I.13
Latin America (15 countries): poverty rates by sex and poverty femininity index, population aged 20–59, around 2021
(Percentages and index values)



B. Poverty femininity index values



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: In figure A, the countries are ranked by the incidence of total poverty nationwide. The figures are for 2020 in the cases of Chile, El Salvador and Mexico and for 2019 in that of Honduras. The poverty femininity index, presented in figure B, is the ratio between the female and male poverty rates multiplied by 100 for persons aged between 20 and 59 years.

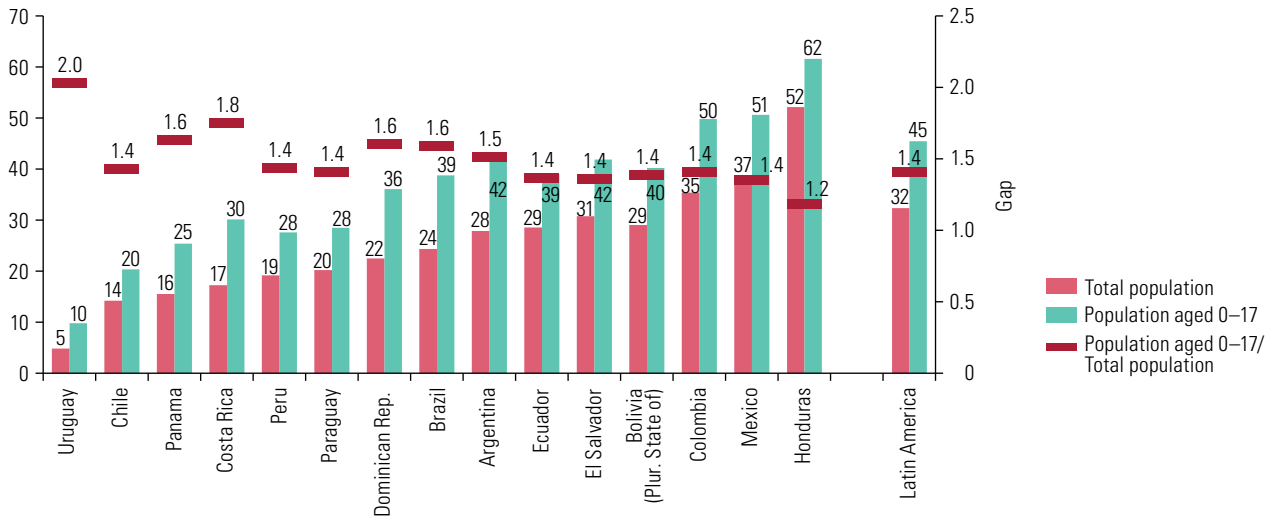
The poverty reduction observed in 2021 did not contribute to a reduction in gender gaps. The poverty femininity index (the ratio between the female and male poverty rates multiplied by 100) only declined in Panama, while in the other countries it remained constant or trended upward (see figure I.13B).

Children and adolescents are the age group most exposed to monetary poverty. According to the most recent figures, almost 45% of Latin Americans under the age of 18 live in poverty, a share that exceeds the average for the region's total population by 13 percentage points. Of the 81 million young people thus living in poverty, 35 million are in extreme poverty. In Colombia, Honduras and Mexico, half or more of the people in this age group are poor, and in Argentina, El Salvador and the Plurinational State of Bolivia, the proportion is 40% or higher. Poverty rates in this group exceed the national average rate in all countries by a factor of between 1.2 and 2. The gap between children and other age groups tends to be wider in countries with lower poverty rates, although this is not true in all cases (see figure I.14).

These disturbing figures reveal widespread income deprivation just at a stage of the life cycle that is crucial for people's development. As shown in section I.B, the deprivations faced by children are not only monetary, but are manifested in multiple dimensions associated with well-being.

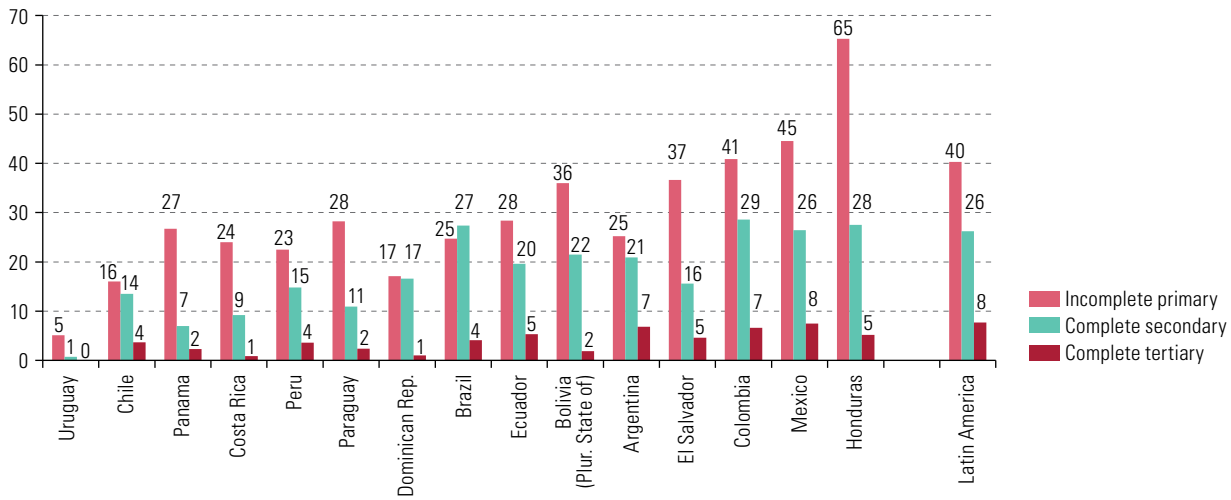
As argued in more detail in chapter II, education has a strong bearing on people's chances of obtaining a suitable job. When people fail to acquire the skills they need to participate effectively in the labour market, their chances of generating sufficient income to meet their basic needs are severely limited. Differences in the incidence of poverty among people aged 25 and over by educational level bear out the importance of educational attainment for earning. Among adults who did not complete primary education, 40% were poor in 2021, a rate that is 14 percentage points higher than that for people with complete secondary education and 32 percentage points higher than that for people with complete tertiary education. These differences are clearly evident in all countries of the region (see figure I.15).

Figure I.14
Latin America (15 countries): poverty rates among children and adolescents aged 0–17 years and gap relative to the poverty rate of the total population, around 2021
(Percentages and multiples)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The gap is the ratio between the poverty rate of children and adolescents and that of the total population. Countries are ranked by the incidence of total poverty at the national level. The data are for 2020 in the cases of Chile, El Salvador and Mexico and for 2019 in that of Honduras. The data on Argentina are for urban areas.

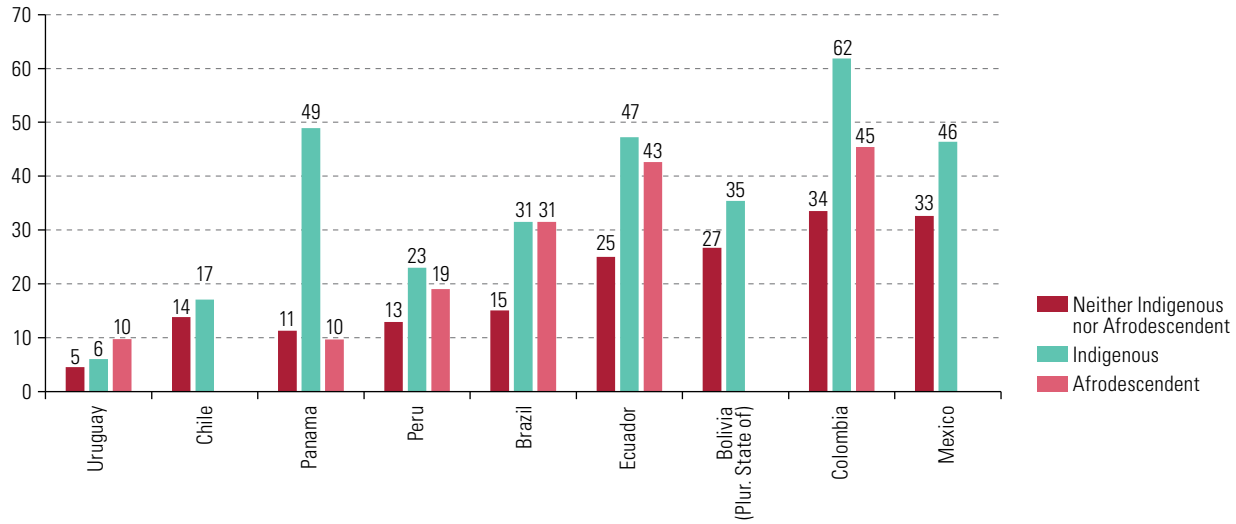
Figure I.15
Latin America (15 countries): poverty rates in the population aged 25 and over, by educational level, around 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the incidence of overall poverty nationwide. The data are for 2020 in the cases of Chile, El Salvador and Mexico and for 2019 in that of Honduras. The data on Argentina are for urban areas.

In almost all the countries of the region, lastly, those declaring that they belong to an Indigenous People face higher poverty rates than the rest of the population. According to the most recent information, the poverty rate for this group exceeds 40% in Colombia, Ecuador, Mexico and Panama, this last being the country of the region where the gap with the rest of the population is widest. Other than in Panama, the Afrodescendent population is also characterized by higher poverty rates than the non-Indigenous, non-Afrodescendent population (see figure I.16).

Figure I.16
Latin America (9 countries): poverty rates by race and ethnicity, around 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the incidence of overall poverty nationwide. The data are for 2020 in the cases of Chile and Mexico and for 2019 in that of Honduras. In the cases of Chile, Mexico and the Plurinational State of Bolivia, the household survey information available does not allow Afrodescendent people to be identified.

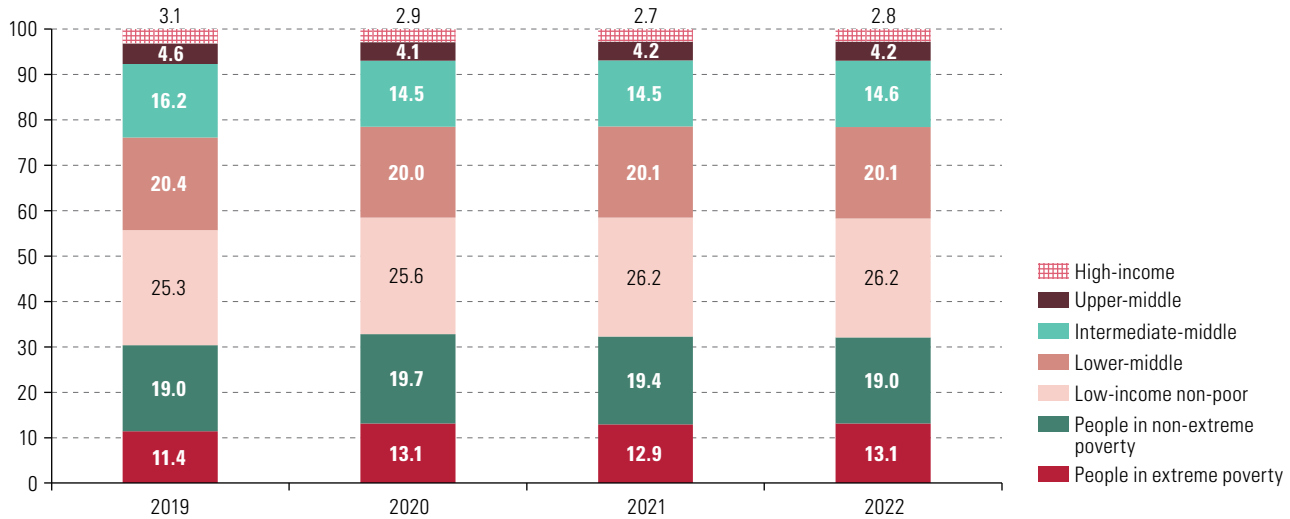
3. Effects of the COVID-19 pandemic on population distribution by income strata

The negative economic and social effects of COVID-19 were felt across all strata of the income distribution during 2020.[7] In that year, the share of the low-income strata (people in extreme poverty, those in non-extreme poverty and the low-income non-poor) in the regional aggregate increased by 2.7 percentage points, while the share of the middle- to high-income strata (the intermediate-middle, upper-middle and high-income groups) decreased by 2.4 percentage points. In absolute numbers, the pandemic swelled the low-income strata by almost 20 million people and pushed almost 13 million Latin Americans out of the middle- and high-income strata (see figure I.17).

In the regional aggregate, the economic recovery of 2021 did not substantially change the shares of the income strata in the distribution. The proportion of the population in the low-income strata in 2021 was almost the same as in 2020, and the same was true of the middle- and high-income strata (see figure I.17). Projections for 2022 indicate almost no change in the shares of the different strata in the income distribution.

[7] To analyse and characterize these effects, the income distribution was segmented according to the criteria set out in ECLAC (2019). Three main strata were identified on the basis of per capita household income: (i) the low-income stratum, composed in turn of three subgroups: (a) people in extreme poverty (per capita income below the extreme poverty line used by ECLAC), (b) people in non-extreme poverty (per capita income below the poverty line) and (c) the low-income non-poor (per capita income below 1.8 poverty lines); (ii) the middle-income stratum, composed of three subgroups: (a) the lower-middle stratum (upper threshold of 3 poverty lines), (b) the intermediate-middle stratum (upper threshold of 6 poverty lines) and (c) the upper-middle stratum (upper threshold of 10 poverty lines); and (iii) the high-income stratum, consisting of people with a per capita household income above 10 poverty lines.

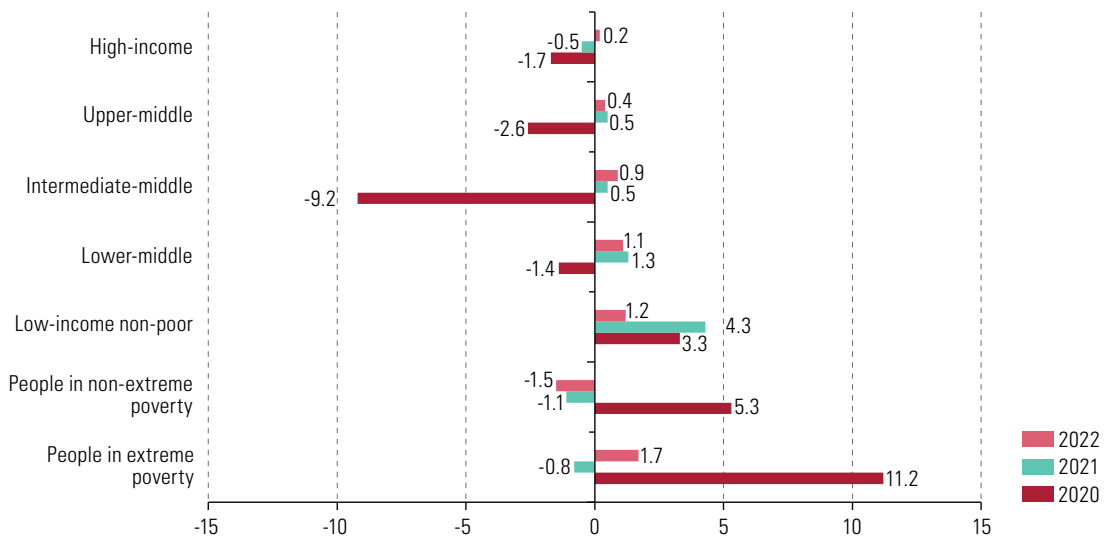
Figure I.17
Latin America (18 countries):[a] distribution of the population by income strata, 2019–2022
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Weighted average of the following countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

However, there were changes in the number of people in the different strata, as the number of low-income non-poor people increased and there was also a less significant rise in the number of people in the lower-middle stratum. In parallel, the number of people below the total and extreme poverty lines decreased. This positive trend by no means reversed the negative effects of the pandemic: in 2021 there were more people in poverty or extreme poverty and fewer people in the intermediate-middle and upper-middle income strata than in 2019. For 2022, an increase of around 1.7 million people in the extreme poverty stratum and about 1.2 million people in the low-income non-poor stratum is expected (see figure I.18).

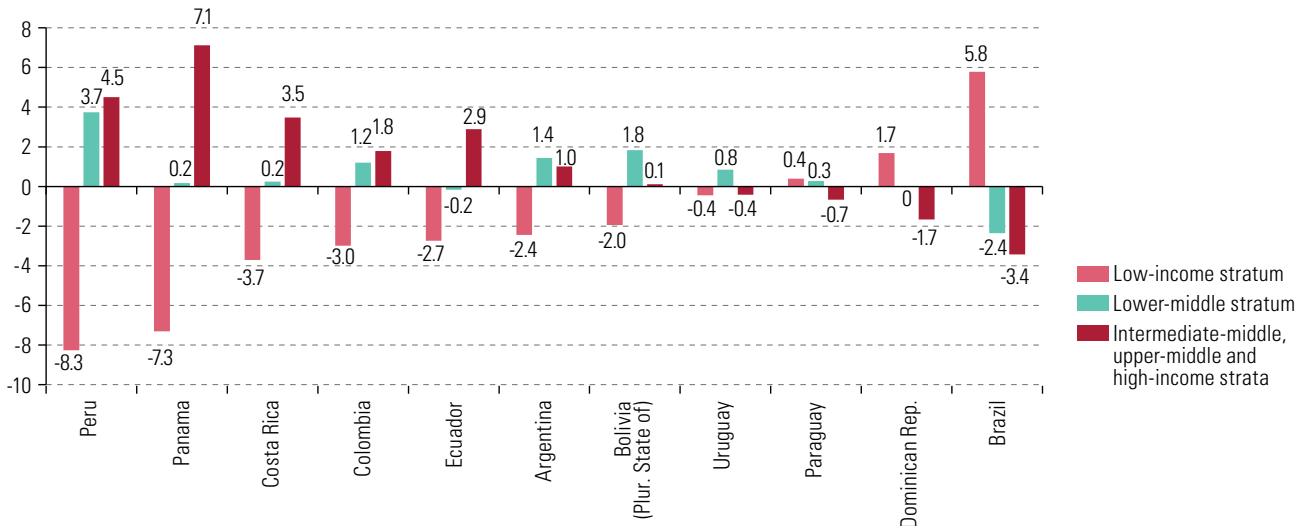
Figure I.18
Latin America (18 countries):[a] annual population changes by income stratum, 2020, 2021 and 2022
(Millions of people)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Weighted average of the following countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

An examination of how the shares of the income strata changed in 2021 by country shows a trend towards a reduction in the share of the low-income strata and an increase in the share of the middle- to high-income strata. The largest declines in the share of low-income groups, as well as the largest increases in that of the middle- and high-income strata, were seen in Panama and Peru. The countries furthest from the dominant trend were Uruguay, Paraguay, the Dominican Republic and, especially, Brazil, where the share of the low-income stratum grew strongly and that of the middle- to high-income strata declined (see figure I.19).

Figure I.19
Latin America (11 countries): changes in the total population shares of the income strata, 2021
(Percentage points)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the decline in the share of the low-income stratum. The values shown are the percentage point change in the share (weight) of the stratum in the total population of the country between 2020 and 2021. The strata used in this chart are a regrouping of those defined earlier (see footnote 7). Low-income stratum: people in extreme poverty and non-extreme poverty and the low-income non-poor. Lower-middle stratum: people with lower-middle incomes (between 1.8 and 3 poverty lines).

B. Critical deprivations affecting learning opportunities for children and adolescents from different income strata

In Latin America, access to goods and services that affect learning opportunities varies greatly between children and adolescents from households with different income levels. Children living in poverty are the most affected by critical deprivations in the home, partly because of the low educational attainment of their parents or caregivers and a lack of Internet access and computers in the home. Children from the low-income non-poor stratum are the next most affected group, while membership of the lower-middle stratum does not guarantee adequate levels of access either, since critical deprivations also exist in this group. These considerations highlight the need for multisectoral policies to address educational challenges, with a special focus on poor children and adolescents, but without neglecting middle-income sectors.

Empirical research has consistently shown that one of the most important predictors of children's and adolescents' outcomes at school and then in the labour market is the socioeconomic situation of their families, including both inadequate income and a critical lack of basic goods and services in the household (OECD, 2019; ECLAC, 2011; Kaztman, 2011). The educational opportunities of children and adolescents who are simultaneously affected by deprivations in different areas of well-being will be worst affected,[8] in addition to which the lockdowns implemented in response to the pandemic exacerbated the adverse effects of some deprivations on their education and the well-being of the population in general.

This section presents recent evidence on the incidence of some critical deprivations that directly or indirectly influence the educational opportunities and outcomes of children and adolescents, considering different income strata. The critical deprivations analysed are: (i) deficiencies in housing services and materials, (ii) overcrowding, (iii) low educational attainment among adults in the household and (iv) lack of access to information and communications technologies (ICTs), such as the Internet and computers. Instead of the seven strata that are usually analysed in the *Social Panorama of Latin America,* four strata are formed, grouping the top and bottom of the distribution to avoid the information from household surveys becoming unrepresentative as a result of the reference population being limited to people under 18 years of age.[9]

1. Deprivations in housing materials and services

Housing is deemed adequate when children and adolescents are provided with appropriate water and sanitation services, have clean energy for cooking, heating and lighting, and are protected from inclement weather (cold, damp, heat, rain and wind) (OHCHR, 2009). Deprivations in housing services and materials affect educational outcomes, as healthy and safe environments are required for learning (Cunningham and MacDonald, 2012). According to ECLAC (2011), a lack of basic housing infrastructure erodes the capacity of families to meet the essential needs of children and adolescents, which hinders the creation of appropriate conditions for them to attend school regularly and receive the education they need.

Inadequate water and sanitation often lead to health (and nutritional) problems, which can affect school attendance, comprehension and performance (Kaztman, 2011). Children, especially girls, can spend a lot of time travelling long distances to obtain water and fuel (Njoh and others, 2018), which leaves less time for school activities (Ortiz-Correa, Resende Filho and Dinar, 2016). Electricity is necessary for them to study with adequate lighting (Njoh and others, 2018), and the lack of it makes it hard or impossible to use computers and connect to the Internet.

Regarding evidence on the relationship between housing deprivation and educational outcomes, a study on 27 developing countries (including the Dominican Republic and Peru) found that deprivations in fuel, sanitation, water, electricity and housing materials increased the correlation between the educational attainments of parents and their children (Momo, Cabus and Groot, 2021). In a correlational study of 17 Latin American countries, Kaztman (2011) found that deprivations in water, sanitation and housing materials, analysed both separately and as a synthetic index, were associated with pupils being held back at school in a class below their age group,[10] and suggested that deprivations in housing materials and sanitation might do more than monetary income to account for these situations.

8 Overlapping deprivations have worse effects on the well-being of children and adolescents (De Neubourg and others, 2012).

9 The following strata are considered: (i) poor, with per capita household income below the monetary poverty line; (ii) low-income non-poor, with per capita income equal to or greater than the poverty line and less than 1.8 times the poverty line; (iii) the lower-middle stratum, with per capita income of 1.8 times the poverty line or more and less than 3 times the poverty line; (iv) the intermediate to high-income stratum, with per capita income of 3 times the poverty line or more. Considering the classification originally developed by ECLAC (2019), the intermediate to high-income stratum includes the intermediate-middle, upper-middle and high-income strata, while the poor stratum includes those in non-extreme poverty and extreme poverty.

10 This is measured by the difference between the age of the children or young people attending a given grade and the age that those attending that grade should be (the "official" age of attendance). It is taken as an indicator of deprivation when children or young people are more than two years older than the "official" age.

Around 2021, critical deprivations in housing materials and in water, sanitation and energy services disproportionately affected children and adolescents in the poorest income stratum (see box I.4 for details on the measurement of critical deprivations in housing). In 8 of 17 Latin American countries, more than 60% of children under 18 years of age in the poorest stratum had at least one critical deprivation, with very high values in Nicaragua (90%), Guatemala (89%), Honduras (80%), the Plurinational State of Bolivia (73%) and Paraguay (72%). The lowest rates of critical deprivation among children under 18 in households below the income poverty line were observed in Chile (9%), Uruguay (15%) and Costa Rica (17%) (see figure I.20).

Box I.4
Measuring critical deprivations

The measurement of critical deprivations in housing materials and services (water, sanitation and energy) is based on definitions of deprivation widely used in Latin America, whether in regional studies (ECLAC/UNICEF, 2010; ECLAC, 2013 and 2014) or in the countries' multidimensional poverty indices (see Santos, 2019 for a review) and in child poverty measurements (Espíndola and others, 2017). In the case of water, access to piped or mains water or another improved water source (e.g., a protected well) within the property has been deemed desirable for urban areas. For rural areas, the threshold set is access to improved sources that provide a basic sufficiency of supply, without the source needing to be on the property. As for sanitation, children and adolescents in urban areas have been deemed to be deprived of this if they live in dwellings that do not have a toilet, or where the toilet does not drain into a sewer or septic tank, or if they are members of households that share a bathroom with other households. In rural areas, the deprivation categories are the same, except for those with improved latrines. As regards housing materials, a definition of deprivation based on the use of irrecoverable materials has been used, expanded to include some non-rudimentary materials without the necessary finishing (e.g., unfaced walls or rough or untreated wooden floors). Thus, the definitions used are as follows:

- Housing material: roof, walls or floor made of irrecoverable or untreated materials
- Water: in urban areas, public grid outside the property, unprotected wells or wells without a motor pump, mobile source, rainwater and surface water; in rural areas, surface water, rainwater, mobile source, unprotected well or well water with a cesspool
- Sanitation: in urban areas, waste pipes not connected to a sewerage system or septic tank, shared bathroom or no toilet; in rural areas, no toilet, shared bathroom, cesspit, untreated latrines or waste discharged untreated to the surface, a river or the sea
- Energy: cooking with toxic fuel (wood, charcoal, waste or paraffin) or no electricity in the dwelling.

Instead of analysing deprivations separately, the decision was taken to summarize the measurements and make them more robust by constructing a composite index of critical deprivation in housing materials and services, in which the different deprivations were aggregated. The index is equal-weighted, following the usual practice in this type of measurement. Children and adolescents in households with at least one of the above-mentioned deprivations are critically deprived.

To determine the contributions of the different deprivations to total deprivation in housing materials and services, the decomposition method proposed by Alkire and Foster (2011) was applied. The total deprivation measure M_0 was calculated by multiplying the headcount (H) for total critical deprivation (H equals q/n, where q is the number of children and adolescents with at least one critical deprivation) by the intensity (A) of total deprivation, where A equals $\sum_{i=1}^{n} c_i(k)/q$, or the (weighted) average total deprivation score among persons aged under 18 in households with at least one deprivation. The M_0 measure can be decomposed by indicator, since total M_0 is expressed as the weighted sum of the proportion of the population identified as critically deprived in total and deprived on each indicator. The percentage contribution of each indicator to total critical deprivation is estimated as the headcount ratio multiplied by its relative weight, divided by total M_0.

Traditionally, overcrowding in Latin America has been measured by the ratio between the number of household members and the number of rooms available or actually used for sleeping in the dwelling, without considering the demographic composition of the household (Villatoro, 2017; Santos, 2019). In this exercise, an indicator based on the European Union measurement,[a] which sets deprivation thresholds associated with household composition (age and gender), was constructed. The deprivation thresholds used were as follows: more than two persons per room in the case of a household head with a partner or spouse; more than one per room in the case of persons aged 18 or over and single; more than two per room

in the case of children of the same sex aged between 12 and 17; more than one per room in the case of children aged between 12 and 17 of different sexes; more than two per room in the case of children under 12. To calculate the indicator, the minimum number of rooms required was estimated for each household according to its demographic composition and then compared to the total number of rooms actually available to the household. In countries that ask about the number of rooms in the dwelling (Costa Rica, Honduras, Mexico, Paraguay and Peru) rather than the number available to the household, overcrowding was calculated on the basis of the information on persons and rooms for the entire dwelling.

Lastly, low educational attainment has typically been measured in the region using thresholds differentiated by age group, taking into account changes in the performance of the education system across the generations (ECLAC, 2014; Santos, 2019). In line with this approach, the following age-differentiated educational attainment thresholds are used in this case: (i) ages 18 to 29: complete secondary education; (ii) ages 30 to 59: complete lower secondary education; (iii) ages 60 and over: completion of at least 4 years of primary education. The years of education corresponding to the primary and secondary education stages were determined in each country according to the International Standard Classification of Education (ISCED) of the United Nations Educational, Scientific and Cultural Organization (UNESCO).[b]

In this measurement, the responsible adults in each household were considered to be the household head and their spouse. Low educational attainment exists when both the household head and the spouse fall below the educational attainment thresholds set for their age group. If there was no spouse, the information for the household head was used.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of ECLAC/United Nations Children's Fund (UNICEF), *Pobreza infantil en América Latina y el Caribe* (LC/R.2168), Santiago, 2010; ECLAC, *Social Panorama of Latin America, 2013* (LC/G.2580), Santiago, 2013, and *Social Panorama of Latin America, 2014* (LC/G.2635-P), Santiago, 2014; Santos, M. E., "Non-monetary indicators to monitor SDG targets 1.2 and 1.4", *Statistics series,* No. 99 (LC/TS.2019/4), Santiago, ECLAC, 2019; E. Espíndola and others, "Medición multidimensional de la pobreza infantil: una revisión de sus principales componentes teóricos, metodológicos y estadísticos", *Project Documents* (LC/TS.2017/31), Santiago, ECLAC, 2017; S. Alkire and J. Foster, "Counting and multidimensional poverty measurement", *Journal of Public Economics,* vol. 95, Nos. 7–8, August 2011; and P. Villatoro, "Indicadores no monetarios de carencias en las encuestas de los países de América Latina: disponibilidad, comparabilidad y pertinencia", *Statistics series,* No. 93 (LC/TS.2017/130), Santiago, ECLAC, 2017.

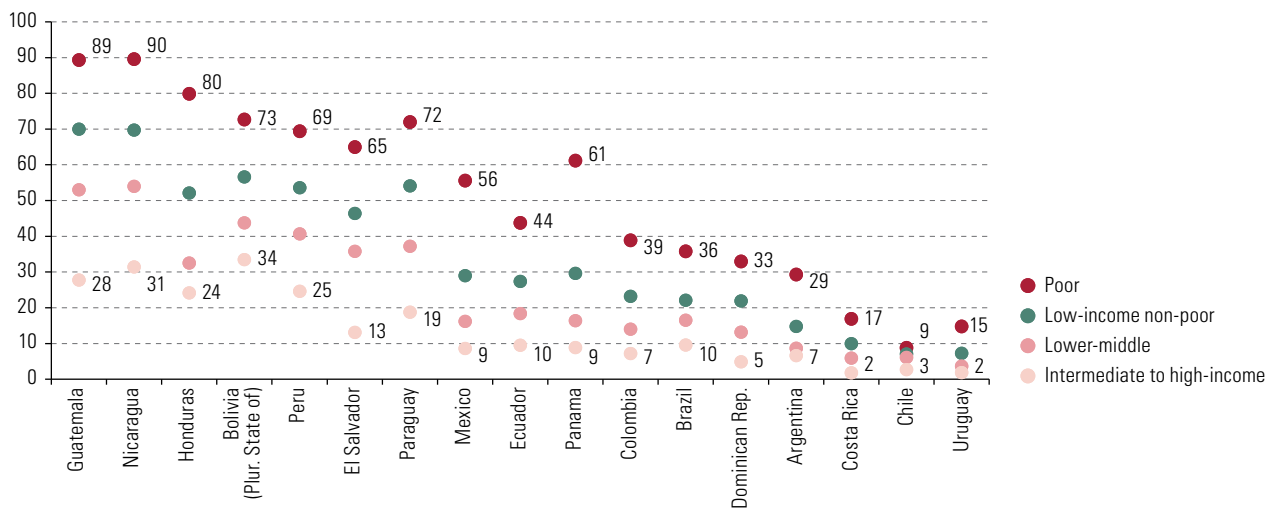
[a] See [online] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Overcrowding_rate.

[b] See [online] http://uis.unesco.org/sites/default/files/documents/isced-2011-en.pdf.

Figure I.20

Latin America (17 countries): critical deprivations in housing materials and basic services by income stratum, population aged under 18, around 2021

(Percentages of under-eighteens with at least one critical deprivation)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

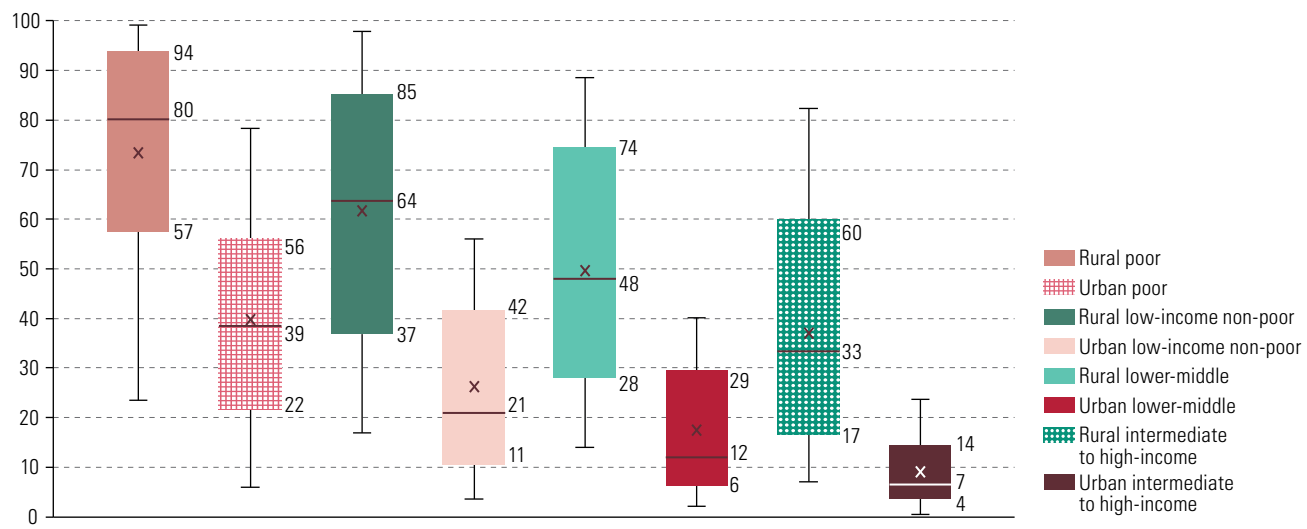
Note: The countries are ranked by the incidence of critical deprivation in the entire population under 18 years of age. The total incidence of critical deprivation in each country is equal to the weighted sum of the incidences by income stratum. It includes critical deprivation in housing materials, water, sanitation and energy. Children and adolescents in households with at least one of the deprivations referred to are considered to be in a situation of critical deprivation. The data are for 2014 in the cases of Guatemala and Nicaragua, 2019 in those of Brazil and Honduras and 2020 in those of El Salvador and Mexico.

In some countries, critical deprivations in access to basic services and housing materials also greatly affect children and adolescents in the low-income and lower-middle non-poor strata. In the low-income non-poor stratum, the incidence of critical deprivations among children and adolescents is 50% or more in 6 countries. Critical deprivation affects 40% or more of children under 18 years of age in the lower-middle stratum in four countries (Nicaragua, Guatemala, the Plurinational State of Bolivia and Peru). Critical deprivation also exists in the intermediate and high strata: in five countries (the Plurinational State of Bolivia, Nicaragua, Guatemala, Peru and Honduras), the incidence of critical deprivation exceeds 20% among children under 18 years of age.

Costa Rica, Uruguay and Panama show the greatest disparities in the incidence of critical deprivation between the top and bottom strata of the distribution, with the ratios between the poor stratum and the intermediate to high stratum being 9.4, 7.8 and 6.9 times, respectively. In the first two countries, the size of the differences between strata is explained by the low incidence of critical deprivation in the highest-income stratum. The smallest disparities are found in the Plurinational State of Bolivia (2.2 times), Peru (2.8 times) and Nicaragua (2.9 times). In the Plurinational State of Bolivia and Nicaragua, the small gap between the top and bottom strata is due to the fact that both countries have the region's highest incidences of critical deprivation in the intermediate to high-income stratum (34% and 31%, respectively).

Critical deprivations are much more prevalent in rural areas than in urban ones, a situation found across all income strata and in all 16 countries with data available. In the regional aggregate, the highest incidences of critical deprivation occur among rural children and adolescents in the low-income poor and non-poor strata (regional medians of 80% and 64%, respectively). Urban dwellers aged under 18 in the poor stratum exhibit a regional median critical deprivation rate of 39%, which is lower than that of their rural peers in the lower-middle stratum (median of 48%) and only 5 percentage points higher than the critical deprivation rate among intermediate to high-income rural dwellers aged under 18. The lowest levels of critical deprivation are found among children and adolescents in the intermediate to high-income stratum (see figure I.21).

Figure I.21
Latin America (16 countries):[a] critical deprivations in housing materials or basic services, by income stratum and area of residence, population aged under 18, around 2021
(Percentages of under-eighteens with a critical deprivation, medians and regional deviations)

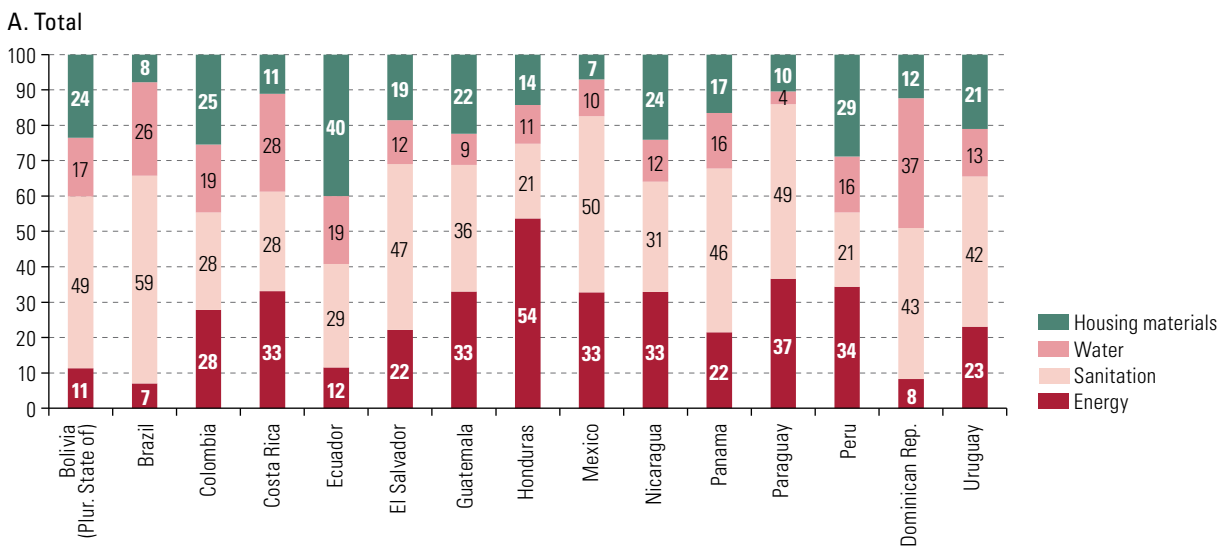


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The horizontal line within each box shows the median of the data, X marks the mean. The upper and lower edges of each box represent the critical deprivation values for the top 25% and the bottom 25% of the countries ranked by this indicator.
[a] Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay. The data are for 2014 in the cases of Guatemala and Nicaragua, 2019 in those of Brazil and Honduras and 2020 in those of El Salvador and Mexico.

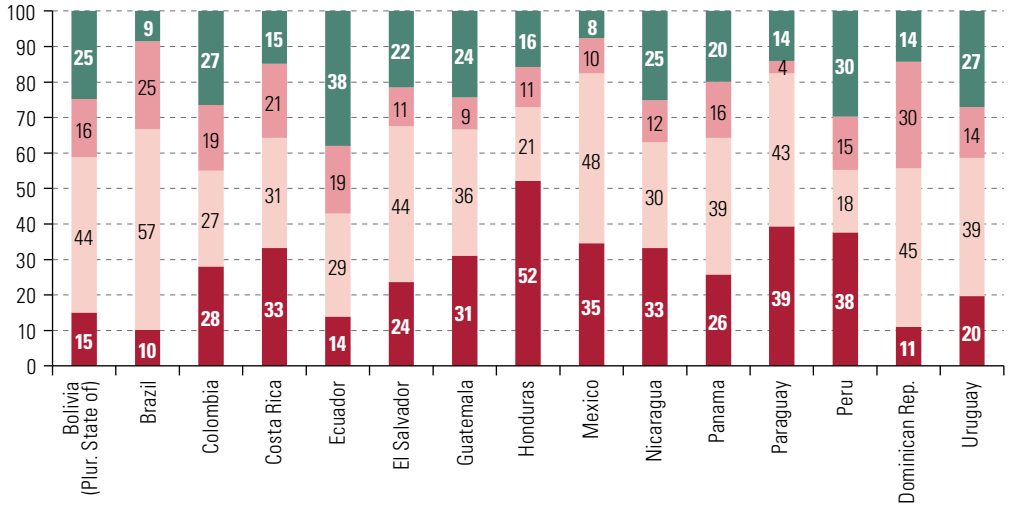
The countries where rural children and adolescents in the lower-middle stratum are affected by a substantially higher incidence of critical deprivation in housing materials and services than their income-poor urban peers are Brazil, Peru, Colombia and Chile (differences of 35, 33, 23 and 21 percentage points, respectively). In turn, the differences between the two groups range from 10 to 20 percentage points in the Plurinational State of Bolivia, Panama, El Salvador and Honduras. However, this does not mean that critical deprivation does not exist among non-poor urban children: the regional median incidence of critical deprivation among low-income non-poor urban dwellers aged under 18 is 21%, with the highest rates in Guatemala, Nicaragua and the Plurinational State of Bolivia (56%, 52% and 47%, respectively). Thus, identifying the poor solely on the basis of income masks deprivation, especially in rural areas.

One of the possible uses of a composite index is to determine the contribution of each of the indicators to the total critical deprivation experienced by children and adolescents (see box I.4). As of around 2021, sanitation is the deprivation that contributes most to total critical deprivation in housing materials and services among persons under 18 years of age in Latin America (regional median of 39%). This is followed by deprivations in energy (regional median of 26%), housing materials (19%) and water (17%). This ranking tends to be replicated among the different income strata, but with the peculiarity that the contribution of substandard housing materials to total critical deprivation is greater in the poor stratum (regional median of 22%) than in the low-income non-poor stratum (16%) and lower-middle stratum (9%). At the regional aggregate level, no major differences between income strata are observed for the rest of the deprivations.

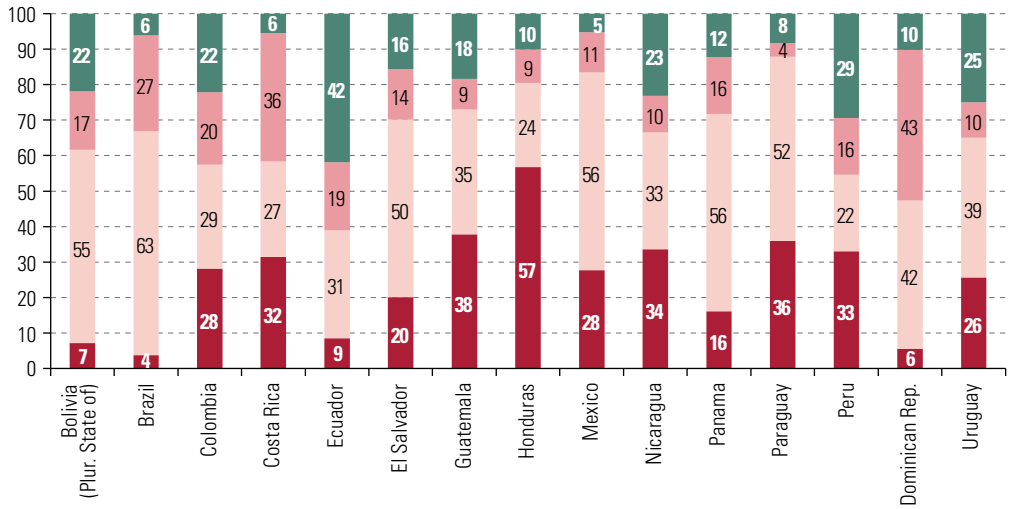
Figure I.22
Latin America (15 countries): contribution of different deprivations to total critical deprivation in housing materials or basic services, in total and by income stratum, population aged under 18, around 2021
(Percentage contribution of each indicator to total deprivation)



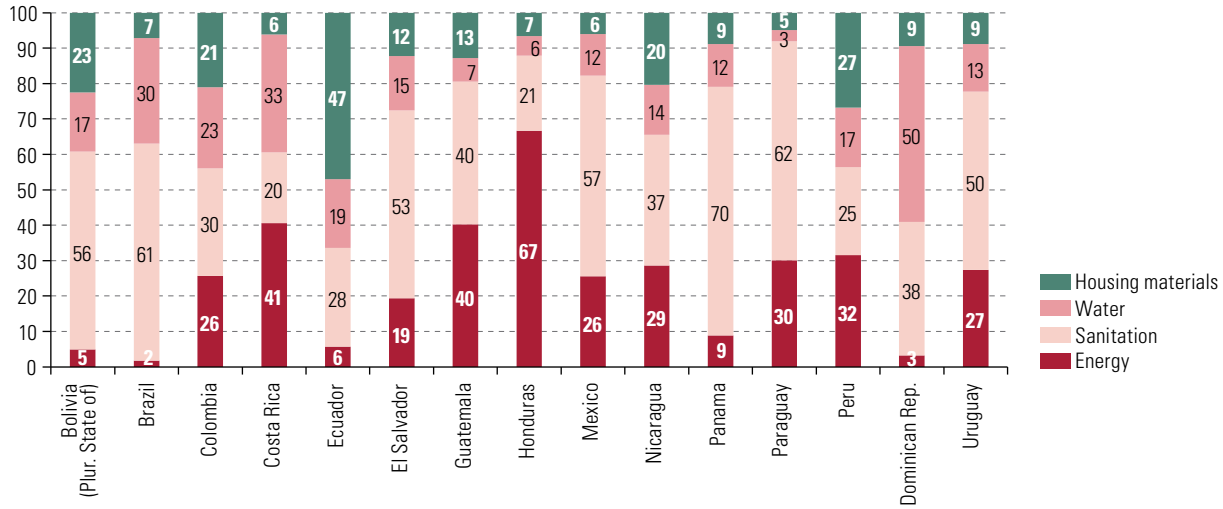
B. Poor



C. Low-income non-poor



D. Lower-middle



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The data are for 2014 in the cases of Guatemala and Nicaragua, 2019 in those of Brazil and Honduras and 2020 in those of El Salvador and Mexico.

2. Overcrowding

Overcrowding means insufficient space for the inhabitants of a dwelling, which affects their privacy and autonomy. The mechanisms through which overcrowding can influence school outcomes are varied. First, insufficient space in the home makes it more difficult for children and adolescents to do schoolwork and limits opportunities for them to reflect, develop their own ideas and develop cognitive skills. Second, when there is overcrowding, public spaces become the main places for meeting with peers, increasing the risks of drug and alcohol use and antisocial behaviour. Third, the lack of privacy has disruptive effects on family life and can lead to mental health problems, abuse and violence (Kaztman, 2011). This last point must be considered especially in the context of the COVID-19 pandemic, as overcrowding, mobility restrictions and lockdowns may have substantially increased anxiety and stress levels in children and adolescents and their caregivers (ECLAC/UNICEF/OSRSG-VAC, 2020). The prolonged closure of schools during the pandemic brought the educational process into the home, widening gaps in opportunities for continuity in the learning process.

There is considerable empirical evidence on the relationship between overcrowding and various educational indicators. Overcrowding generates noise pollution that hinders concentration and affects learning outcomes (Zhang and Navejar, 2018). Lopoo and London (2016), using data from the Panel Study of Income Dynamics in the United States, find that overcrowding influences the likelihood of completing high school by age 19 and total educational attainment by age 25. In Argentina, Echart and others (2006) find that overcrowding affects school performance. Contreras, Delgadillo and Rivero (2019), using data from the Second Regional Comparative and Explanatory Study 2006 (SERCE 2006), conclude that overcrowding reduces school performance among sixth-grade students in 15 Latin American countries. In a study of 17 Latin American countries, Kaztman (2011) notes that overcrowding is correlated with the likelihood of pupils being held back a year at school and suggests that the impact of overcrowding on educational outcomes may be greater than that of income and the mother's educational attainment.

Unfortunately, the region is far from ensuring that children and adolescents, especially those in the lower-income strata, have enough space in their homes (see box I.4 for details on the measurement of overcrowding). As of about 2021, the rate of overcrowding was 45% or more among the population aged under 18 in the poor stratum in 13 of 17 countries, with the highest rates in Guatemala (91%), Nicaragua (75%), Mexico (68%) and Panama (68%). Among low-income non-poor adolescents and children, the incidence of overcrowding exceeded 40% in 10 countries, while overcrowding rates in the lower-middle stratum exceeded 30% in 9 countries. In the intermediate to high-income stratum, overcrowding exceeded 15% in 6 countries (see figure I.23).

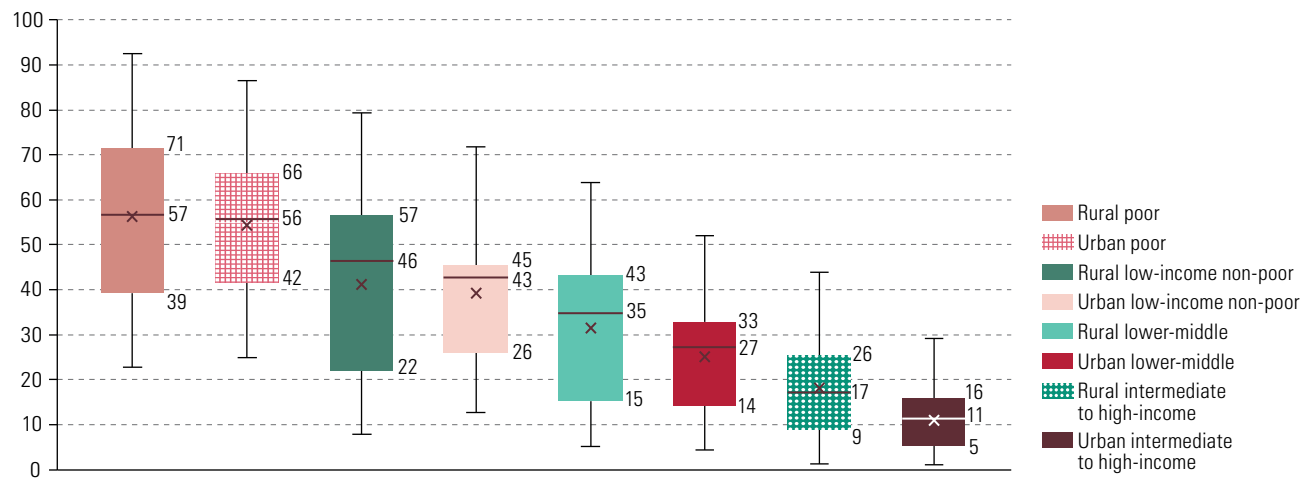
The countries with the greatest disparities in the incidence of overcrowding between the poor stratum and the intermediate to high-income stratum were Costa Rica, Uruguay, Chile and Argentina, with ratios between the strata of 24.1, 19.2, 11.3 and 10.5, respectively. In these countries, the gap is explained by the fact that the incidence of overcrowding in the most affluent stratum is well below the regional median. Peru, Guatemala and the Plurinational State of Bolivia had the smallest disparities in overcrowding between the top and bottom strata, with ratios of 2.8, 2.8 and 3.3, respectively.

Figure I.23
Latin America (17 countries): overcrowding by income stratum, population aged under 18, around 2021
(Percentages of under-eighteens in households with overcrowding)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the incidence of overcrowding in the population under 18 years of age. The data are for 2014 in the cases of Guatemala and Nicaragua, 2019 in those of Brazil and Honduras and 2020 in those of El Salvador and Mexico.

In Latin America, differences in overcrowding by area of residence are usually much smaller than differences in critical deprivations in housing materials and services. Among poor children and adolescents, for example, there are no substantial differences by area of residence (a rural median of 57% versus an urban median of 56%). Differences by area of residence are greater in the lower-middle stratum (median rural overcrowding is 8 percentage points higher than median urban overcrowding) and the intermediate to high-income stratum (a difference of 6 percentage points). In the low-income non-poor stratum, the incidence of overcrowding is 4 percentage points higher in rural areas than in urban ones (see figure I.24).

Figure I.24
Latin America (16 countries):[a] overcrowding by income stratum and area of residence, around 2021
(Percentage of under-eighteens with one or more critical deprivations, medians and regional deviations)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The horizontal line within each box shows the median of the data, X marks the mean. The upper and lower edges of each box represent the overcrowding values for the top 25% and the bottom 25% of the countries ranked by this indicator.
[a] Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay. The data are for 2014 in the cases of Guatemala and Nicaragua, 2019 in those of Brazil and Honduras and 2020 in those of Chile, El Salvador and Mexico.

In Paraguay, Brazil, Nicaragua and the Dominican Republic, urban overcrowding exceeds rural overcrowding among children and adolescents in the poorest income stratum. The greatest difference is seen in Paraguay, where the rate of overcrowding in the poorest stratum in urban areas is 66%, which is 11 percentage points higher than the overcrowding rate among children under 18 years of age in the same stratum but living in rural areas. By contrast, there is no significant difference in overcrowding by area of residence among children and adolescents in the poorest stratum in Peru, Uruguay or Honduras. As for the low-income non-poor stratum, overcrowding also affects urban children more than rural children in Uruguay, Costa Rica and the Dominican Republic.

3. The low educational level of adult caregivers

It is known that one of the main predictors of the educational performance of children and adolescents is the level of education of the responsible adults in the household. ECLAC (2011) suggests that the formal education attained by heads of household of either sex is one of the main factors contributing to differences in educational progression and learning outcomes. Kaztman (2011) notes that the educational attainment of the adults who care for the under-eighteens in a household is the characteristic that best captures the ability of families to pass on skills, knowledge and motivations to their younger members.

The impact of parents' or caregivers' educational attainment on children's school performance has been extensively researched. It has been observed that more educated parents tend to seek better-quality schools, and better educational opportunities lead to better performance. In line with the above, parents' or caregivers' educational expectations and involvement in student learning have been said to impact school outcomes (Thomson, 2018; Evans and others, 2010; Davis-Kean, Tighe and Waters, 2021; Li and Qiu, 2018; Reardon, 2011). Indeed, studies have shown that having a family or after-school organization that facilitates the development of positive attitudes and independent study habits results in greater learning attainments and fosters academic and personal development. Furthermore, students whose parents are more frequently involved in learning activities have greater educational attainments (UNESCO, 2021).

In 8 of 17 countries in the region, the rate of low educational attainment among responsible adults in households of the poor stratum exceeds 60%, with the highest deprivation rates in Guatemala (92%), Honduras (81%), Nicaragua (75%) and Uruguay (70%). It should be noted that this group of countries also includes Costa Rica (67%) and Panama (60%). Among children and adolescents in the low-income non-poor stratum, the incidence exceeds 50% in five countries (Guatemala, Honduras, Nicaragua, Costa Rica and Uruguay), while deprivation rates are between 40% and 50% in another three (El Salvador, Paraguay and Ecuador). The lowest levels of low educational attainment among adults are found in the intermediate to high-income strata, especially in Chile, Argentina, Brazil and the Dominican Republic (see figure I.25).

The largest disparities in the educational attainment of responsible adults between the top and bottom strata are found in Argentina, Chile, Brazil and Panama, while the smallest gaps are found in Guatemala, Nicaragua and Peru. Once again, the more pervasive deprivation is, the smaller the inequality between the strata. In the most unequal countries, the extent of educational deprivation among adults in the middle and upper strata is well below the regional median, while in the countries with the smallest disparities, educational deprivation among adults in the most affluent income stratum is well above the regional median.

Figure I.25
Latin America (17 countries): proportion of responsible adults with low educational attainment in households containing persons aged under 18, by income stratum, around 2021
(Percentages)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the incidence of low educational attainment among responsible adults in households containing persons aged under 18. The data are for 2014 in the cases of Guatemala and Nicaragua, 2019 in that of Honduras and 2020 in those of Chile, El Salvador and Mexico.

4. Lack of ICT access

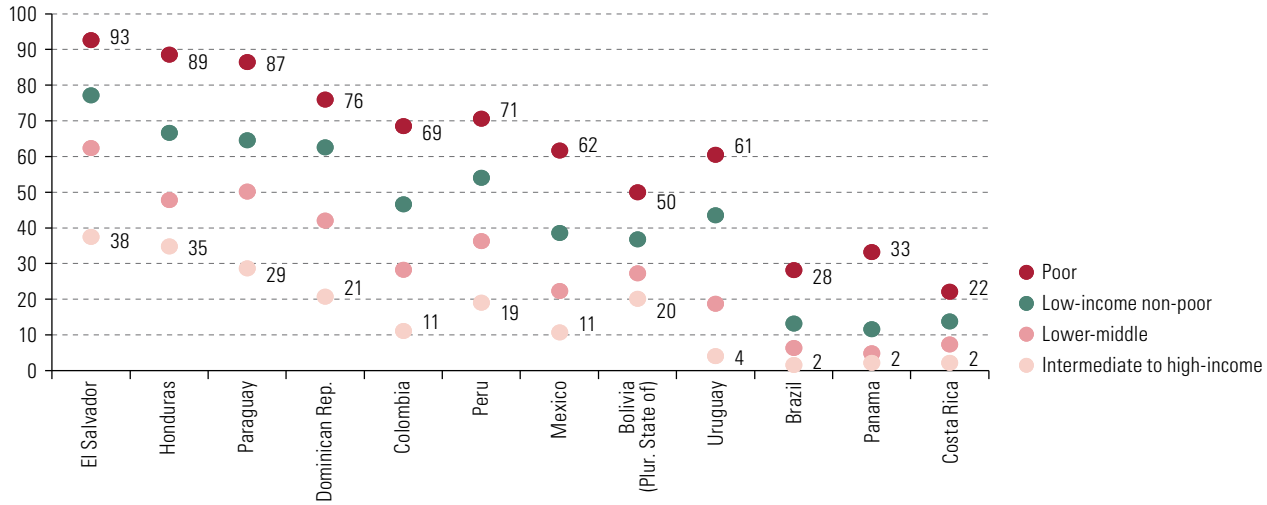
Access to ICTs has become a fundamental means of securing the right to education (UNESCO, 2015). Although lack of access to digital technologies (Internet connection, availability of computers) has not traditionally been seen as a critical deprivation in itself,[11] the suspension of educational, work and other activities because of lockdowns to deal with the COVID-19 pandemic (see chapter II for more details) highlighted the important role that these technological tools have come to play in people's daily lives, and especially in the educational processes of children and adolescents.

Around 2021, the lack of a home Internet connection affected children and adolescents from the poor stratum much more than others, as in 8 of 12 countries in the region over 60% of them were without one. The countries with the worst conditions for children in the poor stratum were the Dominican Republic, El Salvador, Honduras and Paraguay. The low-income non-poor were also badly affected: in five countries, more than 50% had no home Internet access. In four countries, 40% or more of children aged under 18 in the lower-middle group had no household Internet connection (see figure I.26).

The largest gaps in household Internet access between the top and bottom strata of the distribution (the poor stratum and the intermediate to high stratum) were found in Brazil, Panama and Uruguay. In these countries, lack of home Internet access only affected a low or very low proportion of households in the middle- to upper-income stratum. The gaps between the top and bottom groups of the distribution were smaller in El Salvador, Honduras and the Plurinational State of Bolivia, which is explained, especially in the first two countries, by the fact that children and adolescents in the middle- to upper-income stratum were also very likely to lack a home Internet connection.

[11] For example, only a minority of countries in the region include Internet access in their official multidimensional poverty index.

Figure I.26
Latin America (12 countries): lack of a household Internet connection by income stratum, population aged under 18, around 2021
(Percentages of under-eighteens in households with no Internet connection)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the overall proportion of persons aged under eighteen lacking a home Internet connection. By the lack of home Internet access is meant that no household member has a connection to the Internet through a PC, laptop or mobile phone. The data are for 2019 in the cases of Brazil, El Salvador and Honduras and for 2020 in that of Mexico.

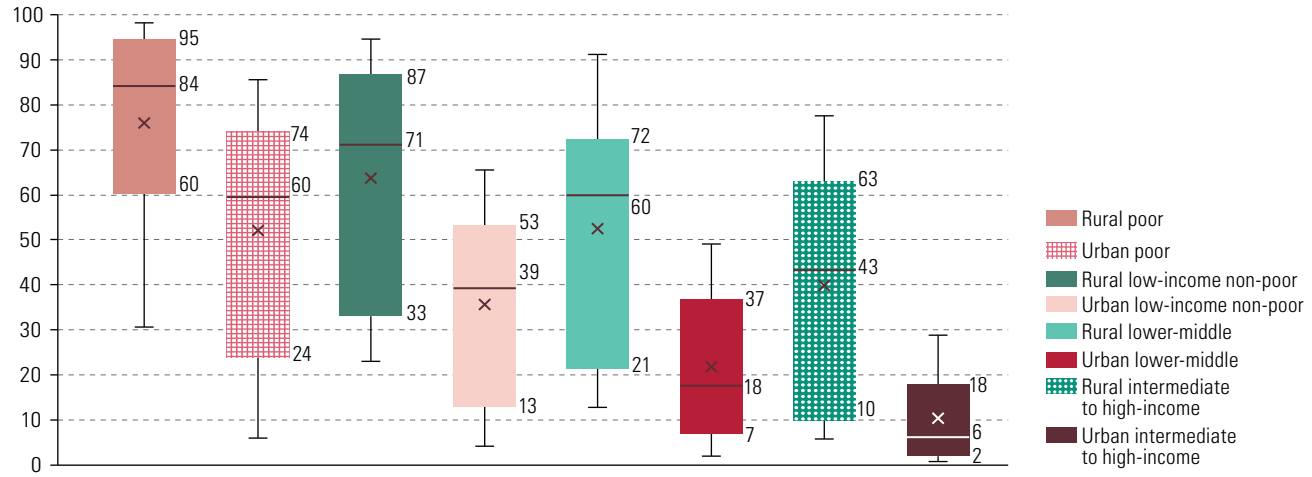
In almost all countries and income strata, rural children and adolescents are much more likely to be without an Internet connection at home (see figure I.27). In the regional aggregate of 12 countries, those most likely to lack an Internet connection at home are rural children under 18 years of age in the low-income poor and non-poor strata (regional medians of 84% and 71%, respectively). Next are urban children in the poor stratum and rural children in the lower-middle stratum (regional medians of 60% in both cases). Under-eighteens in the intermediate to high stratum in urban areas are the least affected by lack of Internet at home (regional median of 6%).[12]

Access to a computer is essential for children and adolescents to do their homework. For the poorest students in isolated areas, the only way to access computers is generally if they are available in schools. As of about 2021, unfortunately, the norm was for this population in the poor, low-income non-poor and even lower-middle strata to have no computer in the home in most countries of the region; in the poor stratum, over 50% of children and adolescents had no computer in the home in 12 of 13 countries (the exception being Uruguay), and the same was true of the low-income non-poor stratum. Among children and adolescents in the lower-middle stratum, this was the situation in seven countries (see figure I.28).

The largest gaps in computer access between the top and bottom strata of the income distribution were found in Costa Rica, Brazil and Panama (deprivation ratios of 5.4, 4.6 and 4.5, respectively), while the lowest levels of inequality were found in the Plurinational State of Bolivia, the Dominican Republic and El Salvador. The gaps between the strata tend to be larger in countries where the highest-income group has lower deprivation ratios, except Uruguay, where the gap is kept narrow by the low level of computer deprivation among children in the poor stratum.

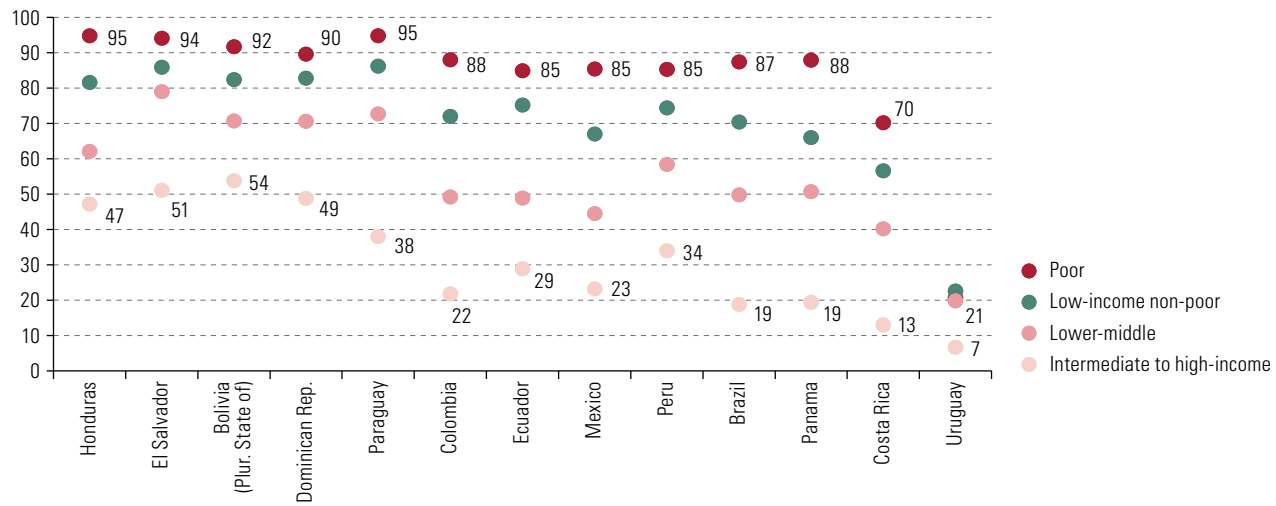
[12] With regard to gender gaps, as of around 2019, women used Internet and mobile phone services less than men in 55% of 20 countries in Latin America (Vaca Trigo and Valenzuela, 2022).

Figure I.27
Latin America (12 countries):[a] lack of a home Internet connection by income stratum and area of residence, population aged under 18, around 2021
(Percentage of under-eighteens in households with no Internet connection, medians and regional deviations)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The horizontal line within each box shows the median of the data, X marks the mean. The upper and lower edges of each box represent the values for lack of home Internet connection for the top 25% and the bottom 25% of the countries ranked by this indicator.
[a] Brazil, Colombia, Costa Rica, the Dominican Republic, El Salvador, Honduras, Mexico, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay. The data are for 2019 in the cases of Brazil, El Salvador and Honduras and 2020 in that of Mexico.

Figure I.28
Latin America (13 countries): lack of a computer at home, by income stratum, population aged under 18, around 2021
(Percentages of under-eighteens lacking access to a computer at home)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
Note: The countries are ranked by the overall proportion of under-eighteens lacking a computer in the home. By a computer is meant a PC, notebook or laptop. The data are for 2019 in the cases of Brazil and Honduras and for 2020 in those of Costa Rica, Ecuador, El Salvador and Mexico.

Thus, in Latin America, the opportunities for access to goods and services that impact the learning opportunities of children and adolescents are very disparate between households at different income levels. Those from poor households are the most affected by critical deprivations, followed by those from low-income non-poor households. However, belonging to middle-income socioeconomic strata does not

guarantee that people will have adequate access. For example, 26% of children and adolescents in the region's lower-middle sectors live in overcrowded conditions (simple average of 17 countries) and 29% do not have access to the Internet (simple average of 12 countries). These circumstances considerably affect the region's ability to provide the new generations with an adequate education that will enable them to lead productive adult lives with opportunities for development and well-being.

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Annex I.A1

Table I.A1.1
Latin America (18 countries): household surveys used to estimate inequality and poverty

Country	Survey	Geographical coverage	Years	Survey period
Argentina	Permanent Household Survey (EPH)	Urban areas	2000–2021	Fourth quarter
Bolivia (Plurinational State of)	Household Survey	National	2002	November to December
	Continuous Household Survey (ECH)	National	2004–2021	November
Brazil	National Household Survey (PNAD)	National	2001–2015	September
	National Household Survey (PNAD *Contínua*)	National	2016–2021	Annual
Chile	National Socioeconomic Characterization Survey (CASEN)	National	2003–2020	November to January
Colombia	Continuous Household Survey	National	2002–2008	Annual
	Large Integrated Household Survey (GEIH)	National	2008–2021	Annual
Costa Rica	Multipurpose Household Survey	National	2000–2009	July
	National Household Survey (ENAHO)	National	2010–2021	July
Dominican Republic	Labour Force Survey (EFT)	National	2001–2015	October
	Continuous National Labour Force Survey (ENCFT)	National	2016–2021	Annual
Ecuador	National Survey on Employment, Unemployment and Underemployment (ENEMDU) in urban and rural areas	National	2001–2021	December
El Salvador	Multipurpose Household Survey	National	2001–2020	Annual
Guatemala	National Survey on Living Conditions (ENCOVI)	National	2002, 2006 and 2014	Different periods
Honduras	Permanent Multipurpose Household Survey	National	2001–2019	May or June
Mexico	National Household Income and Expenditure Survey (ENIGH)	National	2002–2006	Third quarter
	Socioeconomic Conditions Module of ENIGH (MCS-ENIGH)	National	2008–2014	August to November
	National Household Income and Expenditure Survey (ENIGH) New Series	National	2016–2020	August to November
Nicaragua	National Household Survey on the Measurement of Living Standards	National	2005, 2009 and 2014	Different periods
Panama	Labour Market Survey	National	2001–2013	August
	Multipurpose Survey	National	2014–2019	March
	Labour Market Survey	National	2021	October
Paraguay	Integrated Household Survey	National	2001 and 2002	November to December
	Permanent Household Survey	National	2003–2016	October to December
	Permanent Household Survey	National	2017–2021	Annual
Peru	National Household Survey - Living Conditions and Poverty	National	2001–2003	Fourth quarter
	National Household Survey - Living Conditions and Poverty	National	2004–2021	Annual
Uruguay	Continuous Household Survey (ECH)	Urban areas	2001–2005	Annual
	Continuous Household Survey (ECH)	National	2007–2020	Annual
	Continuous Household Survey (ECH)	National	2021	Second quarter
Venezuela (Bolivarian Republic of)	Household Sample Survey	National	2001–2014	Second quarter

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

Table I.A1.2
Latin America (15 countries): extreme poverty and poverty rates estimated by the Economic Commission for Latin America and the Caribbean (ECLAC) and countries' official figures, 2018–2021[a]
(Percentages)

	ECLAC estimates							
	Extreme poverty				Total poverty			
	2018	2019	2020	2021	2018	2019	2020	2021
Argentina[b]	3.6	4.2	6.0	3.7	24.4	27.2	34.2	27.9
Bolivia (Plurinational State of)	14.8	12.0	13.5	9.9	33.1	30.9	32.3	29.0
Brazil[c]	5.6	5.8	5.1	8.3	20.4	20.2	18.4	24.3
Chile	...	...	4.5	...	...	...	14.2	...
Colombia	10.8	12.8	19.2	15.0	29.9	31.7	39.8	35.4
Costa Rica	4.0	3.4	4.0	3.7	16.1	16.5	19.4	17.3
Dominican Republic	4.6	3.9	5.6	5.2	20.9	19.0	21.8	22.5
Ecuador	6.5	7.6	10.8	7.6	24.2	25.7	30.6	28.5
El Salvador	7.6	5.6	8.3	...	34.5	30.4	30.7	...
Honduras	19.4	20.0	...	...	55.7	52.3	...	...
Mexico	7.7	...	9.2	...	35.5	...	37.4	...
Panama	6.8	6.6	...	5.7	14.6	14.6	...	15.6
Paraguay	6.5	6.2	6.0	6.0	19.5	19.4	22.3	20.9
Peru	3.7	3.0	8.6	4.2	16.8	15.4	28.4	19.3
Uruguay	0.1	0.1	0.3	0.1	2.9	3.0	5.0	4.8
	Official country estimates							
	Extreme poverty				Total poverty			
	2018	2019	2020	2021	2018	2019	2020	2021
Argentina[b]	6.7	8.0	10.5	8.2	32.0	35.5	42.0	37.3
Bolivia (Plurinational State of)	15.3	12.9	13.7	11.1	39.9	37.2	39.0	36.4
Brazil[c]	6.8	6.8	5.7	...	26.4	25.9	24.1	...
Chile	...	...	4.3	...	...	...	10.8	...
Colombia	8.2	9.6	15.1	12.2	34.7	35.7	42.5	39.3
Costa Rica[d]	6.3	5.8	7.0	6.3	21.1	21.0	26.2	23.0
Dominican Republic	2.9	2.6	3.5	3.1	22.8	20.9	23.4	23.8
Ecuador	8.4	8.9	15.4	10.5	23.2	25.0	33.0	27.7
El Salvador[d]	5.7	4.5	8.6	...	26.3	22.8	26.2	...
Honduras[d]	24.3	25.2	...	32.5	50.4	48.0	...	59.2
Mexico[e]	14.0	...	17.2	...	49.9	...	52.8	...
Panama	9.9	10.0	...	...	21.4	21.5	...	...
Paraguay	4.8	4.0	3.9	3.9	24.2	23.5	26.9	26.9
Peru	2.8	2.9	5.1	4.1	20.5	20.2	30.1	25.9
Uruguay	0.1	0.2	0.4	0.3	8.1	8.8	11.6	10.6

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG); for Brazil: Brazilian Geographical and Statistical Institute (IBGE), "Síntese de indicadores sociais: uma análise das condições de vida da população brasileira 2021", *Estudos e Pesquisas,* No. 44, Rio de Janeiro, 2021.

[a] Countries for which ECLAC poverty estimates are available from 2018 onward.
[b] ECLAC estimates are for the fourth quarter of each year. Official estimates are for the second half of each year. Data for urban areas.
[c] Brazil does not have an official poverty estimate. The data are estimates made by the Brazilian Institute of Geography and Statistics (IBGE), as indicated in the source, on the basis of the thresholds used by the World Bank for low- and lower-middle-income countries.
[d] Official national measurement reported as percentages of households.
[e] Mexico's official figures represent a multidimensional measurement of poverty. Accordingly, the estimates published by the National Council for the Evaluation of Social Development Policy (CONEVAL), denominated "population below the minimum welfare line" and "population below the welfare line", are taken as an unofficial national benchmark and equated here to "extreme poverty" and "total poverty", respectively.

Table I.A1.3

Latin America (18 countries): poverty and extreme poverty indicators, 2000–2021[a]
(Units of the relevant indices)

Country	Year	Poverty[b]				Extreme poverty			
		Headcount (H)	Headcount (P)	Gap (PG)	Gap squared (FGT2)	Headcount (H)	Headcount (P)	Gap (PG)	Gap squared (FGT2)
Argentina[c]	2002	52.8	62.4	31.0	21.3	17.3	21.1	12.1	9.4
	2008	19.5	27.1	8.6	4.4	3.3	4.3	1.8	1.2
	2014	17.5	24.9	7.2	3.4	3.0	3.3	1.4	1.0
	2019	19.3	27.2	8.4	4.1	3.4	4.2	1.7	1.1
	2020	25.0	34.2	10.9	5.6	4.7	6.0	2.7	1.8
	2021	20.5	27.9	8.4	4.1	3.3	3.7	1.6	1.2
Bolivia (Plurinational State of)	2002	59.9	66.8	37.7	26.5	29.8	35.1	19.2	13.6
	2008	39.6	46.5	21.4	13.2	17.0	21.4	9.7	6.2
	2014	28.6	33.7	13.9	8.1	12.5	14.9	6.5	4.0
	2019	24.8	30.9	11.2	6.0	9.2	12.0	4.6	2.6
	2020	27.4	32.3	12.7	7.2	11.0	13.5	5.6	3.3
	2021	23.1	29.0	10.2	5.3	7.5	9.9	3.9	2.1
Brazil	2002	30.1	37.8	14.4	7.6	4.8	6.2	2.7	1.9
	2008	19.4	25.3	8.9	4.7	3.8	4.3	2.0	1.5
	2014[d]	12.6	16.5	5.5	2.9	3.0	3.3	1.4	1.0
	2019[d]	16.0	20.2	7.8	4.6	5.3	5.8	2.7	1.9
	2020[d]	14.5	18.4	7.0	4.3	4.8	5.1	2.8	2.3
	2021[d]	19.7	24.3	9.9	6.1	7.5	8.3	4.0	2.9
Chile	2003	33.4	40.0	15.3	8.1	4.6	5.6	2.2	1.4
	2009	23.7	29.0	9.6	4.9	3.6	3.8	1.8	1.3
	2013	12.8	16.2	4.8	2.3	1.9	2.0	0.9	0.6
	2015	10.7	13.7	3.9	1.8	1.6	1.8	0.8	0.5
	2017	8.4	10.7	3.0	1.5	1.5	1.4	0.7	0.6
	2020	12.4	14.2	5.8	3.8	4.9	4.5	2.8	2.2
Colombia	2002[e]	46.3	53.8	25.2	15.4	19.8	23.8	10.1	6.0
	2008	37.3	44.6	20.3	12.5	16.8	20.7	9.1	5.7
	2014	25.4	31.1	12.4	6.9	9.9	12.0	4.7	2.7
	2019	25.7	31.7	12.7	7.1	10.6	12.8	5.0	2.9
	2020	34.0	39.8	18.3	11.7	16.9	19.2	9.1	6.2
	2021	28.8	35.4	14.2	8.0	12.2	15.0	5.8	3.3
Costa Rica	2002	25.2	28.0	10.3	5.9	4.9	5.4	2.8	2.2
	2008	17.7	20.1	6.6	3.4	3.5	3.6	1.7	1.2
	2014	14.4	17.5	6.4	3.6	3.7	4.1	1.9	1.2
	2019	13.0	16.5	5.6	2.9	2.8	3.4	1.3	0.8
	2020	15.4	19.4	6.8	3.7	3.3	4.0	1.8	1.3
	2021	13.5	17.3	5.9	3.1	3.0	3.7	1.5	0.9
Dominican Republic	2002	28.0	33.6	13.2	7.3	9.2	11.5	4.1	2.4
	2008	34.2	41.6	16.0	8.2	11.5	15.0	4.4	1.9
	2014	27.0	32.9	11.5	5.6	7.4	9.7	2.8	1.3
	2019[f]	14.0	19.0	5.4	2.3	2.7	3.9	1.0	0.5
	2020[f]	16.1	21.8	6.5	2.9	4.0	5.6	1.6	0.8
	2021[f]	16.8	22.5	6.4	2.7	3.7	5.2	1.4	0.6
Ecuador	2001	48.0	53.5	21.8	11.9	18.0	20.2	6.7	3.6
	2008	29.4	34.7	12.1	6.1	9.0	10.8	3.6	1.9
	2014	19.2	23.4	7.0	3.1	4.7	5.9	1.7	0.8
	2019	19.4	25.7	8.1	3.7	5.4	7.6	2.1	1.0
	2020	23.8	30.6	10.5	5.1	7.6	10.8	3.3	1.5
	2021	22.7	28.5	8.7	3.9	5.7	7.6	2.0	0.9

Country	Year	Poverty[b]				Extreme poverty			
		Headcount (H)	Headcount (P)	Gap (PG)	Gap squared (FGT2)	Headcount (H)	Headcount (P)	Gap (PG)	Gap squared (FGT2)
El Salvador	2001	44.2	50.6	23.2	14.1	15.8	19.1	8.0	4.9
	2009	43.0	50.1	20.8	11.4	13.5	17.1	5.5	2.6
	2014	38.0	44.5	16.4	8.1	9.1	11.7	3.3	1.3
	2019	25.3	30.4	9.6	4.3	4.4	5.6	1.4	0.6
	2020	27.2	30.7	11.3	6.2	7.8	8.3	3.4	2.1
Guatemala	2000	46.9	53.6	28.9	19.8	14.4	16.9	8.8	5.9
	2006	34.9	42.7	19.5	11.6	7.7	10.4	3.4	1.7
	2014	43.1	50.5	22.4	13.0	11.8	15.4	5.3	2.7
Honduras	2001	51.3	57.4	26.3	15.3	23.6	27.3	9.5	4.8
	2009	44.8	51.0	21.0	11.2	16.1	19.6	5.7	2.4
	2014	50.0	55.3	22.9	12.3	17.1	19.2	5.5	2.5
	2018	51.1	55.7	23.6	13.2	17.3	19.4	6.4	3.3
	2019	48.0	52.3	23.7	13.9	18.9	20.0	7.0	4.0
Mexico	2002	38.2	46.4	18.1	9.4	7.3	10.4	2.8	1.2
	2008	36.1	43.1	17.2	9.4	9.2	11.8	4.0	2.0
	2014	38.1	45.2	17.6	9.3	10.2	13.0	4.2	2.0
	2016[g]	30.5	37.6	12.9	6.2	6.3	8.5	2.4	1.1
	2018[g]	28.6	35.5	11.8	5.6	5.8	7.7	2.2	1.0
	2020[g]	29.9	37.4	12.9	6.3	6.9	9.2	2.7	1.3
Nicaragua	2001	57.4	65.1	33.0	21.0	29.3	35.8	15.2	9.1
	2009	51.0	58.3	24.8	13.9	18.6	23.1	8.1	4.1
	2014	40.9	46.3	18.7	10.2	16.1	18.3	6.6	3.5
Panama	2002	27.7	34.0	15.7	9.5	12.2	16.2	6.7	3.8
	2008	20.5	26.8	11.5	6.6	8.8	12.8	5.0	2.6
	2014	13.5	18.5	7.1	3.8	5.2	8.0	2.9	1.5
	2019	10.4	14.6	5.6	3.0	4.4	6.6	2.3	1.2
	2021	11.3	15.6	5.4	2.7	3.8	5.7	1.9	0.9
Paraguay	2002	39.9	47.9	22.3	13.6	13.2	17.6	7.2	4.2
	2008	28.1	35.0	13.2	6.9	9.2	12.1	3.8	1.9
	2014	18.5	22.3	8.2	4.2	6.3	7.7	2.4	1.2
	2019	16.2	19.4	6.4	3.0	5.0	6.2	1.5	0.6
	2020	18.5	22.3	7.1	3.2	5.0	6.0	1.6	0.7
	2021	17.0	20.9	6.5	2.9	4.9	6.0	1.5	0.7
Peru	2002	37.4	43.3	18.2	10.2	12.1	14.9	5.6	3.0
	2008	27.5	31.8	12.4	6.6	9.1	10.8	3.6	1.7
	2014	16.7	19.5	6.4	3.1	4.2	5.1	1.5	0.6
	2019	13.1	15.4	4.6	2.0	2.4	3.0	0.8	0.4
	2020	23.9	28.4	10.8	5.9	7.0	8.6	3.3	1.9
	2021	16.4	19.3	5.9	2.8	3.4	4.2	1.3	0.6
Uruguay	2002	13.9	20.7	8.2	4.8	3.3	4.3	2.4	1.8
	2008	8.6	14.2	3.9	1.5	0.7	1.1	0.2	0.1
	2014	2.6	4.5	1.0	0.3	0.2	0.2	0.1	0.0
	2019	1.8	3.0	0.6	0.2	0.1	0.1	0.1	0.1
	2020	3.1	5.0	1.0	0.3	0.2	0.3	0.1	0.1
	2021	3.1	4.8	0.9	0.3	0.2	0.1	0.1	0.1
Venezuela (Bolivarian Republic of)	2002	45.3	51.7	19.9	10.6	6.8	7.2	3.5	2.6
	2008	20.8	24.7	7.6	3.6	4.5	4.7	1.6	1.0
	2014	24.0	28.3	9.3	4.6	10.3	12.0	3.7	2.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

[a] H = headcount index; PG = poverty gap; FGT2 = Foster, Greer and Thorbecke index squared.

[b] Includes individuals and households living in extreme poverty.

[c] Urban total.

[d] From 2016 onwards, the data are those of the Continuous National Household Survey (PNAD *Contínua*) and are not comparable with those of previous years (based on the National Household Survey (PNAD)).

[e] Data not comparable with those of later years.

[f] Annual data based on the Continuous National Labour Force Survey (ENCFT) and not comparable with those of previous years, which are based on the National Labour Force Survey (ENFT).

[g] Data not comparable with those of previous years, being from a new series of the National Household Income and Expenditure Survey (ENIGH).

Table I.1A.4

Latin America (18 countries): extreme poverty and poverty lines, 2000–2021
(National currency and current dollars)

Country	Year	National currency				Exchange rate[a]	Dollars			
		Urban areas		Rural areas			Urban areas		Rural areas	
		Extreme poverty	Poverty	Extreme poverty	Poverty		Extreme poverty	Poverty	Extreme poverty	Poverty
Argentina	2002	89.2	263.3	…	…	3.1	29.2	86.0	…	…
	2008	206.5	519.5	…	…	3.1	65.8	165.5	…	…
	2014	900.0	2 061.1	…	…	8.1	111.4	255.1	…	…
	2019	4 018.0	9 714.0	…	…	48.2	83.5	201.7	…	…
	2020	5 552.8	13 288.3	…	…	70.5	78.7	188.4	…	…
	2021	8 526.4	20 322.4	…	…	95.0	89.8	213.9	…	…
Bolivia (Plurinational State of)	2002	148.7	381.9	135.5	259.4	7.2	20.8	53.3	18.9	36.2
	2008	253.6	542.9	230.9	384.8	7.2	35.0	75.0	31.9	53.1
	2014	375.0	746.6	341.5	539.1	6.9	54.3	108.1	49.4	78.0
	2019	468.0	878.0	426.0	644.0	6.9	67.7	127.1	61.7	93.2
	2020	443.0	859.0	403.0	625.0	6.9	64.1	124.3	58.3	90.5
	2021	446.0	866.0	406.0	629.0	6.9	64.5	125.3	58.8	91.0
Brazil	2002	59.8	155.9	49.1	110.9	2.9	20.5	53.4	16.8	38.0
	2008	94.3	233.7	77.5	167.1	1.8	51.6	127.7	42.4	91.3
	2014	147.3	333.8	121.0	240.9	2.4	62.7	142.0	51.5	102.5
	2019	192.6	437.7	158.2	315.8	3.9	48.9	111.1	40.2	80.2
	2020	210.0	459.1	172.6	332.7	5.2	40.7	89.0	33.4	64.5
	2021	235.9	503.2	193.8	365.6	5.4	43.8	93.4	36.0	67.8
Chile	2003	23 532	72 249	21 421	50 840	691	34.0	104.5	31.0	73.5
	2009	32 853	87 327	29 904	62 801	561	58.6	155.7	53.3	112.0
	2013	42 049	97 665	38 275	71 862	495	84.9	197.2	77.3	145.1
	2015	48 246	108 305	43 917	80 186	654	73.8	165.6	67.1	122.6
	2017	51 309	113 958	46 705	84 538	649	79.1	175.6	72.0	130.3
	2020	57 572	124 593	52 406	92 879	793	72.6	157.2	66.1	117.2
Colombia	2002	62 812	142 057	54 352	93 220	2 504	25.1	56.7	21.7	37.2
	2008	96 929	201 745	83 873	135 283	1 968	49.3	102.5	42.6	68.8
	2014	117 571	242 075	101 735	162 802	2 002	58.7	120.9	50.8	81.3
	2018	147 169	296 845	127 346	200 760	2 956	49.8	100.4	43.1	67.9
	2019	154 229	308 841	133 455	209 290	3 281	47.0	94.1	40.7	63.8
	2020	162 634	320 565	140 728	218 191	3 695	44.0	86.8	38.1	59.1
	2021	175 838	337 100	152 154	231 250	3 744	47.0	90.1	40.6	61.8
Costa Rica	2002	11 053	30 018	9 981	24 552	359.8	30.7	83.4	27.7	68.2
	2008	25 676	58 642	23 186	48 514	526.2	48.8	111.4	44.1	92.2
	2014	35 085	80 709	31 682	66 736	538.3	65.2	149.9	58.9	124.0
	2019	37 357	85 794	33 734	70 949	587.3	63.6	146.1	57.4	120.8
	2020	37 119	85 562	33 519	70 738	584.9	63.5	146.3	57.3	120.9
	2021	37 886	87 318	34 211	72 191	620.8	61.0	140.7	55.1	116.3
Dominican Republic	2002	651.8	1 400.6	631.6	1 183.4	17.6	37.1	79.6	35.9	67.3
	2008	1 779.2	3 582.1	1 724.0	3 052.6	34.5	51.5	103.7	49.9	88.4
	2014	2 354.1	4 611.7	2 281.2	3 944.7	43.6	54.1	105.9	52.4	90.6
	2019	2 791.0	5 096.8	2 703.8	4 403.3	51.3	54.4	99.4	52.7	85.9
	2020	2 967.1	5 327.0	2 874.3	4 613.1	56.5	52.5	94.3	50.9	81.6
	2021	3 255.6	5 788.3	3 153.8	5 019.7	57.2	56.9	101.2	55.1	87.7
Ecuador	2001	26.9	55.4	23.6	43.5	1.0	26.9	55.4	23.6	43.5
	2008	40.6	77.8	35.6	61.6	1.0	40.6	77.8	35.6	61.6
	2014	54.6	100.2	47.9	79.7	1.0	54.6	100.2	47.9	79.7
	2019	57.9	106.5	50.8	84.7	1.0	57.9	106.5	50.8	84.7
	2020	58.3	106.6	51.2	84.9	1.0	58.3	106.6	51.2	84.9
	2021	57.8	106.1	50.7	84.5	1.0	57.8	106.1	50.7	84.5

Country	Year	National currency				Exchange ratea[a]	Dollars			
		Urban areas		Rural areas			Urban areas		Rural areas	
		Extreme poverty	Poverty	Extreme poverty	Poverty		Extreme poverty	Poverty	Extreme poverty	Poverty
El Salvador	2001	32.4	74.1	28.8	62.7	1.0	32.4	74.1	28.8	62.7
	2009	44.7	98.1	39.8	83.2	1.0	44.7	98.1	39.8	83.2
	2014	50.5	108.8	44.9	92.4	1.0	50.5	108.8	44.9	92.4
	2018	51.4	110.7	45.8	93.9	1.0	51.4	110.7	45.8	93.9
	2019	52.0	111.0	46.3	94.3	1.0	52.0	111.0	46.3	94.3
	2020	52.9	111.2	47.1	94.5	1.0	52.9	111.2	47.1	94.5
Guatemala	2000	92.0	326.3	79.2	284.0	7.8	11.9	42.1	10.2	36.6
	2006	164.4	491.2	141.5	427.2	7.6	21.6	64.6	18.6	56.2
	2014	295.3	725.7	254.1	630.4	7.7	38.2	93.9	32.9	81.6
Honduras	2001	485.1	975.0	388.0	759.5	15.5	31.3	63.0	25.1	49.1
	2009	872.0	1 775.2	697.5	1 382.3	18.9	46.1	93.9	36.9	73.1
	2014	1 075.0	2 301.9	859.9	1 790.1	21.0	51.2	109.7	41.0	85.3
	2018	1 183.9	2 615.9	947.0	2 032.8	23.9	49.5	109.5	39.6	85.1
	2019	1 214.0	2 734.1	971.1	2 123.7	24.5	49.5	111.6	39.6	86.7
Mexico	2002	498.6	1 282.2	409.1	948.3	9.7	51.6	132.7	42.4	98.2
	2008	699.9	1 665.0	574.3	1 238.3	11.1	62.9	149.6	51.6	111.3
	2014	986.2	2 177.9	809.1	1 629.1	13.3	74.2	163.9	60.9	122.6
	2016	1 067.0	2 314.0	875.2	1 733.0	18.7	57.2	124.0	46.9	92.9
	2018	1 194.0	2 578.0	979.7	1 932.0	19.2	62.1	134.0	50.9	100.4
	2020	1 342.0	2 787.0	1 101.0	2 095.0	21.5	62.5	129.7	51.2	97.5
Nicaragua	2001	357.0	736.4	295.7	536.5	13.4	26.7	55.1	22.1	40.1
	2009	777.7	1 670.2	644.2	1 210.5	20.3	38.2	82.1	31.7	59.5
	2014	1 183.1	2 371.0	979.9	1 733.8	26.0	45.6	91.3	37.8	66.8
Panama	2002	32.6	74.1	31.0	55.5	1.0	32.6	74.1	31.0	55.5
	2008	44.0	93.6	41.8	71.1	1.0	44.0	93.6	41.8	71.1
	2014	59.0	117.9	56.0	90.9	1.0	59.0	117.9	56.0	90.9
	2019	62.0	121.3	58.9	93.9	1.0	62.0	121.3	58.9	93.9
	2021	62.9	122.5	59.7	94.9	1.0	62.9	122.5	59.7	94.9
Paraguay	2002	80 444	213 012	76 903	170 186	5 716.3	14.1	37.3	13.5	29.8
	2008	165 287	349 528	158 010	287 654	4 363.3	37.9	80.1	36.2	65.9
	2014	221 069	452 135	211 337	373 930	4 462.2	49.5	101.3	47.4	83.8
	2019	268 709	536 487	256 880	445 306	6 240.7	43.1	86.0	41.2	71.4
	2020	274 254	546 425	262 180	453 697	6 771.1	40.5	80.7	38.7	67.0
	2021	308 838	594 043	295 243	495 931	6 774.2	45.6	87.7	43.6	73.2
Peru	2002	83.1	203.9	69.1	132.7	3.5	23.6	57.9	19.6	37.7
	2008	101.6	237.6	84.5	156.1	2.9	34.8	81.4	29.0	53.5
	2014	128.8	283.4	107.2	188.6	2.8	45.4	99.8	37.7	66.4
	2019	147.1	323.4	122.4	215.2	3.3	44.0	96.8	36.6	64.4
	2020	149.9	329.3	124.7	219.2	3.5	42.9	94.4	35.7	62.8
	2021	156.9	342.7	130.5	228.4	3.9	40.4	88.3	33.6	58.9
Uruguay	2002	557.4	1 444.1	...	...	21.3	26.2	67.9	...	...
	2008	1 109.6	2 534.5	1 162.1	2 474.5	21.0	53.0	121.0	55.5	118.1
	2014	1 808.4	4 016.6	1 893.9	3 927.9	23.3	77.8	172.8	81.5	168.9
	2019	2 722.9	5 912.6	2 851.7	5 789.7	35.3	77.2	167.7	80.9	164.2
	2020	3 064.6	6 503.5	3 209.4	6 377.1	42.0	73.0	154.8	76.4	151.8
	2021	3 338.6	7 142.7	3 496.4	7 000.4	43.6	76.7	164.0	80.3	160.7
Venezuela (Bolivarian Republic of)[b]	2002	33.3	93.8	...	...	1.2	28.7	80.9	...	...
	2008	156.1	309.4	...	...	2.2	72.6	143.9	...	...
	2014	1 309.0	2 014.0	...	...	6.3	208.4	320.7	...	...

Source: Economic Commission for Latin America and the Caribbean (ECLAC) and International Monetary Fund (IMF).

[a] Annual average exchange rate.

[b] The extreme poverty and poverty lines apply at the national level.

Table I.1A.5

Latin America (18 countries): personal income distribution indicators, 2001–2021[a]

(Units corresponding to each index)

Country	Year	Gini index[b]	Theil index[c]	Atkinson index[c]			Population with incomes below 50% of the median *(Percentages)*
				(e=0.5)	(e=1.0)	(e=1.5)	
Argentina[d]	2002	0.498	0.405	0.178	0.321	0.444	25.8
	2008	0.413	0.292	0.134	0.250	0.357	13.8
	2014	0.391	0.264	0.121	0.224	0.317	12.8
	2018	0.396	0.286	0.127	0.233	0.329	13.3
	2019	0.400	0.284	0.128	0.236	0.333	13.2
	2020	0.396	0.279	0.126	0.234	0.334	11.3
	2021	0.392	0.256	0.117	0.217	0.312	12.0
Bolivia (Plurinational State of)	2002	0.612	0.734	0.314	0.552	0.740	29.2
	2008	0.513	0.492	0.219	0.402	0.567	24.2
	2014	0.471	0.403	0.185	0.350	0.507	22.7
	2018	0.438	0.334	0.159	0.309	0.458	21.5
	2019	0.430	0.326	0.152	0.288	0.421	18.3
	2020	0.449	0.349	0.165	0.314	0.457	20.5
	2021	0.418	0.305	0.143	0.274	0.400	18.6
Brazil	2002	0.570	0.650	0.262	0.432	0.548	21.7
	2008	0.536	0.574	0.234	0.394	0.510	21.1
	2014	0.514	0.526	0.217	0.370	0.486	21.6
	2018[e]	0.540	0.575	0.237	0.404	0.530	22.8
	2019[e]	0.538	0.574	0.236	0.403	0.529	23.4
	2020[e]	0.519	0.535	0.219	0.371	0.489	20.8
	2021[e]	0.537	0.555	0.231	0.396	0.521	22.8
Chile	2003	0.507	0.514	0.211	0.359	0.478	18.7
	2009	0.478	0.453	0.188	0.323	0.434	15.8
	2013	0.466	0.424	0.178	0.306	0.408	14.2
	2015	0.453	0.408	0.170	0.293	0.392	14.1
	2017	0.454	0.417	0.172	0.295	0.394	14.1
	2020	0.475	0.427	0.182	0.324	0.461	16.5
Colombia	2002	0.567	0.663	0.266	0.447	0.586	23.5
	2008	0.572	0.652	0.268	0.456	0.600	25.1
	2014	0.540	0.577	0.240	0.412	0.547	23.0
	2018	0.520	0.537	0.224	0.386	0.516	21.8
	2019	0.529	0.549	0.230	0.398	0.530	22.6
	2020	0.552	0.588	0.245	0.424	0.569	23.9
	2021	0.528	0.547	0.229	0.395	0.526	21.5
Costa Rica	2002[f]	0.497	0.462	0.198	0.349	0.475	20.0
	2008[f]	0.491	0.461	0.195	0.339	0.451	18.7
	2014	0.498	0.440	0.197	0.356	0.488	21.1
	2018	0.493	0.430	0.193	0.348	0.478	20.5
	2019	0.495	0.443	0.196	0.350	0.475	20.4
	2020	0.490	0.424	0.190	0.342	0.468	20.0
	2021	0.501	0.437	0.196	0.352	0.479	20.7
Dominican Republic	2002	0.498	0.461	0.197	0.342	0.453	20.5
	2008	0.489	0.452	0.193	0.335	0.445	20.0
	2014	0.449	0.351	0.160	0.293	0.404	18.3
	2018[g]	0.442	0.351	0.150	0.262	0.353	15.1
	2019[g]	0.432	0.346	0.149	0.263	0.355	15.4
	2020[g]	0.405	0.297	0.133	0.240	0.331	14.4
	2021[g]	0.395	0.286	0.127	0.230	0.318	13.9
Ecuador	2001	0.538	0.643	0.244	0.395	0.502	18.1
	2008	0.496	0.461	0.196	0.340	0.452	18.9
	2014	0.449	0.391	0.165	0.288	0.387	16.5
	2018	0.454	0.386	0.167	0.296	0.401	17.8
	2019	0.456	0.382	0.167	0.297	0.404	18.1
	2020	0.466	0.434	0.181	0.313	0.418	16.8
	2021	0.466	0.443	0.180	0.307	0.407	15.7

Country	Year	Gini index[b]	Theil index[c]	Atkinson index[c]			Population with incomes below 50% of the median *(Percentages)*
				(e=0.5)	(e=1.0)	(e=1.5)	
El Salvador	2001	0.514	0.481	0.209	0.371	0.503	23.3
	2009	0.478	0.428	0.186	0.327	0.440	19.9
	2014	0.434	0.340	0.151	0.273	0.373	17.6
	2018	0.405	0.289	0.132	0.244	0.340	16.9
	2019	0.406	0.298	0.134	0.245	0.338	16.1
	2020	0.421	0.305	0.141	0.267	0.391	17.5
Guatemala	2000	0.636	0.883	0.341	0.558	0.714	27.0
	2006	0.558	0.608	0.253	0.432	0.567	25.5
	2014	0.535	0.664	0.248	0.407	0.533	22.2
Honduras	2001	0.532	0.526	0.226	0.392	0.519	23.2
	2009	0.502	0.480	0.204	0.353	0.467	21.3
	2014	0.481	0.428	0.185	0.325	0.435	19.0
	2016	0.480	0.424	0.187	0.336	0.462	20.9
	2018	0.481	0.427	0.187	0.334	0.457	21.0
	2019	0.494	0.406	0.185	0.339	0.471	23.2
Mexico	2002	0.506	0.489	0.209	0.362	0.476	20.7
	2008	0.513	0.535	0.219	0.376	0.498	20.8
	2014	0.502	0.511	0.209	0.357	0.475	19.1
	2016[h]	0.491	0.448	0.186	0.320	0.425	16.8
	2018[h]	0.464	0.444	0.182	0.312	0.415	16.5
	2020[h]	0.452	0.401	0.169	0.297	0.401	16.6
Nicaragua	2001	0.568	0.536	0.231	0.408	0.561	22.5
	2009	0.463	0.400	0.175	0.314	0.440	19.9
	2014	0.495	0.511	0.207	0.355	0.476	19.9
Panama	2002	0.572	0.622	0.270	0.472	0.623	27.3
	2008	0.528	0.518	0.229	0.410	0.553	24.9
	2014	0.502	0.465	0.206	0.372	0.511	24.2
	2018	0.501	0.457	0.206	0.377	0.522	23.7
	2019	0.506	0.459	0.206	0.374	0.516	23.8
	2021	0.519	0.498	0.217	0.382	0.510	23.4
Paraguay	2002	0.584	0.648	0.259	0.439	0.584	24.7
	2008	0.516	0.564	0.224	0.377	0.494	21.1
	2014	0.522	0.542	0.219	0.372	0.493	21.5
	2018	0.474	0.421	0.183	0.324	0.437	20.1
	2019	0.473	0.412	0.180	0.320	0.432	20.3
	2020	0.452	0.371	0.165	0.298	0.411	19.6
	2021	0.447	0.372	0.163	0.291	0.397	18.6
Peru	2002	0.544	0.610	0.248	0.422	0.560	24.4
	2008	0.495	0.450	0.201	0.364	0.500	24.7
	2014	0.446	0.369	0.165	0.303	0.424	21.5
	2018	0.439	0.345	0.157	0.290	0.406	20.0
	2019	0.429	0.332	0.151	0.278	0.390	19.6
	2020	0.464	0.396	0.178	0.329	0.469	21.2
	2021	0.426	0.329	0.149	0.274	0.386	17.6
Uruguay	2002	0.474	0.393	0.177	0.322	0.448	21.1
	2008	0.453	0.382	0.166	0.295	0.397	18.7
	2014	0.392	0.271	0.124	0.229	0.319	16.3
	2018	0.391	0.269	0.123	0.225	0.311	15.6
	2019	0.392	0.270	0.123	0.226	0.314	16.2
	2020	0.397	0.277	0.127	0.233	0.323	16.9
	2021	0.402	0.286	0.129	0.235	0.323	16.4
Venezuela (Bolivarian Republic of)	2002	0.418	0.317	0.140	0.253	0.355	13.7
	2008	0.379	0.248	0.114	0.212	0.298	13.9
	2014	0.378	0.242	0.112	0.210	0.300	14.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

[a] Calculated on the basis of per capita income distribution in the country as a whole.

[b] Includes people with income equal to 0.

[c] The Theil and Atkinson indices were calculated without including values close to 0 or the three highest per capita incomes (to mitigate the effect of extreme values).

[d] Urban total.

[e] From 2016 onward, the data are from the Continuous National Household Survey (PNAD *Contínua*) and are not comparable with those of previous years, which are from the National Household Survey (PNAD).

[f] Data from 2002 and 2008 not comparable with those of later years.

[g] Annual data based on the Continuous National Labour Force Survey (ENCFT) and not comparable with those of previous years, which are based on the National Labour Force Survey (ENFT).

[h] Data not comparable with those of previous years, as they are from a new series of the National Household Income and Expenditure Survey (ENIGH).

CHAPTER II

The silent crisis of education: an opportunity for transformation to promote sustainable development with greater equality

Introduction

Education was recognized as a human right in the Universal Declaration of Human Rights, proclaimed by the General Assembly of the United Nations in 1948 (article 26) and has since been ratified as such in several international treaties. In 2015, the Member States of the United Nations made a commitment to achieve a set of Sustainable Development Goals (SDGs) by 2030, which includes Goal 4, which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". Education is essential for countries' inclusive economic and social development, and also plays an enabling role in the achievement of the other SDGs agreed on for 2030.

The results of studies conducted internationally have shown that one of the clearest ways of promoting development with economic growth and equality is education (ECLAC, 2018a). The existence of gaps in the access to and quality of education is a barrier to the accumulation of skills within the active population, which is a major hindrance to countries' development, because it has consequences for productivity and the population's social and labour market inclusion. Education is closely linked to opportunities for accessing better social, economic, labour and cultural conditions, since educational advancement is linked to the reduction of poverty and inequality, and to the possibilities of accessing decent work, improving health indicators, as well as gaining upward social mobility and the full exercise of citizenship. From the perspective of sustainable development, which the Economic Commission for Latin America and the Caribbean (ECLAC) has endorsed, and which was agreed upon in the 2030 Agenda for Sustainable Development, which focused on equality, education is a fundamental lever.

Access to education in Latin America and the Caribbean has improved significantly in recent decades. However, coverage rates were already showing signs of deceleration and stagnation before the pandemic, which indicated the existence of exclusionary obstacles at the intersection of the various axes structuring the region's social inequality matrix, the most significant of which are the socioeconomic level of the household of origin, ethnic-racial status, territory of residence and gender (ECLAC, 2016). In addition, there are still major challenges in relation to the quality of education provided and equitable access to alternatives for early childhood development and pre-primary education, as well as technical, professional and higher education.

After the onset of the coronavirus (COVID-19) pandemic, the closure of educational institutions as a way of controlling the spread of the virus resulted in information and communication technologies (ICTs) assuming a leading role in the efforts to ensure the continuity of learning. Remote learning was facilitated mainly by the use of digital technologies, in both synchronous and asynchronous modalities, in combination with other analogue technologies, such as text messages and radio and television programmes, and complementary measures, such as the distribution of printed material. In this context, long-standing educational inequalities were revealed and deepened, which were reflected in the gaps in access to quality alternatives for the continuation of learning, as well as the gap in resources for distance learning. In addition, gender inequalities deepened, due to the increase in household work and home care as a result of the closure of educational institutions, which caused a mass exodus of women from the labour market.

Despite the measures adopted by governments to mitigate these inequalities, such as the provision of digital devices or subsidies for their purchase, and the provision of direct economic support to low-income households, it is felt that the prolonged closure of schools and the economic effects of the pandemic will have significant costs in terms of education, which will impact the educational and career paths of the affected generations (what has been called the "scar effect"), reducing their incomes and general well-being in the short, medium and long term.

This silent crisis in education must be converted into an opportunity to invest in the transformation of education systems. While keeping schools open safely, it is imperative to invest in strategies for identifying the losses resulting from the lack of face-to-face classes, both in terms of learning and socioemotional well-being, and to design and implement recovery strategies that aim to leave no one behind. In this context, digital education emerges as an opportunity to accelerate learning recovery, include the more vulnerable students and prevent increases in dropout rates. Education cannot wait, as it is a fundamental human right that will be key in the process of social and economic recovery from the impacts of the COVID-19 pandemic.

In 2022, a Transforming Education Summit (TES) was convened, within the framework of the General Assembly of the United Nations to mobilize action, political commitment, solidarity and solutions to transform education by 2030 (see box II.1). The call for the Summit was based on the vision proposed in the document *Reimagining Our Futures Together: A New Social Contract for Education*, published by the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2021d). In this document, a call is made to urgently rethink the future of education in the face of a changing world and an uncertain future (Huepe, Palma and Trucco, 2022).

Box II.1
Transforming Education Summit

In response to the global education crisis in terms of equality, inclusion, quality and relevance, the Secretary-General of the United Nations, António Guterres, convened a Transforming Education Summit in September 2022. It brought together Heads of State and Government and sought to place education at the top of the global political agenda to mobilize action, solidarity and the search for solutions. Recognizing the devastating consequences of the pandemic and the key role of education in promoting sustainable development, the Summit highlighted the need for urgent action to make up for the ground lost in recent years and transform education to meet the challenges of a changing world.

To achieve educational recovery and transformation, the Summit highlighted the need to support students in four key areas:

(i) Learning to learn: this involves, on the one hand, developing the cognitive skills of reading and writing, as well as numeracy, science and digital skills, but also, on the other hand, equipping students with key socioemotional skills for the twenty-first century, including critical thinking, curiosity, empathy and kindness. In this context, greater investment in increasing access to early childhood education is key, since the available information is very clear about its importance not only for reducing educational inequalities, but also for maximizing the potential of this learning.

(ii) Learning to live together: in a world characterized by the weakening of social cohesion and democratic institutions, increasing violence, attacks on the truth and environmental crises (climate change, pollution and loss of biodiversity), education plays a fundamental role in preparing students to become socially responsible citizens and agents of change in their communities and countries, and in the world.

(iii) Learning to do: technological advances and the transition to a green, digital and care economy significantly affect the world of work, requiring new skills and creating new jobs, while making other jobs and skills obsolete. In this context, education must enable people of all ages to learn how to do throughout the life cycle, with a focus on training, retraining and lifelong learning. This requires, among other measures, the development of education systems with flexible and multiple pathways that allow for the certification of skills acquired outside formal educational settings and learning new skills at different points in life, including digital and financial skills and those related to the areas of science, technology, engineering and mathematics (STEM).

(iv) Learning to be: in addition to the abovementioned goals, education has a deeper purpose. Education must instil in students the values, knowledge and skills needed to enjoy and live a meaningful, dignified and fulfilling life. This goal cannot be achieved by chance, rather it requires transforming educational curricula to place students and their needs at the centre of the teaching and learning processes, and developing each student's potential for creativity and innovation, so that they can enjoy and express themselves through the arts, are aware of the history and diversity of cultures, and have the ability to lead a healthy life and engage in physical activities, games and sports. Learning to be is an essential part of education for the twenty-first century.

Specifically, the Summit identified five thematic tracks for action to address educational inequalities and the learning crisis that the pandemic threatens to deepen, and to promote the transformation of education to strengthen its role in building peaceful, inclusive and sustainable futures for humanity and the planet:

(i) Inclusive, equitable, safe and healthy schools: although education plays a fundamental role in building more inclusive societies, in many cases it can also contribute to the reproduction and even deepening of existing inequalities. Today, high rates of poverty, exclusion and inequality continue to impede the learning of millions of people around the world, and the pandemic not only revealed but also exacerbated many of these obstacles. Inclusive and transformative education must ensure that all students participate without any inconvenience in the teaching and learning processes, that they are safe and healthy, free from violence and discrimination, and are supported with comprehensive care services within the school setting.

(ii) Learning and skills for life, work and sustainable development: before the outbreak of COVID-19, the world was already facing a serious learning crisis, which worsened after the onset of the pandemic. Today, education is not fulfilling its fundamental purpose of preparing students for life. There is an urgent need to transform education in order to empower students with the knowledge, skills, values and attitudes that will enable them to be prepared to function fully in a changing and uncertain future, while contributing to the well-being of humanity and the planet.

(iii) Teachers, teaching and the teaching profession: teachers are the main agents of change in education and are at the heart of all successful systems. Therefore, any transformation effort must ensure there are sufficient teachers to meet the needs of students, as well as initiatives for training, support, development and professionalization of the teaching career. In other words, teachers need the conditions, salaries, resources, autonomy and respect they deserve in order to transform education.

(iv) Digital learning and transformation: if properly harnessed, digital technologies can be powerful tools to transform and democratize education, that is, to ensure quality education for all, and to transform educational and teaching processes. This requires unlocking the three keys to digital learning: connectivity (universal broadband Internet access for teachers, students, schools and other educational environments), capacities (universal digital literacy for education and for life, with a special focus on training teachers in the effective use of digital technologies) and content (freely accessible digital teaching and learning resources).

(v) Financing of education: allocating resources for quality education is the most important investment that any country can make for the future of its inhabitants and its society; moreover, the cost of not investing in education is much greater than the cost of doing so. Although global spending on education has generally increased, there is still a significant financial deficit that hinders progress in education. The pandemic has increased this deficit and makes it even more imperative to redirect resources to education. On the one hand, countries must have significantly increased and more sustainable financing to achieve Goal 4, and allocate and monitor the use of these resources equitably and effectively; on the other hand, they must improve the quantity and quality of available education financing data, in order to improve the comparability, evaluation and monitoring of the various financing efforts.

The Summit represented the first of the key moments proposed by the Secretary-General in the report "Our Common Agenda", the action agenda designed to accelerate the implementation of existing agreements among Member States, including the Sustainable Development Goals. Among the main commitments made at the Summit are seven new global initiatives focused on the challenge of transforming education: (i) greening education to make all learners climate-change ready; (ii) connecting all children and young people to digital solutions; (iii) addressing the learning crisis among young students; (iv) transforming education systems so that all children and young people affected by the crisis can access inclusive and quality learning, safe learning opportunities and continuity of education; (v) advancing gender equality and girls' and women's empowerment; (vi) transforming education financing by investing more and doing so in a way that's more equitable, more efficient and more innovative; and (vii) empowering young people to be effective leaders in reshaping education. These commitments-which are expected to be linked to national goals for 2025 and 2030, the progress of which will be reviewed annually-will inform the Summit of the Future to be held in 2024 (the second key moment in the framework of Our Common Agenda), in which it is hoped that a global consensus will be reached on what the future of humanity should be like and what can be done to make that ideal a reality.

Source: United Nations, "Transforming education: an urgent political imperative for our collective future. Vision statement of the Secretary-General on transforming education", New York, 2022; Transforming Education Summit [online] https://www.un.org/es/transforming-education-summit.

In keeping with this international call to highlight the role of education in the policy debate for recovery, this chapter reviews the central issues that need to be addressed in education policies in Latin America and the Caribbean. Section A discusses the impact that this silent crisis has had on an entire generation of students, jeopardizing their educational paths, learning opportunities and future opportunities. Section B describes the inequalities that the education system faced before the pandemic and the stagnation in relation to the progress that had been achieved in the first decades of this century, alerting us to the urgency of implementing actions that will allow us to continue on the path towards achieving the targets set in Goal 4. Section C states that it is essential to maintain and ensure a safe return to school and the recovery of learning without leaving anyone behind, and describes the measures required for safe attendance, the prevention of school dropout and the recovery of learning and socioemotional well-being. The chapter concludes in section D with a proposal on central areas in which the region should advance in order to convert this crisis into an opportunity for the transformation of education.

A. The silent crisis in education and its impact on the current generation of students

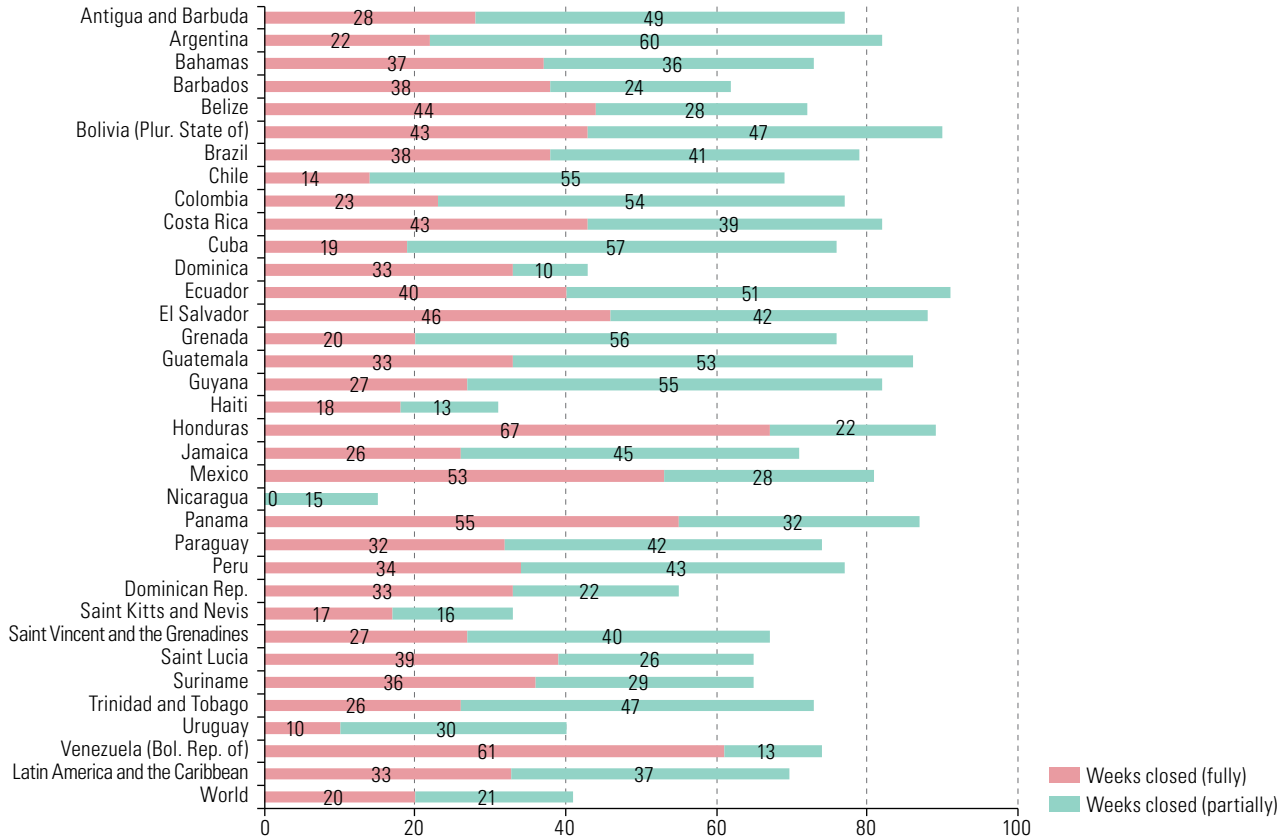
Latin America and the Caribbean was the region of the world with the longest disruption of face-to-face classes during the COVID-19 pandemic. This crisis, which has been silent, will have impacts in the short, medium and long term, and will leave a scar on an entire generation of students in terms of their socioemotional well-being and learning opportunities, as well as on their educational paths and completion levels. Digital media played a central role in providing continuity to educational processes and at the same time generated inequalities associated with gaps in access to connectivity and the skills needed to facilitate it. Among the most immediate effects is a decline in school attendance rates, especially at the pre-primary level. The learning crisis that the region was already experiencing in the years prior to the pandemic is also expected to worsen.

The COVID-19 pandemic caused an enormous health crisis, which impacted the economy and social development worldwide. One of the most immediate actions taken by countries to control the spread of infection and the health crisis was to close schools and educational institutions in general, which interrupted on-site education for extended periods of time. In Latin America and the Caribbean, this situation was particularly prolonged and even extended to two full academic years in some countries. These health measures affected approximately 165 million students in the region at all levels of the school system (ECLAC and others, 2020). Although all indications are that the pandemic is coming to an end, there are still major challenges related to the impacts of the health crisis on education.

1. Prolonged closure of schools and measures implemented to ensure the continuation of education

According to data compiled by the UNESCO Institute for Statistics (UIS), between February 2020 and March 2022, the countries of Latin America and the Caribbean had an average of 70 weeks of total or partial interruption of face-to-face classes. These interruptions were lower in Caribbean countries and territories (63 weeks on average, 30 of them with full closure) and higher in Latin American countries (72 weeks on average, 35 of them with full closure). These figures far exceed the world average of 21 weeks of full closure and 20 weeks of partial closures, with a high degree of heterogeneity among countries (see figure II.1).

Figure II.1
Latin America and the Caribbean (33 countries) and the world: full or partial closure of primary and secondary institutions, February 2020–March 2022
(Number of weeks)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the United Nations Educational, Scientific and Cultural Organization (UNESCO), COVID-19 Education Response [online database] https://covid19.uis.unesco.org/data; M Huepe, A. Palma and D. Trucco, "Educación en tiempos de pandemia: una oportunidad para transformar los sistemas educativos en América Latina y el Caribe", *Social Policy series*, No. 243 (LC/TS.2022/149), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2022.

Although in most countries continuity strategies have been implemented with distance learning, using available means and creating educational innovations, the impact of the prolonged interruption of face-to-face education is devastating. There will be short-, medium- and long-term impacts both on the mental health and socioemotional well-being of children and adolescents and, particularly, on the development of skills and the achievement of learning outcomes for all students and on the increased risk of dropping out of school, which will proportionally affect more vulnerable populations, with the consequent possibility of widening existing gaps in educational achievement (Huepe, Palma and Trucco, 2022).

The full or partial closure of educational institutions was partly compensated for by distance learning modalities, which gave a certain formal continuity to the education process. Thus, digital media and the Internet became a preferred space for the continuity of educational activities. However, this transition presented significant challenges, such as the lack of or unequal access to technological equipment (computers, tablets and cell phones of varying capacity) and the Internet (variable connection points and speeds). Added to this was the need to establish concurrent (simultaneous) connections within households in the event that there were two or more students or even adults who needed to telework, which created coordination problems and scarcity of resources. But the barriers were not only related to access to digital media, but also to the lack of digital skills (mainly among management, teaching and educational support staff, as well as among the students themselves) and to the family support required in the process (Huepe, Palma and Trucco, 2022).

In addition, remote learning impacted the educational opportunities of Indigenous students as it affected intercultural bilingual education programmes. In Peru, for example, distance learning programmes were offered in only 9 of the 47 Indigenous languages. In Paraguay, educational programmes were broadcast on community radio stations in only 4 of the 19 Indigenous languages. In Mexico, distance learning material via radio was translated into only 15 of the 68 recognized Indigenous languages (or language groupings) (UNICEF, 2021a).

In 2021, the reopening of schools and the return to face-to-face began slowly, marked by temporary closures due to outbreaks, new distancing and hygiene protocols, and vaccination campaigns. This process of gradual reopening of educational institutions forced countries to implement a series of measures to address the large number of variables involved in the crisis, such as the epidemiological situation, vaccination levels and infrastructure conditions, among others (Huepe, Palma and Trucco, 2022).

2. The limitations of distance learning

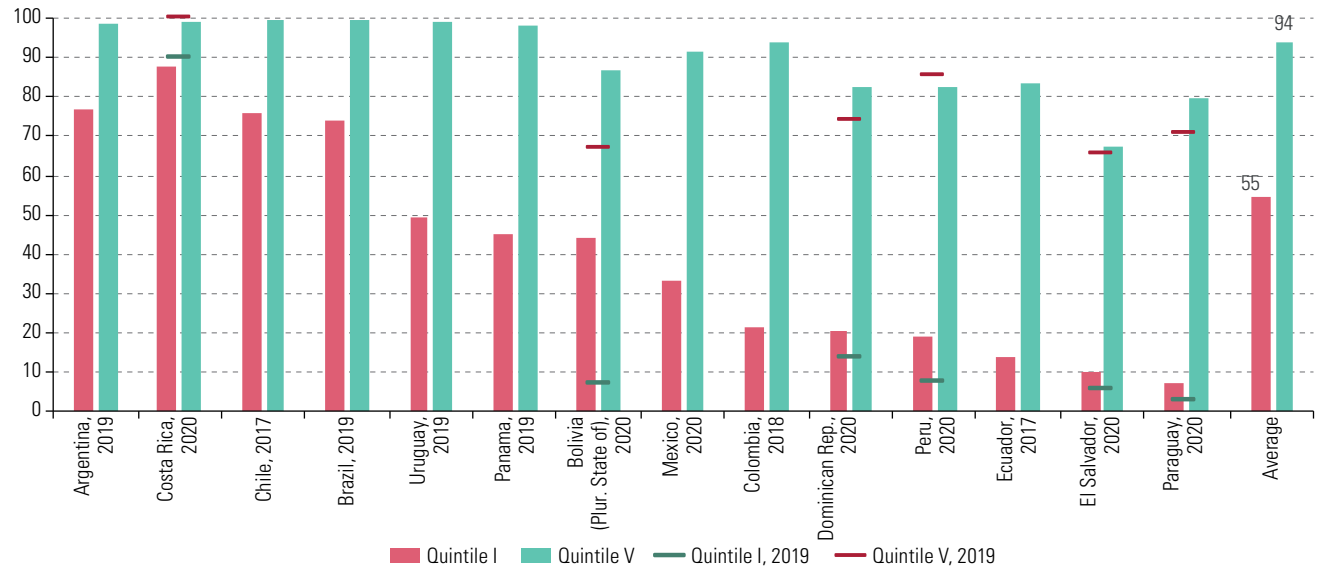
The Internet allowed for the continuation of many habitual activities at the height of the pandemic, when healthcare, purchases, socialization and education were transferred to the digital world. However, even though access to the digital world has become more widespread in recent years in the countries of the region, there are still inequalities in terms of access to connectivity, equipment and skills that limit the possibilities for distance learning. Another limitation for many students was the unavailability of a physical space at home in which to study and connect to classes. Overcrowding is a major problem for many of them, especially those who are in the most vulnerable situations.

Figure II.2 shows the existing inequalities in Internet access in households with persons between 5 and 20 years of age, by household income quintile. There are significant differences between and within countries, especially in the cases of Bolivia (Plurinational State of), the Dominican Republic, El Salvador, Paraguay, and Peru. Prior to the onset of the pandemic, on average, less than 50% of households in the region, in the first income quintile, had Internet access, compared to more than 80% of households in the fifth quintile. The need for connectivity in the context of the pandemic resulted in a significant increase in Internet access in households with members in the 5–20 age group. Between 2019 and 2020, in the countries for which information is available, more than 800,000 children, adolescents and young people in the first income quintile gained access to Internet connection at home. Of special note is the case of the Plurinational State of Bolivia, where the variation between the two years was 37 percentage points: between 2019 and 2020, access rose from 6.7% to 44% of households.

The type of access device is also linked to the opportunities available to students. There is conclusive information that indicates that the results achieved and the use of digital technology are different depending on the device used (Trucco and Palma, 2020). The massive expansion of access in the region has been based mainly on mobile technology and, especially, on prepaid plans, which severely limit the possibilities of continuously carrying out activities, such as education. Having a device with the capacity of a desktop computer, laptop or tablet makes it easier to access educational platforms and the learning opportunities they offer. Consequently, a lower and unequal level of access to these types of devices probably meant a gap for the student population of lower socioeconomic status or residing in remote areas. According to additional information compiled by the Programme for International Student Assessment (PISA), for 2018, regarding 15-year-old students, before the pandemic there were significant gaps in access to the Internet and to a computer to be able to do schoolwork at home, depending on the socioeconomic profile of the educational institution. On average, students in the Organisation for Economic Co-operation and Development (OECD) countries had

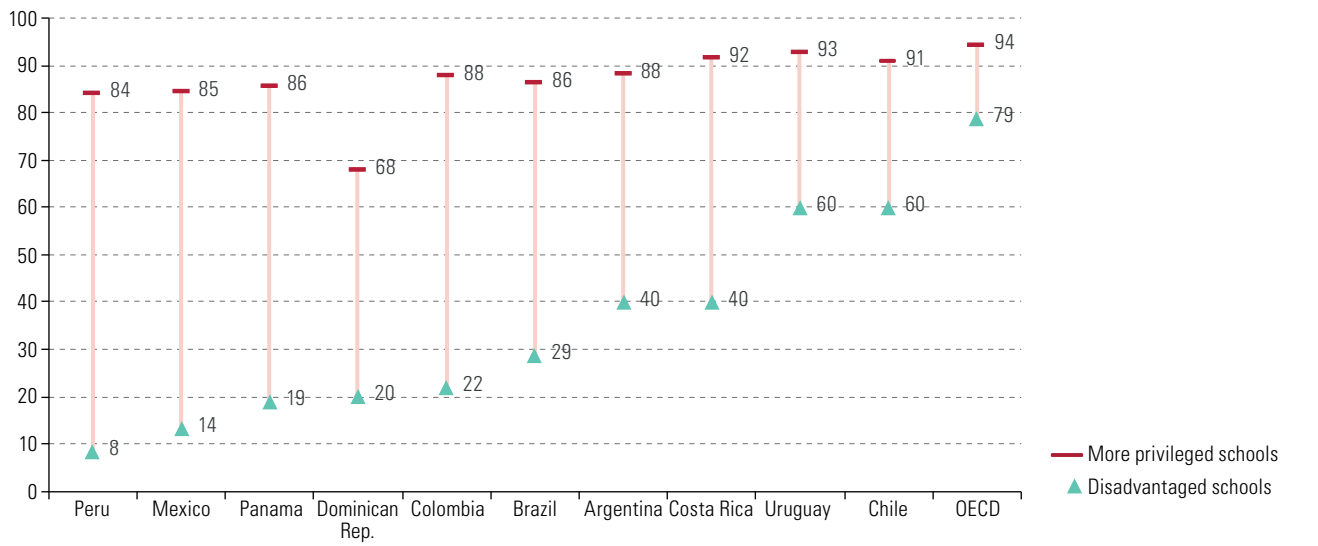
a gap of less than 16 percentage points between the most and least disadvantaged educational institutions, while the countries of the region showed differences between the two groups ranging from 30 to 75 percentage points (see figure II.3).

Figure II.2
Latin America (14 countries): Internet access in households with children, adolescents and young people between the ages of 5 and 20 years, by income quintile, last year with data available
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional Broadband Observatory (ORBA); Household Survey Data Bank (BADEHOG).

Figure II.3
Latin America (10 countries) and the Organisation for Economic Co-operation and Development (OECD)[a]: students who indicate having access to the Internet and to a computer to do homework, by socioeconomic situation of the school, 2018
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Organisation for Economic Co-operation and Development (OECD), *21st-Century Readers: Developing Literacy Skills in a Digital World*, Paris, 2021.

Note: Information from the Programme for International Student Assessment (PISA). A socioeconomically disadvantaged school is one whose socioeconomic profile (defined as the average socioeconomic level of the school's students) is in the bottom quartile of the PISA index of economic, social and cultural status, while a better-off school is one that is in the top quartile.

[a] Average for the following countries: Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom and United States.

Another barrier to remote education was the uneven distribution and inadequacy of digital skills among students and educational communities in general, which probably widened gaps in terms of the ability to continue with education during the pandemic. These include physical skills related to motor dexterity to use digital devices and cognitive skills related to digital literacy, such as the ability to collaborate online, solve technical problems, create and publish content and critically analyse information, as well as socioemotional skills related to time management, self-care techniques and empathy, among others (ECLAC/OEI, 2020; Huepe, Palma and Trucco, 2022).

In order to assess certain skills needed to perform in a highly digitized world, the 2018 PISA assessment included within reading comprehension an item that allowed for the assessment of digital skills. Browsing is recognized as a key component of reading in the digital environment and the PISA study showed a correlation between the type of browsing and the level of comprehension. Proficient print readers coordinate the different cognitive processes necessary for comprehension; consequently, browsing for digital reading is good to the extent that it supports this cognitive process. In this process, the sequence of pages visited and the time spent on each page are important. A measure of the quality of the browsing strategy is the type of browsing done, beyond the strict following of instructions.

Based on their browsing behaviour, students were divided into four categories: (i) no browsing; (ii) limited browsing; (iii) highly focused browsing; and (iv) active exploratory browsing.[1] The analysis showed that both the highly focused browsing group as well as the active exploratory browsing group had efficient reading processes and displayed better performance in reading about the related question, when compared with the limited browsing and the no browsing groups (OECD, 2021). This result highlights and confirms the need to reduce skills gaps in the digital world, as these skills are not only useful in their own right in an increasingly digitized world, but are also positively associated with the development of cognitive skills and specific knowledge.

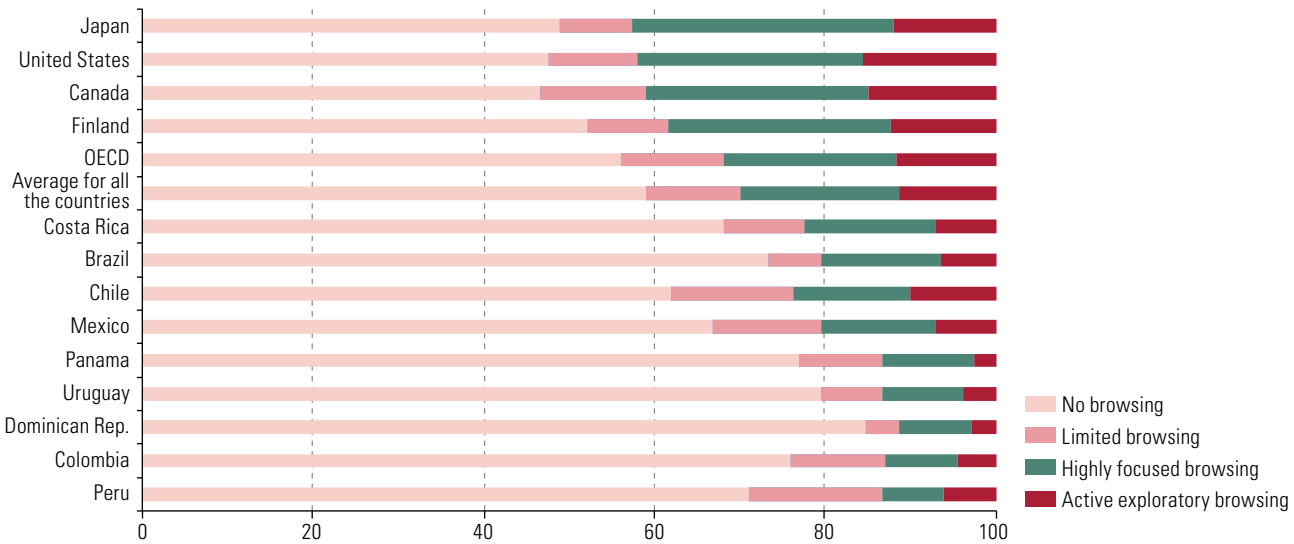
Figure II.4 shows the results of this analysis for some countries of the region and the world. On average, in OECD countries about 32% of students use a highly focused browsing or active exploratory browsing strategy, while in the nine countries of the region that participated in the evaluation, this percentage is, on average, less than 17%. However, while 56% and 59% of students in OECD countries and in all the countries assessed, respectively, are classified as belonging to the "no browsing" group, this percentage is higher than 73% in Latin American countries. In other words, even though there is some heterogeneity among the results for the different countries in the region, in general, students who participated in the PISA 2018 assessment have lower average performances, at the national level, than the average performances of students in OECD countries and all the countries assessed.

In addition to digital skills, the transition process from face-to-face education to remote education required another set of skills and supports to facilitate ongoing education and the maintenance of the link with the school. Based on a set of qualitative studies done during the pandemic, in 2020, including dialogue with students in

[1] These classification categories were defined based on a specific question included in the 2018 PISA assessment. The question "Rapa Nui" is a multiple source unit with three texts: a teacher's blog webpage, a book review, and an informative article from an online scientific journal. The blog is classified as a multiple source, dynamic text (the webpage contains active links to the other texts in the unit). Both the book review and the informative article are classified as single, static text. This approach was chosen because, on the one hand, it allows the student to demonstrate his/her proficiency with questions that are related to one text and, on the other hand, his/her ability to handle information from multiple texts. The blog allowed them to open new links available on the page and to conduct a more active exploration. The classification categories are defined as follows, according to student behaviour: (i) No browsing: students who did not browse either single or multiple source items; (ii) Limited browsing: students who simply browsed single but not multiple source items; (iii) Highly focused browsing: students who strictly followed the instructions for the question to actively browse only multiple source items and to a limited extent single source items; and (iv) Active exploratory browsing: students who actively browsed both single and multiple source items.

secondary education, some of the challenges involved in that process could be identified (ECLAC/UNICEF, 2021). In that transition, the need to have socioemotional skills in order to manage the changes and adapt to the new modality became clear. Many students lacked the capacity to manage their time and did not have the discipline, independence and motivation, among other skills, required to ensure the continuation of the education process. Lastly, in many cases there was inadequate adaptation of teaching methods to the virtual classroom and it became obvious that the successful continuation of distance learning processes required more than the mere replication of face-to-face teaching methods (ECLAC/UNICEF, 2021; Huepe, Palma and Trucco, 2022). In this regard, a deficiency that existed before the pandemic is the lack of preparation of educators to teach using technologies.

Figure II.4
Latin America (9 countries), Organisation for Economic Co-operation and Development (OECD)[a] and selected countries: type of browsing on the Internet done by 15-year-old students, 2018
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Organisation for Economic Co-operation and Development (OECD), *21st-Century Readers: Developing Literacy Skills in a Digital World*, Paris, 2021.

Note: Information from the Programme for International Student Assessment (PISA), based on a reading comprehension item used in 2018 that sought to measure digital skills. Students' behaviour was classified into four categories, from those who did not engage in browsing activities to those who actively browsed single source and multiple source items (active exploratory browsing). The number that appears along with the name of the country corresponds to the percentage of students who activated multiple sources by clicking on the hyperlink, that is, they did a more active browsing.

[a] Average for the following countries: Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom and United States.

The experience during the pandemic shows that distance learning has its limitations and it exacerbated the structural education gaps that already existed in the region, thus jeopardizing the outcomes for an entire generation, in relation to their career paths and learning outcomes. Also evident was the fundamental nature of face-to-face learning and the interaction between peers in the education processes and the socialization of students. Even the more privileged population groups , which have had the wherewithal to maintain contact with the education system remotely, suffered because of the lack of face-to-face interaction with teachers and peers, which has had multidimensional impacts on their well-being (ECLAC, 2022).

3. The first impacts on school attendance and the educational link

It is still too soon to have measures that allow for an analysis of the impacts of the pandemic-related crisis on the rates for the continuation and discontinuation of education, which is why this section will only address the analysis of school attendance at different levels of education during the period 2019–2020.[2] The most negative effects recorded relate to attendance rates for pre-primary education. Attendance rates at the pre-primary level showed a 7 percentage point reduction, for children who are one year below the required age for entry into primary[3] education: in 2019, 93.2% of them attended an educational institution; that figure fell to 86.2% in 2020. This reduction becomes more pronounced if the age group is extended to include those who are two years below the official age for starting primary education, whose attendance rate declined by 8.6 percentage points (and reached 76.9% in 2020); if the age range is extended to include those who are three years below the aforementioned official age, the reduction is 9.1 percentage points (the attendance rate was 64.5% in 2020) (see figure II.5A).

In the case of pre-primary school attendance for children who are one year below the official age for entry into primary education, the decline is relatively similar between children from different socioeconomic levels. However, analysis of groups of students of a younger age shows that the decline in attendance was more pronounced in the case of homes with higher incomes (see figure II.5B). This could be due, in part, to the fact that households in the higher income quintiles have a greater economic capacity, as well as more opportunities for teleworking, which allows for a member of the household or a hired worker to take responsibility for childcare during periods of absence from classes. Absence might also have been linked to the fear of contracting the disease and a lack of confidence in the institutional framework and in the ability of learning centres to enforce safety protocols. At the same time, countries did not prioritize the continuation of educational activities at this level of learning using remote methods nor the reopening of these institutions; in World Bank/UNICEF/UNESCO (2022) it is estimated that only 60% of the countries in the region had digital learning available for pre-primary schools. Partial information on nine countries, corresponding to 2021, suggests that among children one year below the official age for entry into primary school, the decline in attendance recorded in 2020 had continued, although there were improvements in several cases; there was a decline mainly in Brazil, where the attendance rate for this age group was 95% in 2019, 86.3% in 2020 and 79.7% in 2021 and the sharpest reductions were noted in the lower income quintiles.

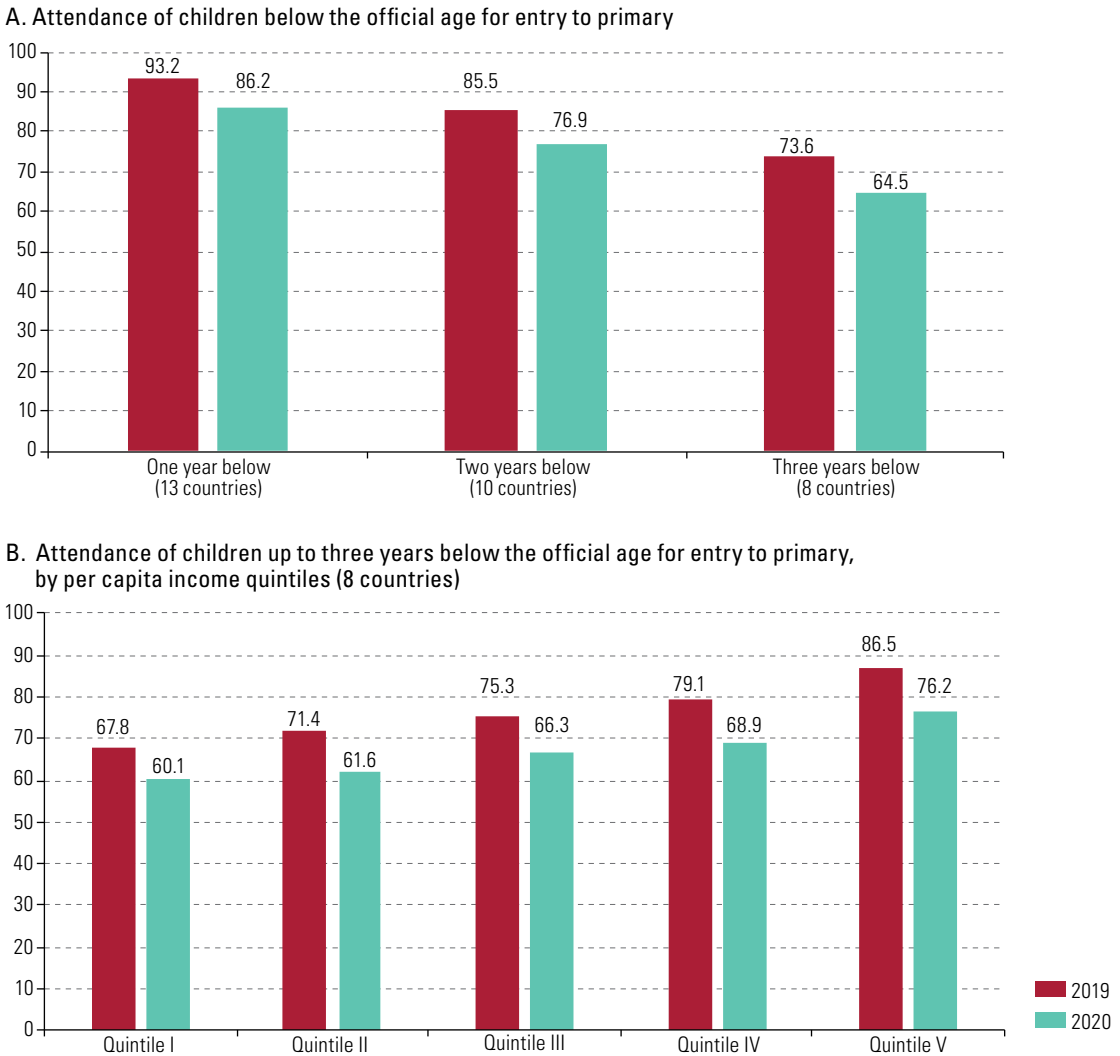
At primary and secondary education levels, although there was a decline in school attendance rates between 2019 and 2020, this reduction was less pronounced. Attendance rates for primary education was fell by 3.8 percentage points on average in 2020. Although in 2019 there were no major differences recorded in terms of access to this educational stage, according to the socioeconomic level of the household, the decline in access was greater in the lower income quintiles: the drop in attendance in the poorest quintile was

2 In examining the situation using information from 2020, it should be kept in mind that the schooling periods differ in the various countries of the region, so that while in the countries of the southern hemisphere there is a predominant schooling period that coincides with the calendar year and, therefore, with the beginning of the restrictive measures of the pandemic in 2020, in those located in the northern hemisphere these tended to coincide with the second semester of studies.

3 In most countries, primary school starts at 6 years of age, but in some it starts at 5 or 7.

4.7 percentage points, while in the higher income quintile it was only 2.5 percentage points (see figure II.6A). However, in secondary education, the overall fall in attendance rates was smaller, at 2.3 percentage points. In this case, although the access gaps between income quintiles are striking (in 2019, net attendance in the first quintile was 74.5%, compared to 87.3% in the richest quintile), the attendance rate decreased more between adolescents in the higher per capita income segments (the decline was 1.5 percentage points in the first quintile, compared to 3.2 percentage points in the highest income quintile) (see figure II.6B).

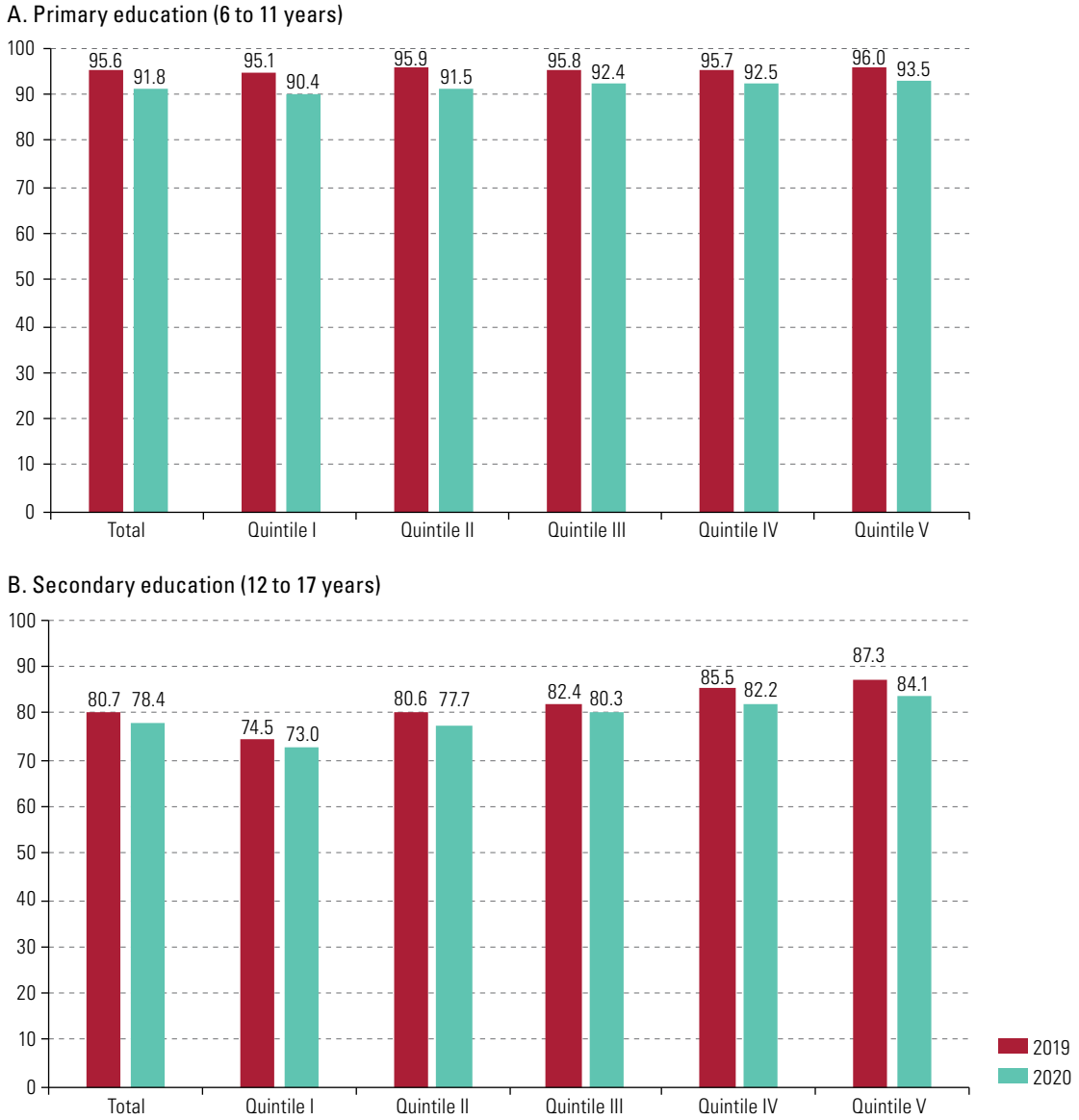
Figure II.5
Latin America (13 countries):[a] attendance rates for pre-primary education, 2019 and 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

[a] In figure A, the data are simple averages, as appropriate, for 13 countries: Argentina (urban areas), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru, Plurinational State of Bolivia and Uruguay; for 10 countries: Argentina, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Mexico, Peru, Plurinational State of Bolivia and Uruguay; and for 8 countries: Argentina, Chile, Colombia, Costa Rica, El Salvador, Mexico, Peru and Uruguay. In figure B, data refer to a simple average for the following 8 countries: Argentina, Chile, Colombia, Costa Rica, El Salvador, Mexico, Peru and Uruguay.

Figure II.6
Latin America (13 countries):[a] net attendance rates for children and adolescents at the official age for attending primary or secondary school, by per capita income quintiles, 2019 and 2020
(Percentages)



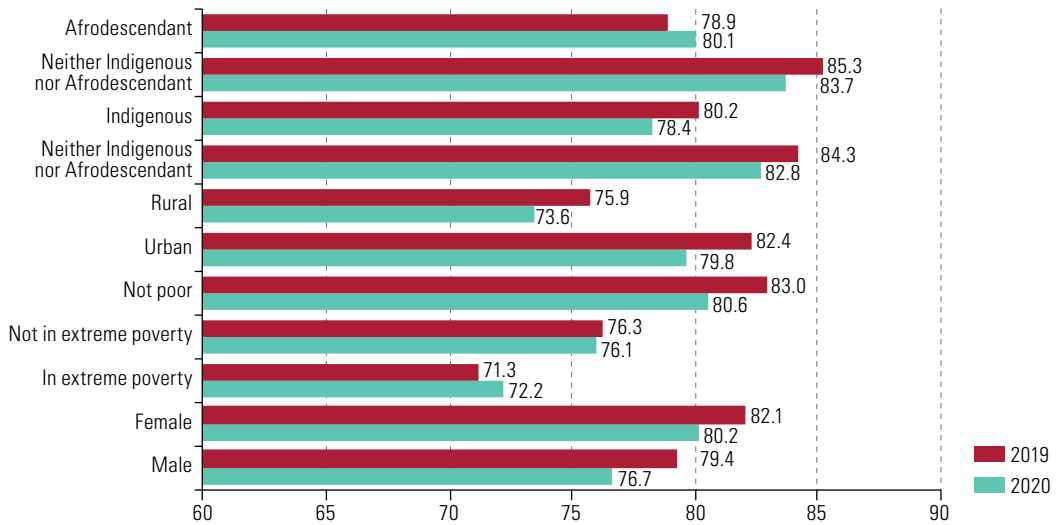
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Simple average for the following countries: Argentina (urban areas), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

The trends described reflect the limits of distance learning, especially in terms of the difficulty of keeping students motivated about the learning process. Learning loss and demotivation were a cross-cutting aspect in the experience of adolescents and young people during lockdowns (Acosta, 2022). This may have been exacerbated by greater demand for continuity of education in the higher socioeconomic sectors, which could have posed challenges in keeping the pace of and link with learning (ECLAC/UNICEF, 2021). At the same time, consideration should be given to the fact that during lockdowns, the impact on the labour market was very significant, which reduced job opportunities especially for young people. In the short term, this factor might not have played an important role as an obstacle to school attendance for students from

underprivileged sectors. However, the impoverishment of the region's households as a result of the pandemic could, in the medium term, affect the educational trajectory of students from the lower socioeconomic strata, who would be forced to suspend their education to support their families economically and to enter the labour market prematurely (Huepe, Palma and Trucco, 2022).

An analysis of school attendance for children and adolescents aged 12–17 according to the poverty level of the household would show a decline among those not living in poverty (see figure II.7). In the case of those in extreme poverty, school attendance at the secondary level increased slightly (almost one percentage point), which could be as a result of the incentive to remain in school represented by possible access to school feeding programmes, even more so in the context of impoverishment and an increase in food insecurity, which has been created by the restriction of productive activity in order to tackle the pandemic.

Figure II.7
Latin America (13 countries):[a] net attendance rates for children and adolescents at the official age for attending secondary school, by ethnicity and race, geographical area, poverty situation and gender, 2019 and 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Simple average for the following countries: Argentina (urban areas), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru, Plurinational State of Bolivia and Uruguay. Urban and rural averages correspond to 12 countries (Argentina is not included). The comparison between Indigenous and non-Indigenous (nor Afro-descendant) students corresponds to 7 countries: Brazil, Chile, Ecuador, Mexico, Peru, Plurinational State of Bolivia and Uruguay. The comparison between Afro-descendant and non-Afro-descendant (nor Indigenous) students corresponds to 5 countries: Brazil, Colombia, Ecuador, Peru and Uruguay.

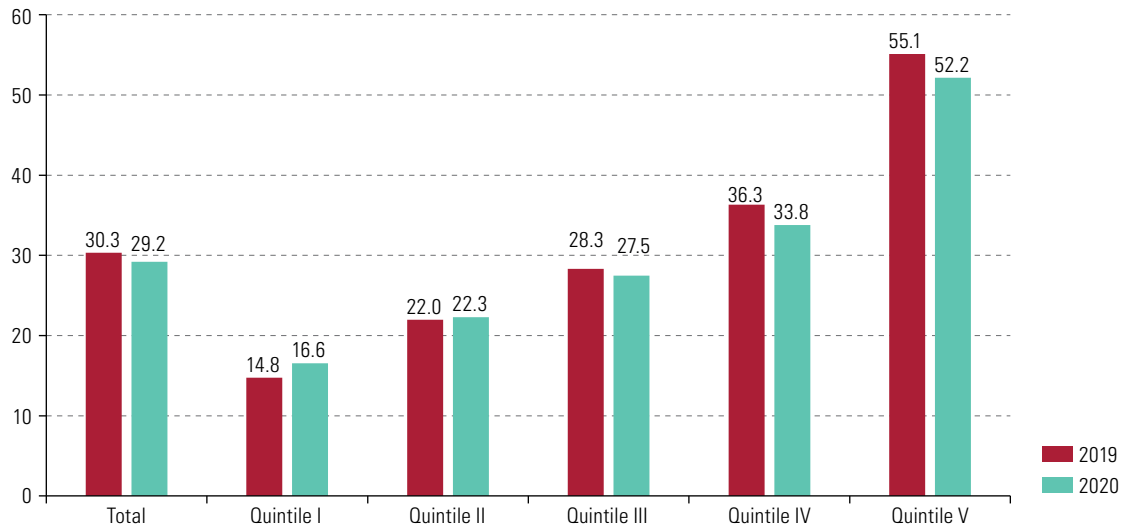
However, there are no significant gender differences in the decline in school attendance; rather, attendance averages at secondary school remain higher among women in general. Female secondary school attendance was 3.5 percentage points higher than that of males in 2020 (see figure II.7). Furthermore, there are no major geographical differences (between urban and rural areas) in the decline in attendance rates, even though the level of secondary school attendance in rural areas is about 6 percentage points lower than in urban areas.

In countries where it is possible to disaggregate the information corresponding to the Indigenous Peoples, it is noted that in 2020 the attendance rates for secondary education among that population were lower than those for non-Indigenous and non-Afrodescendent populations by 4.4 percentage points; however, the decline in net rates for secondary school attendance among the Indigenous population between 2019 and 2020 (almost 2 percentage points) was not significantly higher than that corresponding to children and adolescents who were neither Indigenous nor Afrodescendants. In the five countries that have information on the Afrodescendent

population, this student population on average maintained (or slightly increased) its level of attendance between 2019 and 2020, compared to a reduction in the case of the non-Indigenous and non-Afrodescendent population, hence the school attendance gap at the secondary level between both groups would have reduced slightly. Partial information for 2021 shows a recovery of the primary and secondary school attendance rates, which in the latter case was greater among higher income quintiles.

An examination of attendance rates for post-secondary education (university and non-university), shows a relatively similar trend to that of secondary level attendance. Differences in access by socioeconomic level are very significant: in 2020, a young person belonging to the higher income quintile was twice as likely to be receiving some form of post-secondary education as a young person from the lower income quintile (52% of young people attended in the fifth quintile, compared to 16.6% in the first quintile). Notably, there is no reduction in post-secondary attendance among the lower income young people (first quintile), whereas as socioeconomic status increases, so too does the decline in attendance, reaching 3 percentage points in the highest income quintile. On average, post-secondary education attendance rates decreased by 1.1 percentage points between 2019 and 2020 (see figure II.8). When observing these trends, it bears noting that during 2020, young people from families that were middle-income before the pandemic and experienced a sudden drop in income fell into the first quintile. The information available for 2021 suggests that there was a partial recovery in post-secondary education attendance rates, but concentrated mainly in the higher income quintiles.

Figure II.8
Latin America (13 countries):[a] net attendance rates for young people aged 18–24 in post-secondary education, by per capita income quintiles, 2019 and 2020
(Percentages)

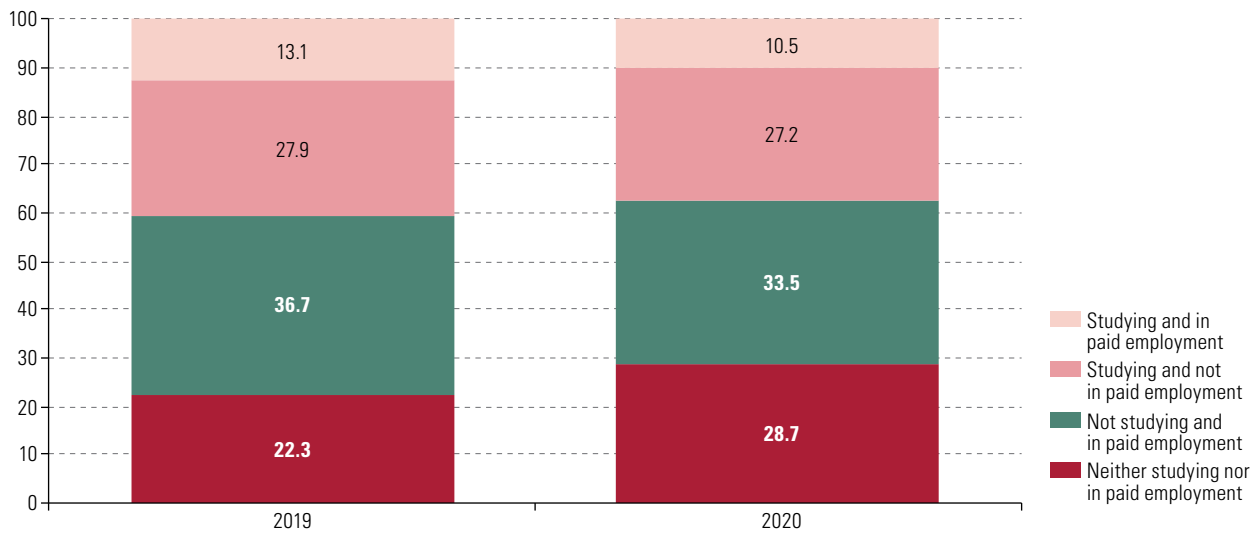


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Simple average for the following countries: Argentina (urban areas), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

As noted above, the restrictive measures adopted to contain the pandemic have had a greater effect on school attendance in pre-primary education. In the case of young people, the impact of the measures was associated with a significant reduction in the percentage of young people entering the labour market either full-time or part-time, in combination with their studies. As figure II.9 shows, the percentage of young people between 18 and 24 years of age who were not attending an educational institution (regardless of educational stage) increased from 59% in 2019 to 62.2% in 2020; similarly, while in 2019,

49.8% of young people were employed in the labour market (whether or not combining work with studies), in 2020 this figure fell to 44%. The impact of the pandemic on the labour market was felt most by young people and women compared with the rest of the population (ECLAC, 2021a). The above is also reflected in the percentage of young people between 18 and 24 years of age who are neither studying nor in paid employment, which increased from 22.3% in 2019 to 28.7% in 2020. This situation is more pronounced among young women (36% of whom are neither studying nor working, compared to 22% of men) and is related to the aforementioned restrictions in the educational and labour spheres as well as the increase in care and domestic work arising precisely from the suspension of work activities, and schooling in particular. The information available for 2021 points to a recovery in the labour activity of young people, but not of educational activity.

Figure II.9
Latin America (13 countries):[a] education and employment status of young people aged 18–24 years, 2019 and 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Simple average of the following countries: Argentina (urban areas), Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru and Uruguay.

In summary, statistics gleaned through household surveys during the first year of the pandemic (2020) showed a relatively significant decline in school attendance rates, especially in pre-primary education —a particularly challenging stage to attend remotely given the type of teaching and stimulation provided. As expected, this suggests that there might be deficits in the learning processes which, if timely and persistent actions are not taken over time, may have long-term negative effects on current generations of students, which could manifest themselves in the coming years in a worsening of the most classic indicators of educational process and outcomes: an increase in the rates of students falling behind and dropping out of school and, consequently, a roll-back in the hard-won gains made in the region over the past decades.

4. The "scar effect" of the pandemic: a deterioration of learning processes

Prior to the pandemic, the region was already experiencing a profound crisis in learning, which will likely be exacerbated as a result of the prolonged interruption of face-to-face education. The impact will be significant and will leave a scar on the current generation

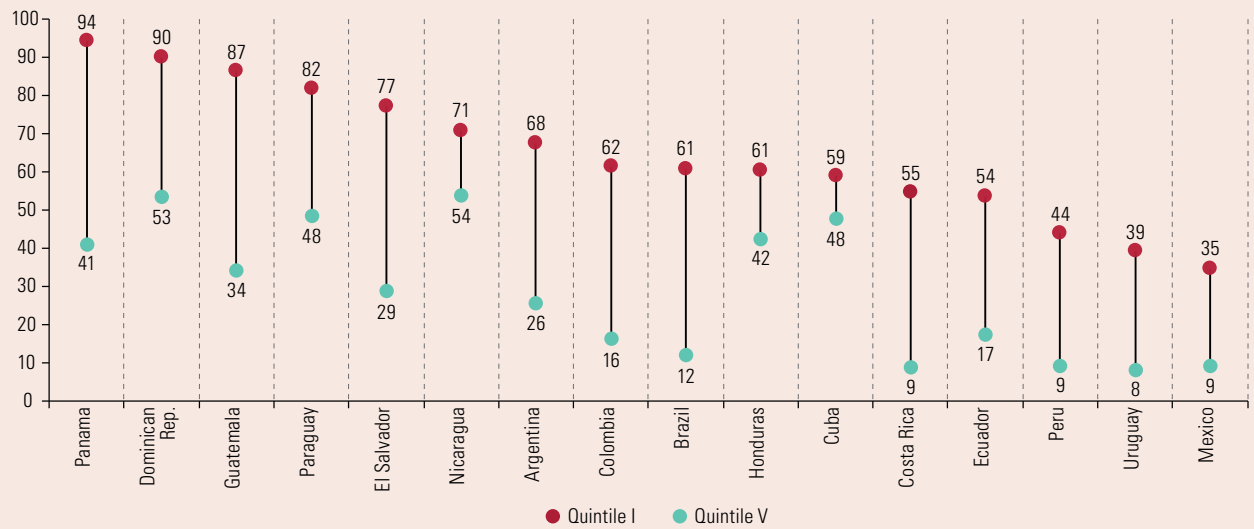
of students in the long term if relevant recovery measures are not taken. Pre pandemic, the learning crisis was reflected in the results of both children, adolescents and young people and adults in international standardized tests that measure basic cognitive skills. In particular, for the level of schooling (primary and secondary), the results show that educational systems in the region were accumulating significant quality debts. The recent Regional Comparative and Explanatory Study of 2019 (ERCE 2019) showed that barely more than half of third-grade students achieved the minimum proficiency levels in tests on mathematics and reading (52.3% and 55.7%, respectively) and that this proportion was even lower among sixth-grade students, the level at which the decline was particularly sharp in mathematics (the percentages decreased to 17.4% and 31.2%, respectively) (see box II.2).

Box II.2
The results of ERCE 2019: an ethical imperative in the regional agenda for educational transformation and recovery

The Regional Comparative and Explanatory Study 2019 (ERCE 2019), the main educational monitoring and assessment mechanism in the region, is developed by the Latin American Laboratory for Assessment of the Quality of Education (LLECE) of the United Nations Educational, Scientific and Cultural Organization (UNESCO), in which 18 Latin American countries participate. ERCE is focused on primary education, with measurements that have been taken in the third and sixth grades for more than 25 years. The ERCE assessment framework is based on regional curricula and focused on the assessment of basic skills, such as reading and mathematics, and is complemented with other areas, such as science and writing.

In most of the countries that participated in ERCE 2019, more than half of students are at the lowest performance level, which is a matter of great urgency for the region. On average, almost half of sixth-grade students are at the lowest proficiency level in mathematics. In 13 of the 16 countries that participated in ERCE 2019, over 50% of students from low-income households (first quintile) are at the lowest performance level, and in many cases the percentages are much higher (see figure 1). The proportion of low-income students at the lowest proficiency level is as much as six times that of the equivalent proportion of high-income students. Generally speaking, the fact that a large proportion of students from the lowest socioeconomic level are at the lowest level of proficiency is evidence of the inequality that persists in the region and is reproduced in its educational systems.

Figure 1
Latin America (16 countries): proportion of sixth-grade students at the lowest proficiency level in mathematics, by income level (first and fifth quintiles), according to ERCE 2019
(Percentage)

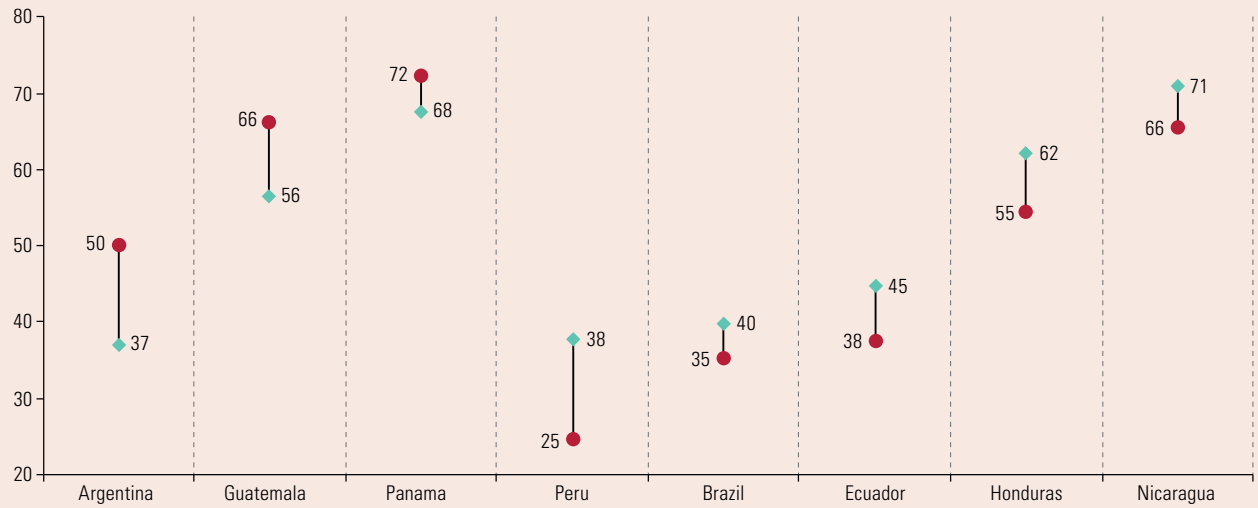


Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), *Los aprendizajes fundamentales en América Latina y el Caribe, evaluación de logros de los estudiantes: Estudio Regional Comparativo y Explicativo (ERCE 2019)*, Paris, 2021.

Note: The countries are ordered from the highest to the lowest percentage of students in the first quintile at the lowest proficiency level. The minimum proficiency level is the benchmark of basic knowledge in a domain. According to UNESCO (2021), in the framework of monitoring Goal 4 in Latin America and the Caribbean, this benchmark is equivalent to a level II in third-grade reading and mathematics tests and level III in sixth-grade reading and mathematics tests.

A comparative analysis of ERCE 2019 and the previous measurement, the Third Regional Comparative and Explanatory Study (TERCE) 2013, reveals that prior to the pandemic, the region had not shown any improvement in learning. Analysis of the proportion of students at the lowest proficiency level in 2013 and 2019 reveals only some progress in mathematics in the sixth grade. However, the percentage reduction does not exceed 10 percentage points in most countries (see figure 2). Peru had the greatest success in reducing the percentage of students at the lowest performance level (from 38% to 25%). This is also reflection of the country's good performance between measurements. One of the challenges facing the region is not only reducing the percentage of students at the lowest performance level, but also maintaining these changes or improvements over time. In Argentina, Guatemala and Panama, the percentage of students at the lowest proficiency level in 2019 was higher than the figure recorded in 2013.

Figure 2
Latin America (8 countries): proportion of sixth-grade students at the lowest proficiency level in mathematics, according to TERCE 2013 and ERCE 2019
(Percentages)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), *Los aprendizajes fundamentales en América Latina y el Caribe, evaluación de logros de los estudiantes: Estudio Regional Comparativo y Explicativo (ERCE 2019)*, Paris, 2021; "Tercer Estudio Regional Comparativo y Explicativo (TERCE 2013)", Paris [online] https://es.unesco.org/fieldoffice/santiago/llece/TERCE2013.
Note: Only countries with a gap of more than 4 percentage points in the percentage of students at the lowest proficiency level are included in the figure.

Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), Los aprendizajes fundamentales en América Latina y el Caribe, evaluación de logros de los estudiantes: Estudio Regional Comparativo y Explicativo (ERCE 2019), Paris, 2021; "Tercer Estudio Regional Comparativo y Explicativo (TERCE 2013)", Paris [online] https://es.unesco.org/fieldoffice/santiago/llece/TERCE2013.

Regrettably, the scenario in secondary education was quite similar. In the PISA reading assessment (2018), which is used to assess the basic cognitive skills of 15-year-olds, the results showed that in the Latin American countries that participated in the assessment, one in every two students (49.1%) could not identify the main idea of a text, connect pieces of information from different sources or reflect on the purpose and form of the texts they read. For the mathematics assessment, the results were even more concerning: on average, in the 10 Latin American countries that participated in the assessment, three in every four 15-year-old students (75.3%) did not achieve the minimum skill levels expected for that age group, i.e. they could not, for instance, put a simple, real-life situation in mathematical form.

Specifically, when comparing the average results of Latin American countries with those of OECD countries, the profound quality deficit of the region's educational system becomes clear. The percentage of students who do not achieve the minimum skill levels is, on average, 65% higher in Latin American counties than in OECD countries in the mathematics test and is equivalent to more than double when comparing the results of the reading test. Moreover, the results of both ERCE 2019 and PISA 2018 (in comparison to the

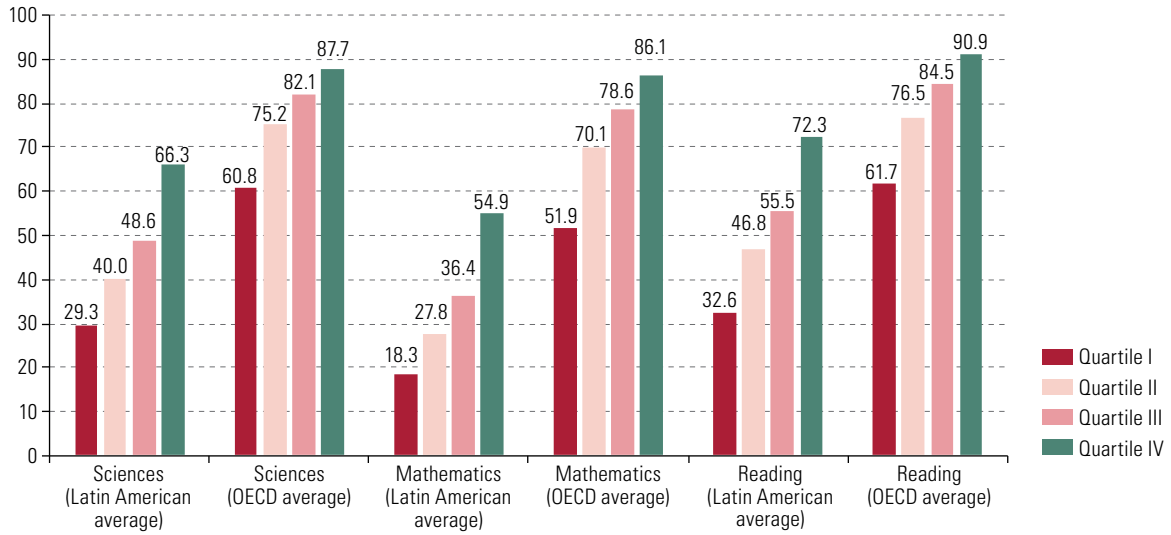
previous rounds) show that the learning achievements of students in the region appeared to have stagnated at levels much lower than those in the educational targets established in Sustainable Development Goal 4 (Huepe, Palma and Trucco, 2022; UNESCO, 2021b).

The average results for Latin American students hides a significant heterogeneity both between and within countries. For example, according to the ERCE 2019 data, Brazil, Costa Rica, Cuba and Peru are the countries with the highest achievement levels, while the Dominican Republic, Guatemala, Nicaragua and Panama consistently have the highest percentages of students reaching only the minimum skill levels. Moreover, among the countries that participated in the 2019 PISA assessment, Chile, Uruguay and Costa Rica had the lowest percentages of students with low performance, while Panama and the Dominican Republic had the highest. In addition, within each of the countries there are large gaps between the results of students from more or less privileged backgrounds. For example, not all students have a family or out-of-school environment that facilitates independent study habits, which is reflected, as mentioned in chapter I, in the significant differences in the access of students to adequate study space in the household and in the educational expectations of their parents or carers, as well as in their interest and ability to commit themselves effectively to students' learning. All of these factors undoubtedly have repercussions on inequalities in learning achievements (UNESCO, 2021b).

Figure II.10 shows the average percentage of students in OECD and Latin American countries that achieve the minimum performance level in tests of science, mathematics and reading, by quartile of the PISA index on the economic, social and cultural status of households. On average, in both OECD and Latin American countries, the students that live in more disadvantaged environments do not perform as well as their more privileged peers. However, the percentage of students from more disadvantaged backgrounds who achieve the minimum level in OECD countries is similar to the level observed in the most privileged quartile in Latin America. This result shows that the quality deficit in educational systems is a cross-cutting issue at the regional level and is exacerbated in population groups characterized by the intersection of the structural axes of the social inequality matrix. This also means that the majority of students that enter higher education do so with large educational deficits from their schooling, which affects not only their chances of being admitted to the institutions of their choice, but also their opportunities to progress and complete their chosen programme of study.

In addition to the role played by the socioeconomic and cultural level of households in explaining the heterogeneity of learning achievements within countries (which is clear in, for example, the positive impact of the mother's level of education, parental expectations and involvement in learning, and the amount of books in the household), research has also shown that inequalities in schools are key to explaining how learning varies between different students in the region (Castro, Giménez and Pérez, 2018; OECD, 2019; UNESCO, 2021a). In their analysis of the factors that affect learning in Latin America, Castro, Giménez and Pérez (2018) conclude that 60% of the variance of students' secondary school results can be explained by the features of schools. UNESCO (2021a) shows that this percentage varies between 40% and 50% in primary education. Regarding school-related factors, research has shown that attendance of private schools, smaller class sizes and the autonomy of educational establishments in size and management have a positive impact on academic performance. Schools that face greater budgetary restrictions, which generally include rural schools, have greater difficulty in attracting teachers with better qualifications and more experience, as well as greater obstacles in their teaching processes owing to the lack or insufficiency of educational materials and physical infrastructure. As regards individual and family-related factors —as well as the negative impact of repeating a year and absence from school, and the positive impact of attendance of a private school and time spent on extra-curricular study— various studies have shown there to be significant gender gaps throughout educational paths and that these are in favour of women in reading and of men in science and mathematics (see chapter III) (Castro, Giménez and Pérez, 2018; UNESCO, 2021a).

Figure II.10
Latin America (10 countries) and Organisation for Economic Co-operation and Development (OECD) (37 countries):[a] students that reach at least performance level 2 in the tests of the Programme for International Student Assessment (PISA), by quartile of economic, social and cultural status, 2018
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organisation for Economic Co-operation and Development (OECD), *PISA 2018 Results (Volume II): Where All Students Can Succeed*, Paris, 2019.

[a] For Latin America, simple averages from the following countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Mexico, Panama, Peru and Uruguay. For OECD, simple averages from the following countries: Australia, Austria, Belgium, Canada, Chile, Colombia, Czechia, Denmark, Estonia, Finland, France, Germany, Grecia, Hungary, Ireland, Iceland, Israel, Italy, Japan, Latvia, Lithuania, Luxemburg, Mexico, Netherlands, Norway, New Zealand, Poland, Portugal, Republic of Korea, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, the United States of America and the United Kingdom of Great Britain and Northern Ireland.

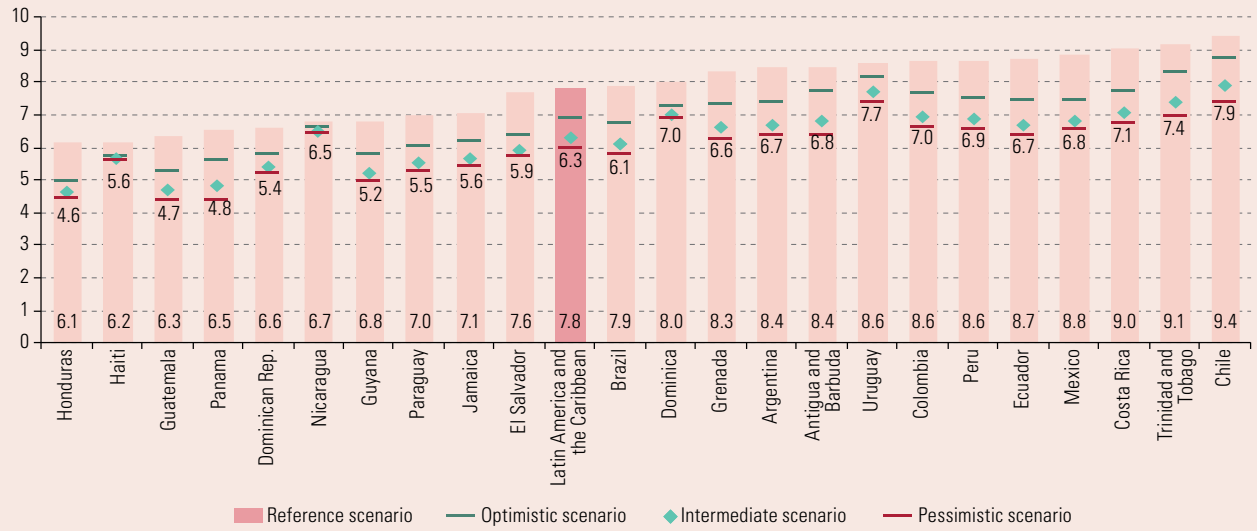
The prolonged period of interruption to in-person classes owing to the pandemic, added to the social crisis and serious impact on public well-being, will have significant consequences on the learning processes of the student population. In the case of Latin America, a series of studies have been carried out to estimate the loss of learning opportunities in terms of basic cognitive skills, such as reading and mathematics (see box II.3), but, regrettably, there are not yet any comparable data that allow the true scale of the post-pandemic impact of this to be known precisely (Huepe, Palma and Trucco, 2022).

Most of the countries in the region postponed or suspended their learning assessments in 2020 and, although were resumed in 2021, there are few available results (World Bank/UNICEF/UNESCO, 2022). The results that are available include those of the *Aprender 2021* tests, which are taken by sixth-grade primary school students in Argentina in language and mathematics. The results revealed that the performance of students had deteriorated in both subjects, but the decline was much more pronounced in language: while the performance of 7.1% of students was below the basic level (i.e. they could not fulfil the minimum requirements) in 2018, this percentage had increased to 22.3% in 2021. In addition, in the mathematics assessment, these percentages were 19.6% in 2018 and 23.1% in 2021. The results of *Aprender 2021* also show that the performance gaps by socioeconomic level have widened in the two subjects assessed (Vallejos, 2022). The worrying impact of the pandemic on students' reading and writing skills at the primary level has also been seen in other countries with such assessments. For example, a decline in the learning of primary students since the pandemic was also revealed in a recent study carried out by the Reading Research and Innovation Centre at the University of the Andes in Chile. Its results indicate that 9 in every 10 first-grade students in 2022 did not know the letters of the alphabet (Catalán, 2022).

Box II.3
Estimates of the impact of the COVID-19 pandemic on learning losses

The disruption caused by the pandemic led cascading crises in the education sector in Latin America and the Caribbean. The real and simulated learning losses are very high, and are very serious in the early grades, among younger students and those in more vulnerable socioeconomic situations. An estimate made using a simulation tool created by the World Bank Group, the real data on the (total and partial) closure of schools collected systematically by UNESCO during the pandemic and various hypotheses on the effectiveness of distance learning indicate than the average student in Latin America and the Caribbean lost between 1 and 1.8 learning-adjusted years of schooling. This is a time measurement of lost schooling that takes into account the effect of what has been learned effectively during this period (see figure 1). These learning losses would translate into a significant loss of income and productivity, equivalent to approximately 12% of income over the lifetime of a current student, in an intermediate scenario.

Figure 1
Latin America and the Caribbean (23 countries): simulated losses of learning-adjusted years of schooling as a result of the COVID-19 pandemic
(Number of years)



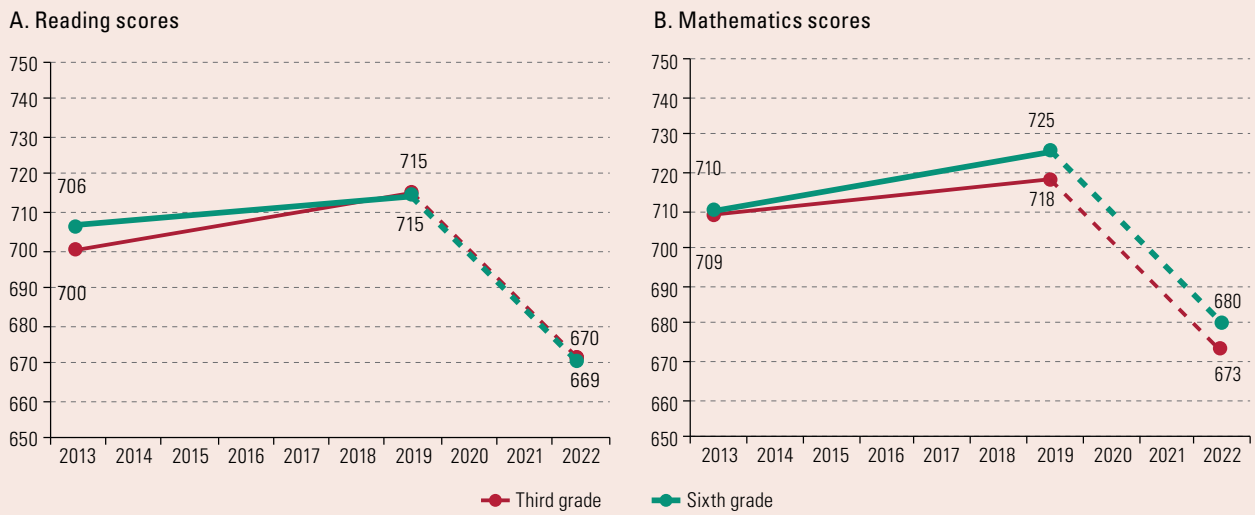
Source: World Bank, on the basis of J. Azevedo and others, "COVID-19 Learning Loss Simulations: Global Update", Washington, D.C., World Bank, 2022, unpublished.
Note: The parameters used are aligned with global simulations based on the income level of the country in question (reference value). The simulations presented are based on the calendar of the United Nations Educational, Scientific and Cultural Organization (UNESCO) up to February 2022. The optimistic, intermediate and pessimistic scenarios vary in line with hypotheses of actual school closures during the partial reopening (50%, 25% and 15% of open schools, respectively) and the effectiveness of mitigation strategies (high, medium and low, respectively).

The simulations reveal that learning outcomes measured by average ERCE 2019 scores would decrease significantly in both mathematics and reading in the third and sixth grades until the end of 2022. In an intermediate scenario, the average ERCE scores would decrease by around 6.3% (45 points) in both grades and subjects. The results of the simulations for the third and sixth grades indicate that all countries would achieve worse average scores than in 2013, resulting in a setback of more than 10 years (see figure 2). In weighted terms, it is projected that the proportion of students in the third and sixth grades who cannot understand and adequately interpret a text of average length (known as "learning poverty") will increase, on average, from 37% to 50% and from 62% to 82% respectively.

Similarly, the increase in learning poverty in Latin America and the Caribbean would be the highest in the world. According to the most recent estimates, the proportion of learning poor students in the region would increase from 52% in 2019 to 79% in 2022 as a result of the pandemic. This would mean that four in every five sixth-grade students would not be capable of understanding or adequately interpreting a text of average length. There are still few Latin American and Caribbean studies on actual learning losses and not all of them have the same statistical rigour; however, the available data indicate significant learning losses. In addition, younger students those from more vulnerable socioeconomic backgrounds will be much more affected by these learning losses, setting the stage for a generational crisis and greater structural inequality in the future. The outcomes of measurements in São Paulo (Brazil) show much more marked decreases in the fifth grade

than in the ninth and twelfth grades, and data from Mexico also show more pronounced declines in primary education than in secondary. Although still limited, the information on pre-primary education also points to significant losses. The data from Mexico also show more pronounced decreases among students from low-income backgrounds, with drops of 32% in mathematics, compared to 25% among students from higher-income backgrounds. Additional empirical information from both within and outside the region also indicates more marked declines in groups in more vulnerable situations.

Figure 2
Latin America (16 countries):[a] learning outcomes of students in the third and sixth grades, by TERCE 2013 and ERCE 2019 scores and 2022 simulations



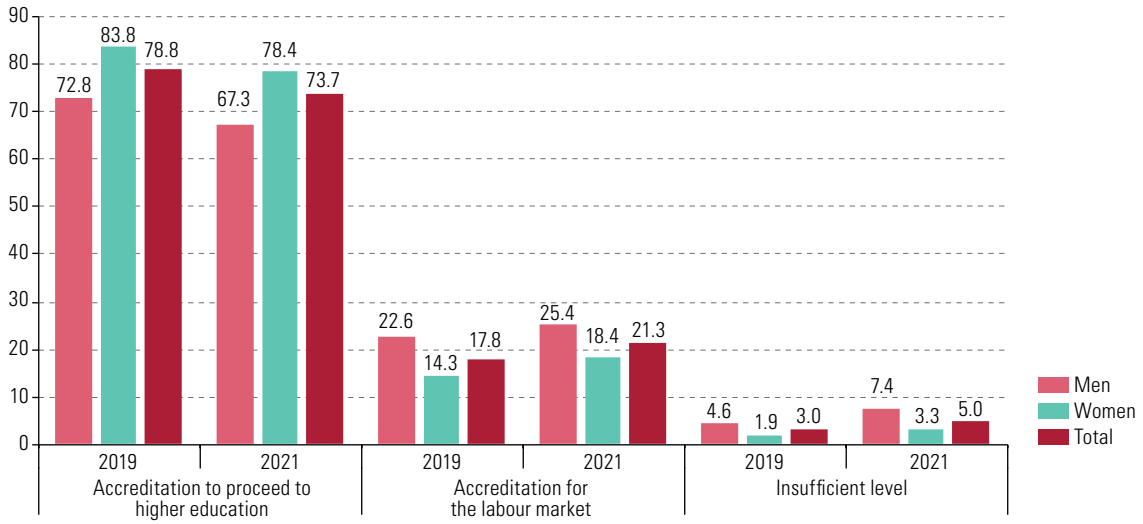
Source: World Bank, on the basis of United Nations Educational, Scientific and Cultural Organization (UNESCO); J. Azevedo and others, "COVID-19 Learning Loss Simulations: Global Update", Washington, D.C., World Bank, 2022, unpublished.
Note: The data for 2013 are from the Third Regional Comparative and Explanatory Study (TERCE) and the 2019 data are from the Regional Comparative and Explanatory Study (ERCE). The average scores by country from the official results of the United Nations Educational, Scientific and Cultural Organization (UNESCO) differ slightly from the reference values of ERCE 2019 used in the simulation as reference values are estimated using aggregated data in the simulation.
[a] Argentina, Brazil, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico Nicaragua, Paraguay, Panama, Peru and Uruguay.

Source: World Bank/United Nations Children's Fund/United Nations Educational, Scientific and Cultural Organization (World Bank/UNICEF/UNESCO), *Two Years After: Saving a Generation*, Washington, D.C., 2022; J. Azevedo and others, "COVID-19 Learning Loss Simulations: Global Update", Washington, D.C., World Bank, 2022, unpublished.

There is comparable information for this period for the member States of the Caribbean Community (CARICOM).[4] The Caribbean Secondary Education Certificate (CSEC) is used to assess students aged 15-17 in multiple subjects, and provides results that enable higher education institutions and the ministries of education in the participating countries and territories to establish criteria for enrolment processes. A comparison of performances in some of the 33 subjects assessed in the 2019 and 2021 cycles, i.e. before and after the start of the pandemic, shows that there was a decline in the average performance of secondary students in the Caribbean. In the language assessment (English A), there was a decrease of five percentage points in the total number of students that obtain the accreditation needed to proceed to higher education, with the difference distributed among those who only achieved accreditation for the labour market and those who achieved an insufficient level (see figure II.11).

[4] These countries mainly participate in three standardized tests on the quality of education, set by the Caribbean Examination Council (CXC). One of these is the Caribbean Secondary Education Certificate (CSEC) (CXC, 2022), an annual test held in May and June for students at public and private schools who are finishing compulsory education. Owing to their scope and the availability of data, this can be used a measurement of the learning outcomes and cognitive skills achieved at the secondary level in Caribbean countries.

Figure II.11
The Caribbean (20 countries and territories):[a] performance of secondary students in the English A examination of the Caribbean Secondary Education Certificate (CSEC), based on the level of accreditation achieved, by gender, 2019 and 2021



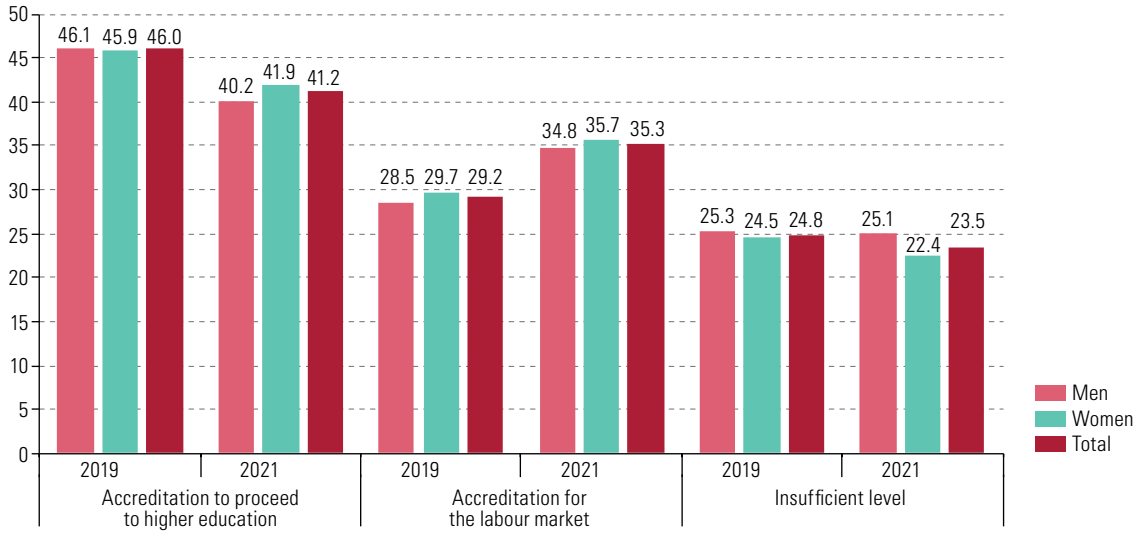
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Caribbean Examinations Council (CXC), *Annual Report 2021*, Bridgetown, 2021; *Annual Report 2019*, Bridgetown, 2019.

[a] Anguilla, Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saba (2019 only), Saint Kitts and Nevis, Saint Martín, Saint Vincent and the Grenadines, Saint Lucia, Sint Eustatius, Suriname, Trinidad and Tobago and Turks and Caicos Islands.

In mathematics, a smaller proportion of students in the Caribbean achieve the required skills levels for higher education than in English. On average, in 2019, less than half of students obtained the scores needed to achieve accreditation to continue to higher education (46%), while one in every four did not even achieve the minimum accreditation needed for the labour market (see figure II.12). The attainment figures for accreditation for higher education are even lower for 2021, with only 41% of the total having achieved the necessary scores, while there was an improvement in the levels of accreditation for access to the labour market (35.3%) and a decrease of 1.3% in the number of students at the lower levels (23.5%).

Various studies show the importance of incorporating teaching practices aimed at developing certain skills, such as empathy, cooperation and how to manage and express emotions, to the comprehensive development of students, as well as their future participation in the labour market. The interruption of in-person education has not only had an impact on the cognitive training processes, but also, and in particular, on socialization processes and instances of interacting with others, which has had a profound effect on the socioeconomic well-being of the education community. This situation has limited the process of providing education in socio-emotional skills from the youngest ages. Exploratory studies carried out by the Working Group on Youth of the Regional Collaborative Platform for Latin America and the Caribbean, using online surveys of young people aged 15–29 during the pandemic (in 2020 and 2021), also illustrate the significant impacts of this prolonged crisis on mental health (Working Group on Youth of the Regional Collaborative Platform for Latin America and the Caribbean, 2022 and 2021). This abrupt change from education at school to remote education in the home also affected the work of teachers, who are predominantly female (women account for 65.2% of the people employed in this sector) (ECLAC, 2022). For them, the pandemic came with a high cost in terms of socio-emotional well-being as, in addition to the increased workload in the working environment, they had to take on a heavier burden of care work.

Figure II.12
The Caribbean (20 countries and territories):[a] performance of secondary students in the mathematics examination of the Caribbean Secondary Education Certificate (CSEC), based on the level of accreditation achieved, by gender, 2019 and 2021



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Caribbean Examinations Council (CXC), *Annual Report 2021*, Bridgetown, 2021; *Annual Report 2019*, Bridgetown, 2019.

[a] Anguilla, Antigua and Barbuda, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saba (2019 only), Saint Kitts and Nevis, Saint Martín, Saint Vincent and the Grenadines, Saint Lucia, Sint Eustatius, Suriname, Trinidad and Tobago and Turks and Caicos Islands.

This crisis therefore constitutes an opportunity to reassess socio-emotional well-being and the development of socio-emotional skills in educational processes, while also strengthening cognitive learning. This requires increased investment in more disadvantaged schools and joint work in which all actors in the education community participate and are supported, in particular, teachers, parents and carers, so that more resilient systems can be created and the urgent recovery of the educational processes of an entire generation can be undertaken (Huepe, Palma and Trucco, 2022).

B. The pandemic arrived after decades of sustained progress in education, but in which debts of inequality and quality were carried forward

Latin America and the Caribbean have made significant progress in education in recent decades by broadening compulsory education to the pre-primary and secondary levels and implementing active policies to expand it and include groups that have historically been excluded. Despite this, the pace of such progress has been slowing in recent years. Prior to the crisis caused by the pandemic, the region had a considerable inequality debt, which entailed the exclusion of some population groups from the education system, as well as disadvantages in their educational careers, and supported the reproduction of inequality in the areas making up the axes of the region's social inequality matrix (gender, territory, ethnic and racial background, etc.). The expansion of access to higher education, from 23% to 52% between 2000 and 2020, was also of great relevance. However, this expansion primarily benefited the middle and upper classes and urban areas, which widened the gaps and increased inequality.

In 2015, the United Nations General Assembly approved the 2030 Agenda for Sustainable Development. In the fourth Sustainable Development Goals, the importance of ensuring inclusive, equitable and quality education was defined and a set of targets that support that view was established. Seven years after the adoption of these global commitments, it remains uncertain whether they will be achieved in Latin America and the Caribbean. The achievement of the educational targets for 2030 was not guaranteed prior to the COVID-19 pandemic and is far less so in the complex circumstances the region and the world are currently experiencing (UNESCO/UNICEF/ECLAC, 2022).

1. Despite progress, coverage of early childhood education remains insufficient and unequal

There is a fairly general consensus in international research on the fact that the foundations of learning are laid in the early stages of childhood, and that it is also in this period that the main drivers of inequality are active. According to UNICEF (2019), early childhood education (International Standard Classification of Education, ISCED 2011)[5] increases the efficiency and effectiveness of educational systems and plays a key role in the promotion of economic growth. In addition, in the view of ECLAC, investment in early life is key to reducing inequalities throughout the life cycle, and can have both short-term and long-term effects on children's development of skills, rates of completion of formal education, professional development and levels of income and autonomy. Such investment also has indirect repercussions on the well-being of the population as it enables women, teenagers and girls who take on a disproportionate burden of care work in the family environment to have free time to study, enter or remain in the labour market, participate in political or community life, or carry out activities of their choice.

Investment in early childhood education has significant impacts on cognitive and neuronal development, and yield a very high return compared to investment in other stages of education, as the younger the person is, the more the rate of return increases exponentially (Esping-Andersen, 2008; Heckman, 2013). Esping-Andersen also argues that universal attendance of pre-primary education is linked to a significant improvement in educational performance and a homogenization of the results of tests, such as the PISA assessments. Similarly, the results of ERCE 2019, conducted by UNESCO in Latin America, indicate that students who attended pre-primary had greater learning achievements in all grades (third and sixth in primary) and in the subjects assessed (reading, mathematics and science). On average, the students who attended pre-primary education scored 28 points higher than those who did not (UNESCO, 2021b).

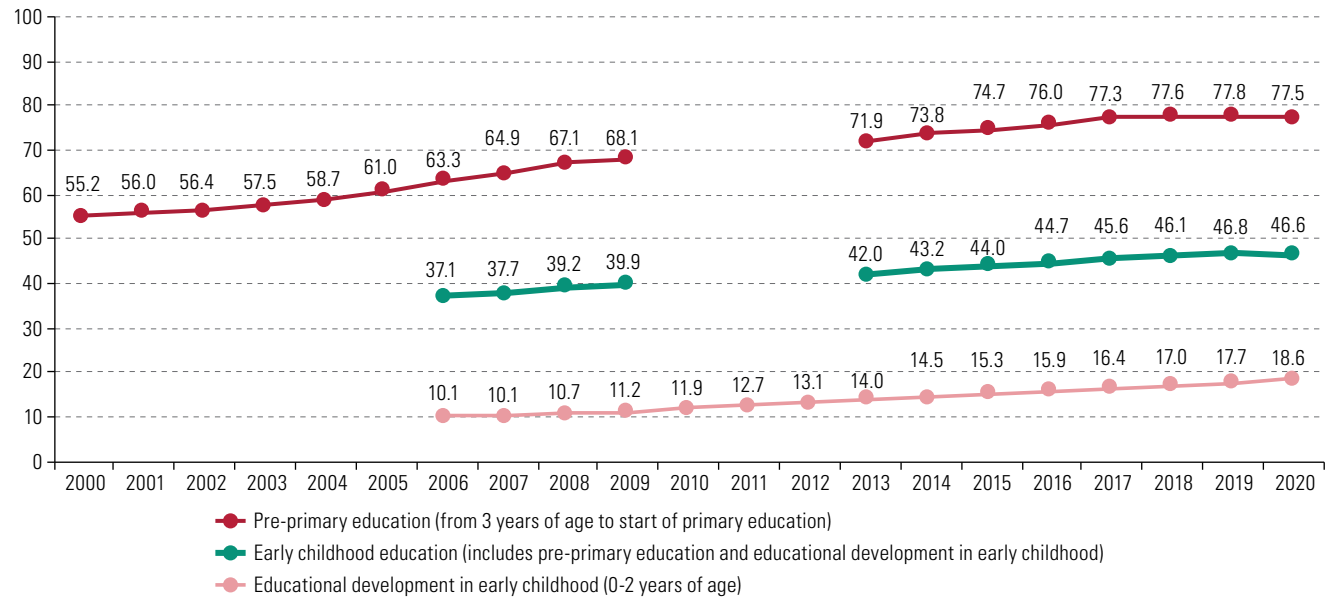
Incorporating a target specifically related to early childhood education into Goal 4 is an important indicator of the recognition of its importance and the prioritization of the issue at the global and regional levels. In Sustainable Development Goal target 4.2, it is agreed that "by 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". Governments in the region have taken this commitment seriously, and have made significant investments to achieve it: prior to the pandemic, according to UNICEF (2019), 8.1% of the educational resources of Latin American and Caribbean countries were aimed at early childhood education, a figure close to the 10%

[5] ISCED level 0 programmes are aimed at children below the official age for starting ISCED level 1 (primary education). At this level, there are two programme categories: educational development in early childhood and pre-primary education. In the first category, the content is aimed at children aged 0-2 years, while the second is aimed at children aged from 3 years to the start of primary education (UNESCO, 2011). The age for entering primary education is defined at the national level and is 6 years of age in most countries in the region. El Salvador and Guatemala are exceptions as primary school there begins at the age of 7.

recommended by this body. Such a level of investment may be related to the significant expansion of pre-school education coverage and the widening of access to educational development programmes for early childhood in recent decades.

According to the *Regional Monitoring Report SDG4-Education 2030* (UNESCO/UNICEF/ECLAC, 2022), over half of children, from birth to the age of 5 years, did not have access to educational development programmes or pre-primary education. However, this coverage was very different in the various cycles that make up this educational level: the coverage of educational development programmes in early childhood (0–2 years) barely reached 18.6%, while, in pre-primary education (3–5 years), the gross rate was 77.5% (see figure II.13). If school attendance only one year before the official age of entry into primary education is taken into account, the figures become considerably higher (almost universal): 94.5% for girls and 94% for boys.

Figure II.13
Latin America and the Caribbean: gross rate of registration (coverage) in early childhood education, pre-primary education and educational development programmes for early childhood, 2000–2020
(Percentages)



Source: United Nations Educational, Scientific and Cultural Organization/United Nations Children's Fund/Economic Commission for Latin America and the Caribbean (UNESCO/UNICEF/ECLAC), *Education in Latin America at a Crossroads: Regional Monitoring Report SDG4 - Education 2030*, Paris, 2022; UNESCO Institute for Statistics (UIS), "Sustainable Development Goal 4 (SDG 4) data" [online] http://sdg4-data.uis.unesco.org; "UIS Developer Portal" [online] https://apiportal.uis.unesco.org/bdds.

An analysis of the figures by country reveals a high level of heterogeneity in the region. While figures from before the pandemic indicated that attendance was practically universal in countries such as Costa Rica and Uruguay,[6] attendance at this level of education did not reach 85% in other countries. Similarly, while it can be seen that there has almost been gender parity since 2010, and that average access is, in fact, even slightly higher among girls, the disparity in Bolivia (Plurinational State of) and Ecuador, where boys have more opportunity than girls to access this level, continues to attract attention.

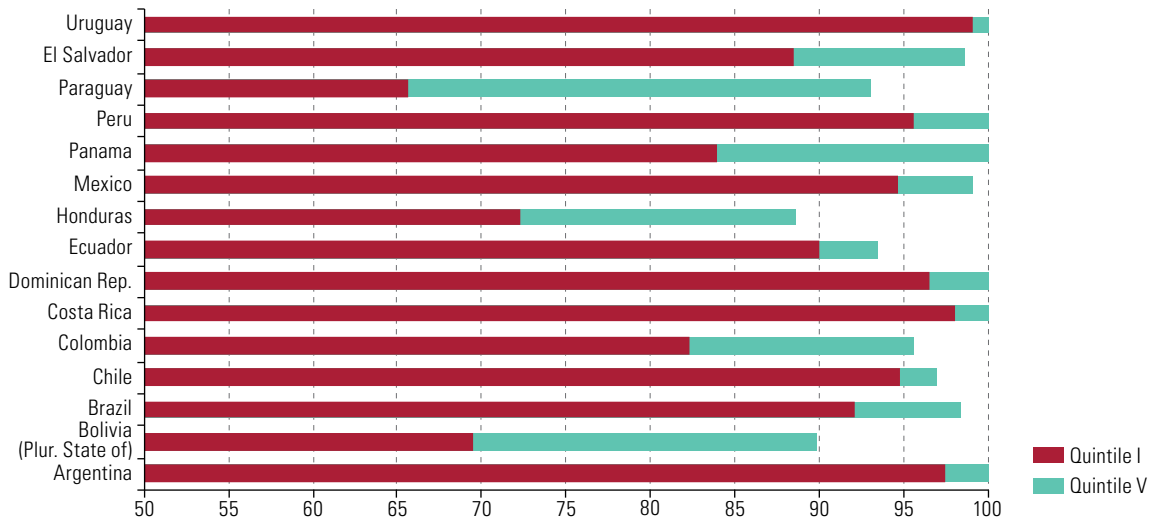
When considering the territory, a structural axis of the social inequality matrix (ECLAC, 2016), it is clear that the gap in access to pre-primary education between the rural and urban populations has decreased significantly: while, in 2010, 22.7% of children

[6] According to the Household Survey Data Bank (BADEHOG), attendance figures were 99.8% for girls and 99% for boys in Uruguay, and 99.3% for girls and 98.7% for boys in Costa Rica.

living in rural areas did not attend school one year before beginning primary education, in 2019, less than 10% of those children were excluded from the pre-primary system. In Brazil, the Dominican Republic, Ecuador, Peru and Uruguay, the figures were almost equal as the gaps were smaller than two percentage points. However, there continue to be fewer opportunities to access pre-primary education in rural areas than in urban areas, in particular in Bolivia (Plurinational State of), Panama and Paraguay, where the difference is greater than 10 percentage points.

Gaps linked to socioeconomic levels are also critical. Excluding children from the lowest-income families from this important formative stage reduces the potential of early childhood education to bring about equality of opportunities and reduce socioeconomic inequalities. In 2019, while 97.7% of the child population from the highest-income quintile has access to at least one year of pre-primary education, in the case of the lowest-income quintile, this access reached 91%. There was an improvement between 2010 and 2019, when many countries managed to reach coverage higher than 95% for the entire population, independent of their income. However, gaps remain between the different socioeconomic levels of households in some countries (see figure II.14).

Figure II.14
Latin America (15 countries): rate of attendance of pre-primary education one year before the official entry into primary education,[a] by extreme income quintiles, around 2019
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] In the case of El Salvador and Guatemala, children aged 5 and 6 years.

While 5% of the region's population aged 1 year under the official age to begin primary education is excluded from educational programmes, this figure is almost doubled if only the rural population (9.6%) or the lowest-income quintile (9%) is taken into account. The progress seen is linked to investment and the growth of educational provision for early childhood. However, while the level of coverage moves closer to universality, there has also been a deceleration or standstill in the last 10 years, which appears to indicate that, despite the efforts made, it will be necessary to look for innovative ways of reaching children who do not have access to early childhood education and ensuring that no one is left behind. In addition to this challenge, there is a general difficulty in obtaining data on coverage and access to early childhood education more than one year prior to primary education, or rather, throughout the pre-primary education cycle between the ages of 3–5 years (ISCED level 020) and in early development activities (0–2 years, ISCED level 010).

2. The social inequality matrix is clear in the outcomes of school education

Over the past 20 years, there has been significant progress in education in Latin America and the Caribbean and children, adolescents and young people have been able to reach educational levels far higher than those of previous generations. Countries in the region have made efforts to expand the coverage of the educational system, increasing public spending on education and the years of mandatory schooling (including pre-primary and secondary education). However, prior to the pandemic there were still significant exclusion gaps, especially from secondary education onwards. For at least a decade, ECLAC (2011) has been warning that the region was facing a dual challenge: improving the quality of education and including the population groups usually excluded from the education system, as a result of the structural axes in the social inequality matrix in the region, i.e. because they come from households with a low socioeconomic level, have a disability (see box II.4), are migrants (see box II.5), have a particular ethnic or racial background or live in rural areas, among other factors (ECLAC, 2016). In addition, the most significant progress occurred in the first decade of this century and, since 2015, this process has slowed, putting the achievement of Sustainable Development Goal 4 at risk.

Box II.4
The exclusion of persons with disabilities from the education system: the need to overcome obstacles to enjoyment of the right to education

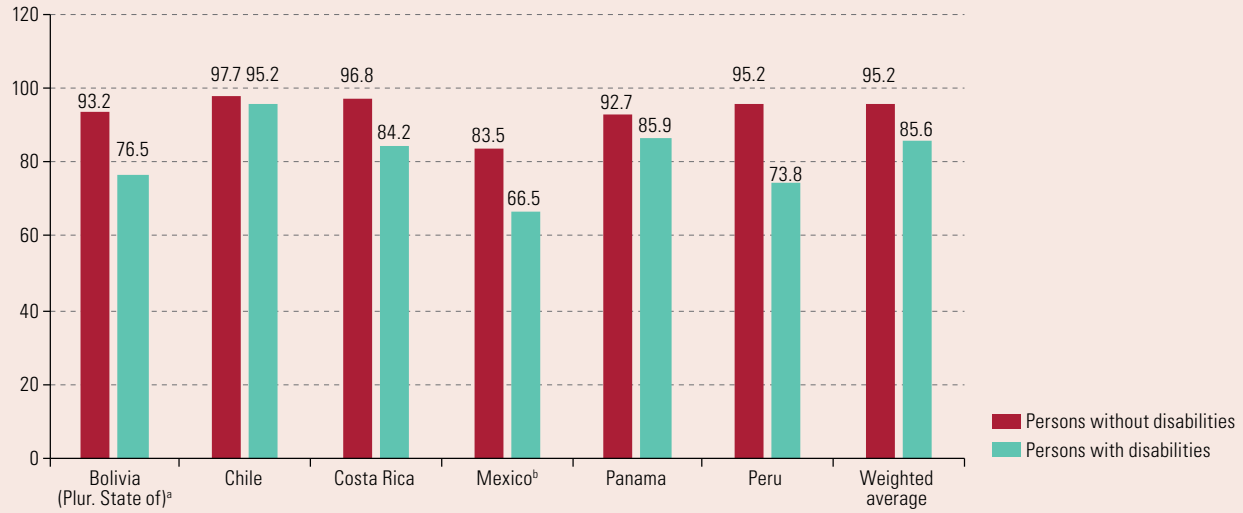
Of the 1 billion persons with disabilities around the world, more than 70 million are in Latin America and the Caribbean, equivalent to approximately 12.5% of the region's population (ECLAC, 2014). This is a highly diverse population whose realities differ greatly, but that, regrettably, experiences exclusion and violations of their rights on a daily basis. Persons with disabilities have historically belonged to the most disadvantaged groups of society, been excluded from access to resources of all kinds and been denied recognition in various areas of economic, social, political and cultural life.

Access to education is no exception. Despite the various advances made in Latin American and Caribbean countries in terms of the inclusion of persons with disabilities, there are still major challenges in accessing quality education at all levels (UNESCO, 2020). Data from household surveys conducted prior to the COVID-19 pandemic, presented in figure 1, show marked gaps between persons with disabilities and persons without disabilities in terms of the proportion of teenagers that participate in secondary education, a scenario repeated in primary education. The situation varies between countries; while, in Chile, more than 95% of persons with disabilities attend secondary education, in Mexico this figure falls to barely 66.5%. The most pronounced gap at this level of education is found in Peru, where there is a difference of 21.4 percentage points between the two population groups. Inequality is greater between persons with disabilities living in rural areas than between their peers in urban areas (ECLAC, 2022).

This exclusion from education results in a lower average of years of schooling among persons with disabilities aged 25 years and over than among their peers without disabilities. As seen in figure 2, there is profound inequality in the number of years of schooling in line with whether a person does or does not have a disability in all of the countries analysed. The figures are between 2.8 years' difference in Chile and close to four years' difference in Mexico and Peru. This reality – of exclusion of children, adolescents and young people with disabilities from the educational environment at all levels – is a serious violation of their rights, as well as a restriction of their future opportunities for inclusion in the labour market and other areas of society under equal conditions.

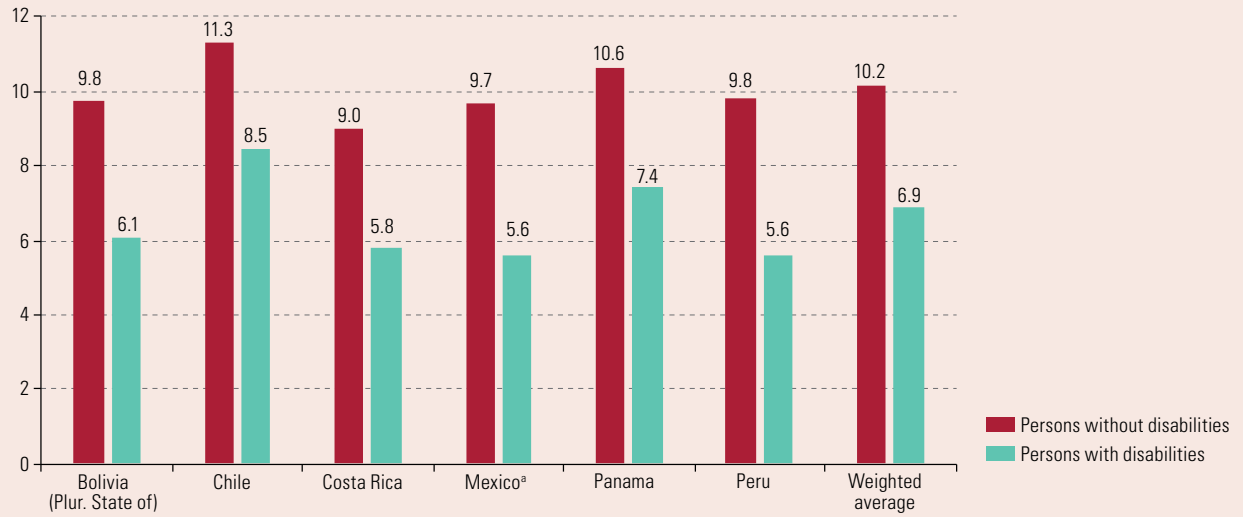
These inequalities, which are the product of barriers to accessibility and the context and attitude created by the environment, have been exacerbated during the COVID-19 pandemic. According to the information collected by social organizations and networks of persons with disabilities, the continuity of education and the learning of children and adolescents with disabilities has been heavily affected by the suspension of classes during the health crisis, mainly as a result of the absence or scarcity of suitable resources and conditions to implement online education, taking into account the needs of this population and the necessary adjustments they require (Meresman and Ullmann, 2020). Some of the main barriers indicated were: a lack of access to the Internet and computer equipment at home, which is linked to the poverty that prevails in the households of persons with disabilities; the lack of an inclusive perspective in distance learning proposals (including prior to the pandemic); the scarcity of accessible educational materials; and the absence of curriculum adaptations to respond to the educational needs of students with disabilities.

Figure 1
Latin America (6 countries): total net rate of attendance of secondary education, by disability status, 2019
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.
[a] Data for the estimates in the category of persons with disabilities refer to all years as the sample is smaller than 150 cases.
[b] The data are from 2020.

Figure 2
Latin America (6 countries): average years of schooling of persons aged 25 years and over, by disability status, 2019
(Years)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special tabulations of household surveys from the respective countries.
[a] The data for Mexico are from 2020.

It is therefore crucial for the educational transformation needed in Latin America and the Caribbean to incorporate a universalist approach that is sensitive to differences (ECLAC, 2016); in other words, in addition to fulfilling the principle of universality, countries must implement measures to overcome existing inequalities and gaps that prevent the inclusion of persons with disabilities in the education system. To that end, it will be essential to incorporate the lessons learned during the pandemic on the obstacles impeding the exercise by persons with disabilities of their right to education under equal conditions.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *The sociodemographic impacts of the COVID-19 pandemic in Latin America and the Caribbean* (LC/CRPD.4/3), Santiago, 2022; *The Social Inequality Matrix in Latin America* (LC/G.2690(MDS.1/2)), Santiago, 2016; *Regional report on measuring disability: overview of the disability measurement procedures in Latin America and the Caribbean* (LC/L.3860(CE.13/3)), Santiago, 2014; S. Meresman and H. Ullmann, "COVID-19 y las personas con discapacidad en América Latina: mitigar el impacto y proteger derechos para asegurar la inclusión hoy y mañana", *Social Policy series*, No. 237 (LC/TS.2020/122), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2020; United Nations Educational, Scientific and Cultural Organization (UNESCO), *Global Education Monitoring Report 2020 – Latin America and the Caribbean. Inclusion and Education: All Means All*, Paris, 2020.

Box II.5
Migrant children and adolescents: school exclusion in selected countries in the region

Children and adolescents have always migrated, whether accompanying or following their families, to seek opportunities or greater safety outside their community of origin. At present, there is a growth in their participation in global and regional migration flows. According to the information available at the global level, between 1990 and 2019, the estimated number of international migrants under 20 years of age increased from 28.4 million to 37.9 million, coming to account for 14% of the global migrant population; within the region, the estimated increase was approximately from 2 million to 3 million, and this group represented less than 8% of the total percentage (IOM, 2020).

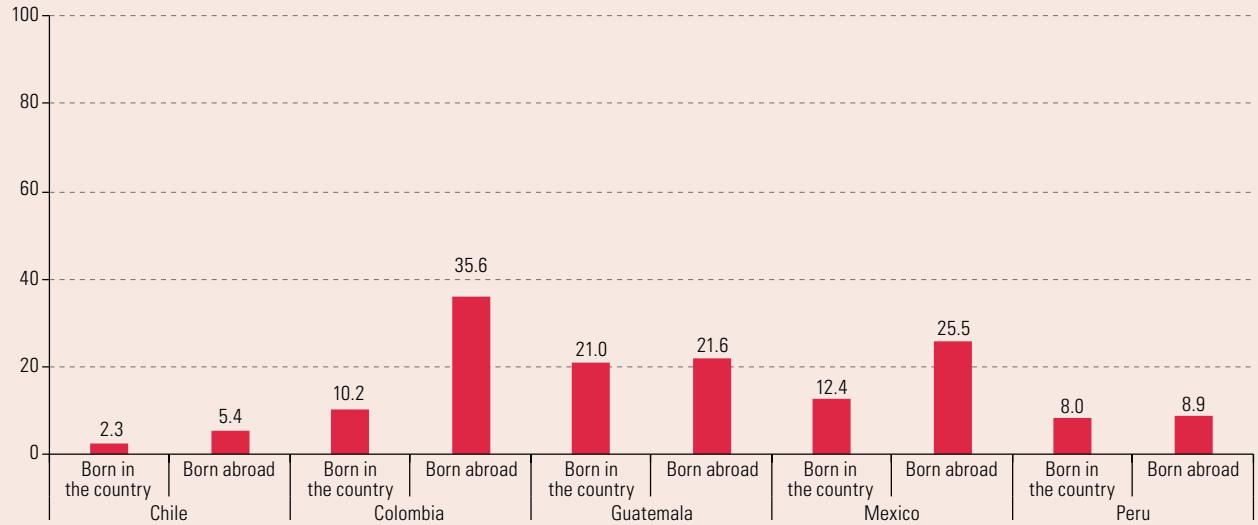
At the regional level, migration in childhood and adolescence is unsafe; this is particularly true when it occurs in an irregular manner and, above all, when minors are not accompanied by their parents or carers, which disproportionately exposes them to all kinds of adversities. There have been cases of multiple forms of child mistreatment and labour, such as rape, abandonment, abuses, exploitation, detention, deportation and kidnapping. Children and adolescents are also subject to smuggling and trafficking, and are often separated from their families (Martínez, 2021). While Member States of the United Nations, in their *Progress Declaration of the International Migration Review Forum*, produced in May 2022 to follow up on the implementation of the Global Compact for Safe, Orderly and Regular Migration, have agreed to defend and respect the best interests of children (United Nations, 2022); at the regional level, many of them do not receive the protection to which they are entitled.

Interruption to schooling is one of the most pressing problems affecting children and adolescents in transit, at borders and on arrival in destination countries. Its consequences are felt over a long period as they can lead to a lack of educational progress and exclusion from the education system, reinforcing stigmas and bringing about situations of discrimination and xenophobia. At the recent UNESCO Regional Forum "Education beyond borders: regional solidarity for the guarantee of the right to education", which was held in May 2022, the imperative to ensure the continuation and completion of studies and to include persons displaced by climate change, returnees to their countries of origin and host populations, was recognized. It was also confirmed that, in this scenario, a failure to invest in inclusive education that meets the needs of the migratory population will affect the right to education not only of this priority group, but also of host communities (UNESCO, 2022).

Analysis of the census information of five countries from before the pandemic or very close to the start of it makes it possible to assess the greater level of non-attendance of school of migrants compared to native (non-migrant) population. Non-attendance of an educational establishment in Chile (2017), Colombia (2018), Guatemala (2018), Mexico (2020) and Peru (2017) affects both native and migrant children and adolescents (see figure), but the gaps work to the detriment of migrants. Among those between 6 and 17 years of age, the rate of non-attendance of school of the migrant population tends to be greater or comfortably higher in three countries (Colombia, Mexico and Chile), while, in Guatemala and Peru, there is less of a difference between migrants and those born in the country. In the average of the five countries, the non-attendance of school of migrant children and adolescents is double the rate of the population born in the country: almost one migrant in every four says that they do not attend an educational establishment.

This increased vulnerability is further compounded by the social crisis caused by the pandemic, which has had harmful effects on the education of migrant children, who have been forced to abandon their studies to contribute to the economy of their households, according to a study carried out by Escobar (2022). In another study conducted in northern Chile, a regular destination for migration or transit, it was claimed that barely 25% of those interviewed had attended classes, whether virtual or in person, during the week prior to the interview (Stefoni and others, 2022).

Latin America (5 countries): non-attendance of educational establishments of the population aged 6–17 years, by migration situation, 2017 and 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of population censuses from the respective countries.

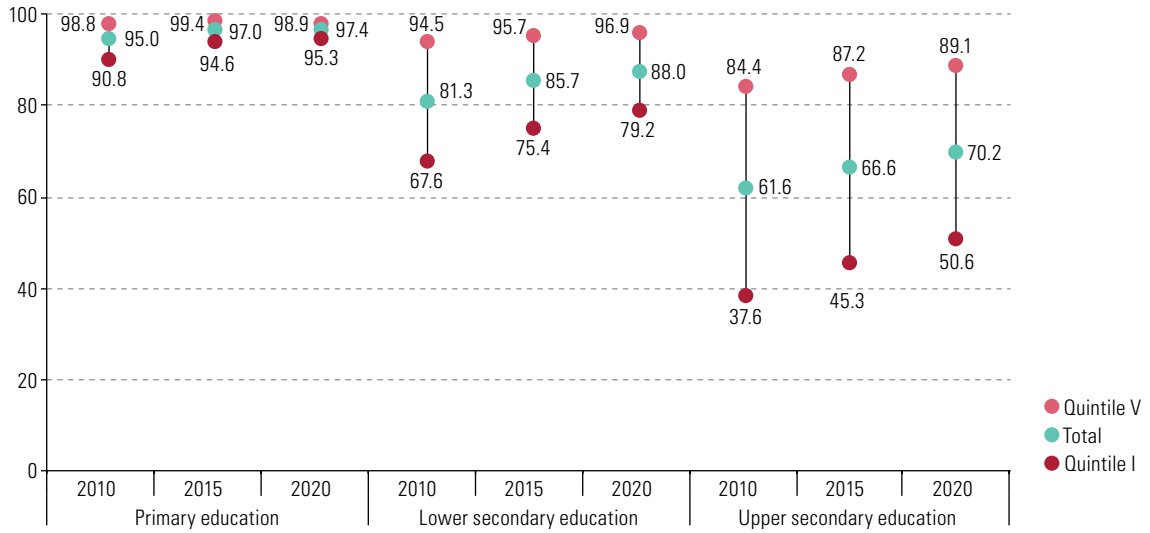
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of C. Escobar, "¿Cómo ha afectado la pandemia el acceso a la educación de los niños, niñas y adolescentes migrantes?", Grand-Saconnex, International Organization for Migration (IOM), 23 January 2022 [online] https://rosanjose.iom.int/es/blogs/como-ha-afectado-la-pandemia-el-acceso-la-educacion-de-los-ninos-ninas-y-adolescentes-migrantes; IOM, *Large Movements of Highly Vulnerable Migrants in the Americas from the Caribbean, Latin America and Other Regions*, Grand-Saconnex, 2021; *IOM, World Migration Report 2020,* Geneva, 2019; J. Martínez, "Infancia amenazada también en la migración", document presented at the seminar "La infancia migrante: una crisis humanitaria en la frontera norte", Mexico City, Belisario Domínguez Institute, 28 April 2021; United Nations, *Progress Declaration of the International Migration Review Forum* (A/RES/76/266), New York, 2022; C. Stefoni and others, *Informe Estudio "Necesidades humanitarias personas venezolanas con ingreso reciente a Chile"*, Arica, University of Tarapaca, 2022; G. Mousalli-Kayat, *Reflexiones sobre el reconocimiento de aprendizajes previos (RVA) de niños, niñas y adolescentes refugiados y migrantes*, Bogota, United Nations Children's Fund (UNICEF), 2021; United Nations Children's Fund (UNICEF), *Perfiles de países receptores de niños, niñas y adolescentes migrantes y refugiados*, Panama City, 2019; United Nations Educational, Scientific and Cultural Organization (UNESCO), "Regional Forum 'Education beyond borders: regional solidarity for the guarantee of the right to education'", 2022 [online] https://www.emacunesco.org/en/regional-forum/.

(a) An improving school system that is being strengthened, but continues to have an equality deficit

As mentioned previously, the levels of completion of each educational level have increased significantly in recent years (see figure II.14). In particular, primary education has reached levels close to universality in most Latin American countries, in a period marked by the inclusion of low-income population groups, which has reduced the completion gap between the population in the richest and poorest income quintiles. However, despite the progress and the reduction of these gaps, the advances made in the completion of lower secondary education have varied between countries and completion gaps by socioeconomic level persist. As can be seen in figure II.14, until 2015, there was a significant reduction in the gap between quintiles for teenagers completing lower secondary education, but, since then, there has been a deceleration and, in 2020, there was a difference of 18 percentage points between the extreme quintiles.

Lastly, while the proportion of adolescents and young people who complete upper secondary education has increased in recent years, this level of education continues to be the preserve of a smaller proportion of the population of Latin America and the Caribbean, and the socioeconomic gaps are considerable: while 89% of students from the highest income quintiles completed upper secondary education in 2020, only half of students from the lowest income quintiles did so (see figure II.15).

Figure II.15
Latin America (15 countries):[a] rate of completion of lower secondary education and upper secondary education, by extreme income quintiles, 2010, 2015 and 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Weighted average of the following countries: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras (2019), Mexico, Panama (2019), Paraguay, Peru and Uruguay.

Universal access to secondary education, considered a minimum step towards achieving basic levels of well-being and full participation in the complex societies facing the younger generations, remains a major challenge for most countries in the region (ECLAC/OEI, 2020). There has been significant progress in expanding such access, but at a slower pace than is required to address the dynamics of change in the present context. In fact, in recent decades, all countries in Latin America (with the exceptions of Haiti and Nicaragua) expanded compulsory education to at least the lower secondary level, and 13 of the 20 countries expanded it to the upper secondary level (Argentina, Bolivia (Plurinational State of), Brazil, Chile, Costa Rica, Dominican Republic Ecuador, Honduras, Mexico, Paraguay, Peru, Uruguay and Venezuela (Bolivarian Republic of)). In the Caribbean, between the late 1990s and the early 2000s, most countries (10 of 13) expanded compulsory education to either the lower secondary level (Antigua and Barbuda, Guyana and Saint Lucia) or the upper secondary level (Bahamas, Barbados, Belize, Dominica, Grenada, Saint Kitts and Nevis and Saint Vincent and the Grenadines), while secondary education is still not compulsory in Jamaica, Suriname and Trinidad and Tobago.

The expansion of regulations is a prerequisite for promoting the universalization of secondary education, but it is not sufficient in itself. The region has experienced a continued, but incomplete, process of expansion in terms of access to, progression through and, in particular, completion of this educational cycle. As Acosta (2022, p. 69) explains:

> *"In the case of primary education, it took nearly 40 years for the countries that were first to achieve full access rates to go on to achieve universal promotion. Secondary education seems to be following a similar path, one that is unsustainable given the pace of economic, productive, technological and social changes in the contemporary world. These changes are having a much faster impact in terms of devaluing educational credentials than was the case in the last century, accentuating the mismatch between educational provision and the knowledge and skills needed to succeed in today's society."*

The gaps in the levels of completion of upper secondary education expose and reproduce inequalities related to gender, the geographical areas where students live and their ethnic or racial background, all of which are axes of the regional inequality matrix whose dimensions combine and intersect to create critical "bottlenecks" that impede progress in social and labour inclusion, as well as in the reduction of poverty and inequalities (ECLAC, 2019 and 2016). When analysing differences by gender (see figure II.16), it is clear that girls and female adolescents are ahead of their male counterparts in this regard. According to the most recent data available for each country, the average percentage of women who complete this level is 6.1 percentage points higher than the rate for men. This is partly because the male population experiences greater difficulty in their school careers, consisting primarily of higher levels of repetition and dropout (UNESCO/UNICEF/ECLAC, 2022). However, the better educational credentials of women do not result in better jobs or salaries once they reach the labour market, reflecting the patriarchal cultural patterns and structural discrimination that they face throughout their education (see chapter III).

Figure II.16
Latin America (15 countries):[a] rate of completion of upper secondary education, by gender and geographical area, 2010 and 2020
(Percentages)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).
[a] Weighted average of the following countries: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras (2019), Mexico, Panama (2019), Paraguay, Peru and Uruguay.

Regarding territory of origin, there is a higher rate of completion in urban areas than in rural areas in all of the countries for which information is available. In 2020, almost half of people in rural areas had not finished this educational cycle. Despite significant progress made in expanding educational provision in rural areas, the student population still faces obstacles in their pathways, linked largely to distance and transportation problems, but also to sociocultural differences related to the urban forms of treatment and behaviour that dominate in schools and are not familiar to rural students (Acosta, 2022) (see section 2, part (b), in which the challenges facing Indigenous Peoples, in particular in rural areas, are addressed).

The further expansion of access, which has been sustained through the institutional diversification of educational provision, has also led to greater segmentation in terms of the achievements and quality of that provision. This segmentation is reflected in various dimensions, some typical and others newer, but all intersected by the axes of the region's social inequality matrix, such as the socioeconomic level of the students and the territorial

environment (urban or rural) (ECLAC, 2016). A study on the processes of expanding secondary education in the region conducted by ECLAC, the International Institute for Educational Planning (IIPE) and UNICEF (Acosta, 2022), with the cooperation of the Government of Norway, reveals differences produced as a result of the various mechanisms used by Latin American countries to broaden their educational provision, which have created segmentation in education and its outcomes. Educational segmentation is mainly related to the traditional dimensions of educational inequality, such as socioeconomic level, territory (residence in urban or rural areas), modality of secondary education (general or technical focus), school administration autonomy and admissions tests or tests upon completion of a level of education. However, new segmentation mechanisms are emerging precisely as a result of efforts to create more inclusive processes, for example, through the creation of alternative or second-chance modalities aimed at specific population groups historically excluded from secondary education, or curricular adaptation through study plans tailored to populations left out of the normal offering (Acosta, 2022).

(b) The right to education for Indigenous Peoples and Afrodescendent populations: progress despite persistent gaps

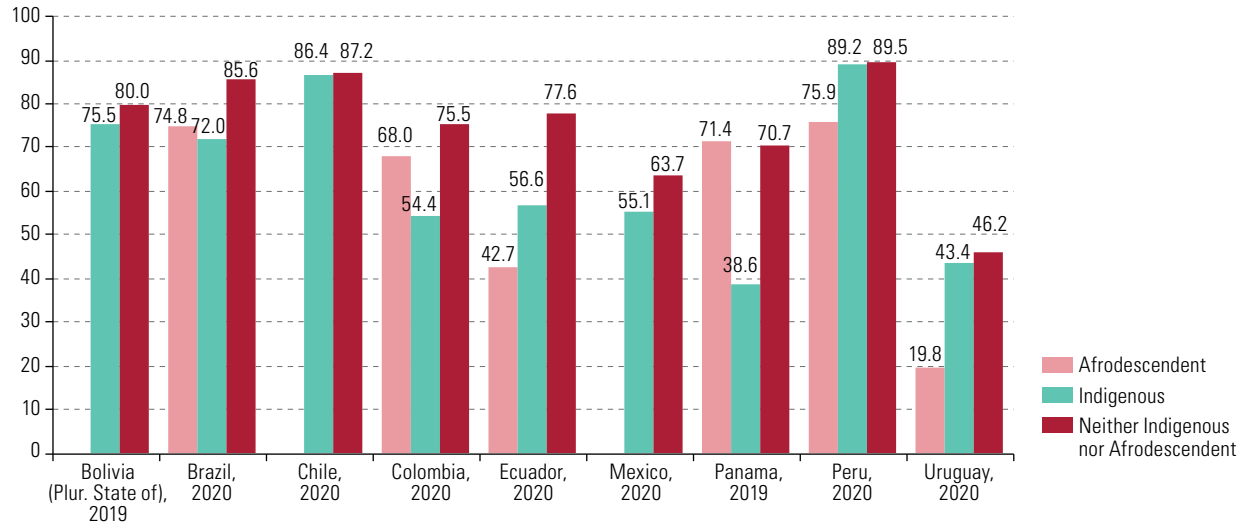
In recent decades, the countries of Latin America and the Caribbean have made significant progress in extending the guarantee of the right to education to Indigenous Peoples and Afrodescendent populations, especially by expanding coverage at the primary level (ECLAC/FILAC, 2020; ECLAC/UNFPA, 2020a; Corbetta and others, 2018; Del Popolo, 2017). Measured as the average of countries that have information available from household surveys of the 2020 round, 97.6% of Indigenous young people aged 15–19 years completed primary school, as did 98.3% of Afrodescendants of the same age group, along with 98.5% of their neither Indigenous nor Afrodescendent peers.[7]

In the last 20 years, progress has also been made in access to secondary education. However, at this level, ethnic and racial gaps are now starting to be perceived more systematically, to the detriment of Indigenous Peoples and Afrodescendants (ECLAC/FILAC, 2020; ECLAC/UNFPA, 2020a; Corbetta and others, 2018; Del Popolo, 2018). In countries that have data available for 2020, secondary school attendance rates among children and adolescents of the official age for that level (generally 12–17 years) average 78.6% among Indigenous Peoples and 80.4% among Afrodescendants, compared to 81.8% among those who are neither Indigenous nor Afrodescendent. In five of the seven countries, indigenous rates are always lower than those of non-Indigenous and non Afrodescendent populations; and the largest relative gaps are seen in Colombia, were the net secondary school attendance rate is 63.7% for Indigenous and 79.5% for non-Indigenous and non-Afrodescendent groups. Less access to secondary education is also observed in the five countries with information available for Afrodescendent children and adolescents. Ecuador displays the greatest inequalities, with net secondary school attendance rates of 82.6% among Afrodescendent children and adolescents, compared to 90.3% among their non-Indigenous non-Afrodescendent peers.

Attendance at an educational institution by young people aged 18–24 years is significantly lower, regardless of ethnic or racial group, but the inequalities are widening (ECLAC/FILAC, 2020; ECLAC/UNFPA, 2020a; Corbetta and others, 2018; Del Popolo, 2017). In 2020, on average about 30% of Indigenous and Afrodescendent young people aged 18–24 attended an educational institution, compared to 37.7% of those who are neither Indigenous nor-Afrodescendent. The ethnic and racial gaps extend to indicators of retention and completion of secondary and higher education, as illustrated in figure II.17 for the upper secondary completion rate. There are major challenges for Ecuador and Uruguay, which display the greatest inequalities to the detriment of young people of African descent, and for Panama, in the case of Indigenous young people.

[7] In the case of Indigenous Peoples, the average includes data from the 2020 household surveys of Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay. For the Afrodescendent population, the average encompasses Brazil, Colombia, Ecuador, Peru and Uruguay.

Figure II.17
Latin America (9 countries): young people aged 20–24 who completed upper secondary school, by ethnicity and race, around 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

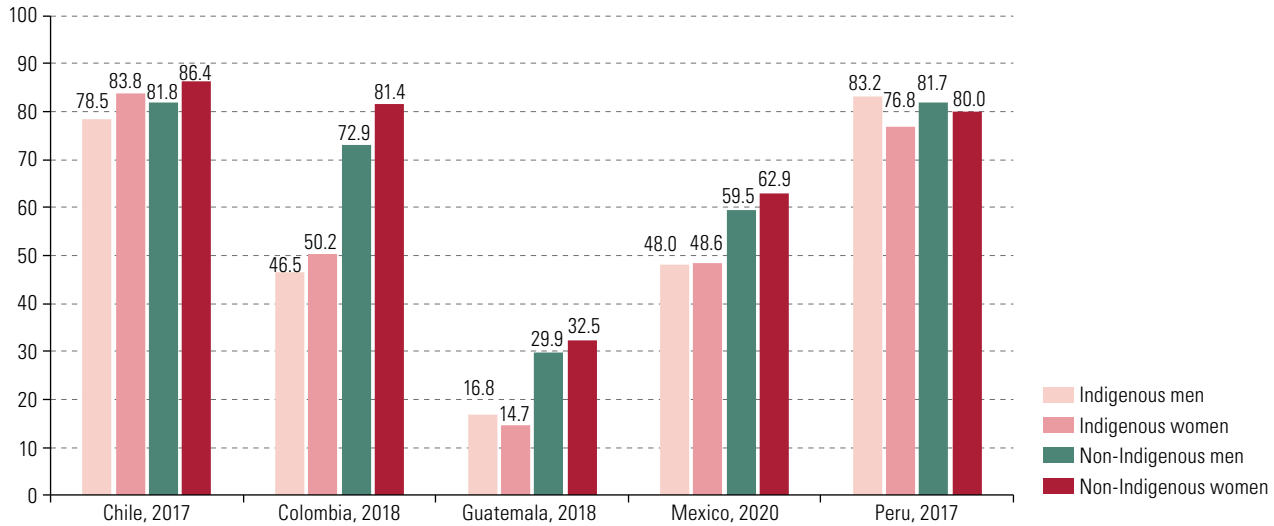
The inequalities in access to, and completion of, the secondary and higher education cycles are compounded by learning gaps among Indigenous Peoples and Afrodescendent communities. These stem from the lack of cultural relevance of educational content and methodologies, shortcomings in teacher training, and the lack of an intercultural approach in education systems (Corbetta and others, 2018). There is also insufficient provision of inputs and infrastructure, including basic services of water, sanitation, electricity and the lack of digital connectivity and equipment. All of these deficiencies affect the quality of education, thereby minimizing possibilities for reducing the structural ethnic and racial inequalities that have long affected the countries of the region. Moreover, and as noted by UNESCO (2020), both overt and covert racism and discrimination against Indigenous Peoples and Afrodescendent populations can be discerned in the curricula, as a common legacy of colonialism and symbolic violence. This reproduces stigmas and devalues the knowledge and cultures of the peoples in question and undermines efforts to integrate interculturality.

The COVID-19 pandemic highlighted these deep and pre-existing inequalities, thereby increasing violations of the right to education. An extremely large proportion of Indigenous and Afrodescendent children, adolescents and young people do not have access to the Internet at home —especially those living in traditional territories, which are usually located in rural areas. According to the latest census figures for Colombia (2018), Guatemala (2018) and Peru (2017), 95.5%, 94.3%, and 81%, respectively, of the Indigenous population between 6 and 24 years of age, did not have Internet access at home (ECLAC and others, 2020).

In terms of the region's social inequality matrix, where the axes of inequality intersect and combine to generate "hard cores" of exclusion (ECLAC, 2016), recent studies show that the education status of women has also been improving among Indigenous Peoples and Afrodescendent populations. In several of the region's countries, Indigenous and Afrodescendent girls and young women actually display higher rates of access to, and completion of, education levels than their male peers (ECLAC/FILAC, 2020; ECLAC/UNFPA, 2020a). Data from the 2020 round of population and housing censuses

confirm this trend and, as figure II.18 shows, in Chile, Colombia and Mexico, Indigenous young women between the ages of 20 and 24 completed secondary school at a higher rate than their male peers. Nonetheless, gender inequalities persist to the detriment of Indigenous women in Guatemala and Peru. In Colombia, Guatemala and Mexico, however, the ethnic disparities are more pronounced than those between young women and men who are neither Indigenous nor Afrodescendent.

Figure II.18
Latin America (5 countries): 20-24 year-olds who completed secondary school by ethnicity and gender, 2020-round censuses
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of special processing of population and housing surveys using REDATAM.

Lastly, territorial asymmetries are accentuated significantly when combined with ethnic and racial ones, as educational opportunities increase greatly for Indigenous and non-Indigenous youth who live in urban areas rather than rural ones. However, ethnic and racial gaps remain in both zones of residence and, in some countries, they are exacerbated in cities (ECLAC/FILAC, 2020; Del Popolo, 2018).

(c) Early reproduction and union continue to be factors of expulsion from the education system mainly affecting women

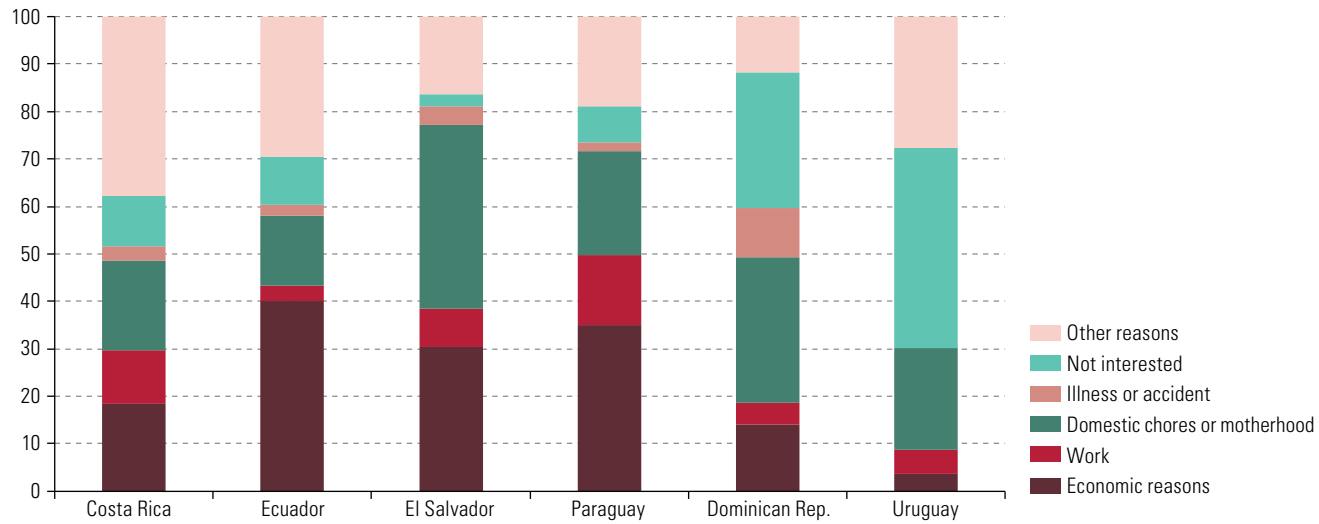
Despite educational progress benefiting women in Latin America and the Caribbean, gender inequalities persist and affect women's educational pathways and opportunities. The key obstacles affecting women include early reproduction, child marriage and early union. Although in the 2010 decade there has been a solid downward trend in these phenomena, they remain frequent in Latin America, affecting girls and adolescents disproportionately, and representing a barrier to school inclusion and the completion of different educational levels.[8] This is because they involve domestic and child-rearing tasks that restrict regular school attendance and also hinder fulfilment of duties associated with learning and extracurricular and community activities that are usually part of the students' daily life. In addition, early union and reproduction alter the social status of adolescents of both sexes, who are often pressured or forced to assume adult roles, such as employment and income generation, which tend to make it difficult for them to remain in the education system.

[8] The percentage of adolescents who drop out of the education system due to pregnancy, parenting or union is the indicator adopted to follow up on priority action 13 of the Montevideo Consensus, "Introduce or strengthen policies and programmes to prevent pregnant adolescents and young mothers from dropping out of school" (ECLAC, 2018b).

Measuring precisely how much of the exclusion from the education system can be blamed on early reproduction and union is complex, because there are other determinants of this exclusion and they interact mutually. For this reason, various approaches have been adopted to estimate the phenomenon. The most intuitive and direct procedure consists of consulting adolescents who are not in the education system directly about the causes of their exclusion. In this regard, several recent studies have shown that a large proportion of girls, adolescents and young women who are not attending school cite motherhood and household chores (typically associated with living in union) as the reason for dropping out of school. Other studies demonstrate this relationship through statistical models that show that a large proportion of school dropout is associated with union and/or motherhood. Nonetheless, it is not always possible to pinpoint the effect of early reproduction and union on school dropout.

Adolescents' own statements collected in recent household surveys in six countries, show that among women between 14 and 19 years of age, "domestic chores or motherhood" is the most frequent reason given for not attending school in several countries (see figure II.19). This finding underscores the need for a broad approach to understanding the relationships involved between early reproduction and dropping out of the educational system, and to designing policies to address them; since dropout occurs not only because of motherhood itself, but also because of early union and domestic chores associated with child-rearing. In the case of adolescent men, this cause is less important as a reason for dropping out of school, which largely reflects the sexual division of labour and the persistent concentration of domestic and care tasks on women.

Figure II.19
Latin America (6 countries): women aged 14–19 years who are not participating in the education system by main reason for non-participation, 2020
(Percentages)



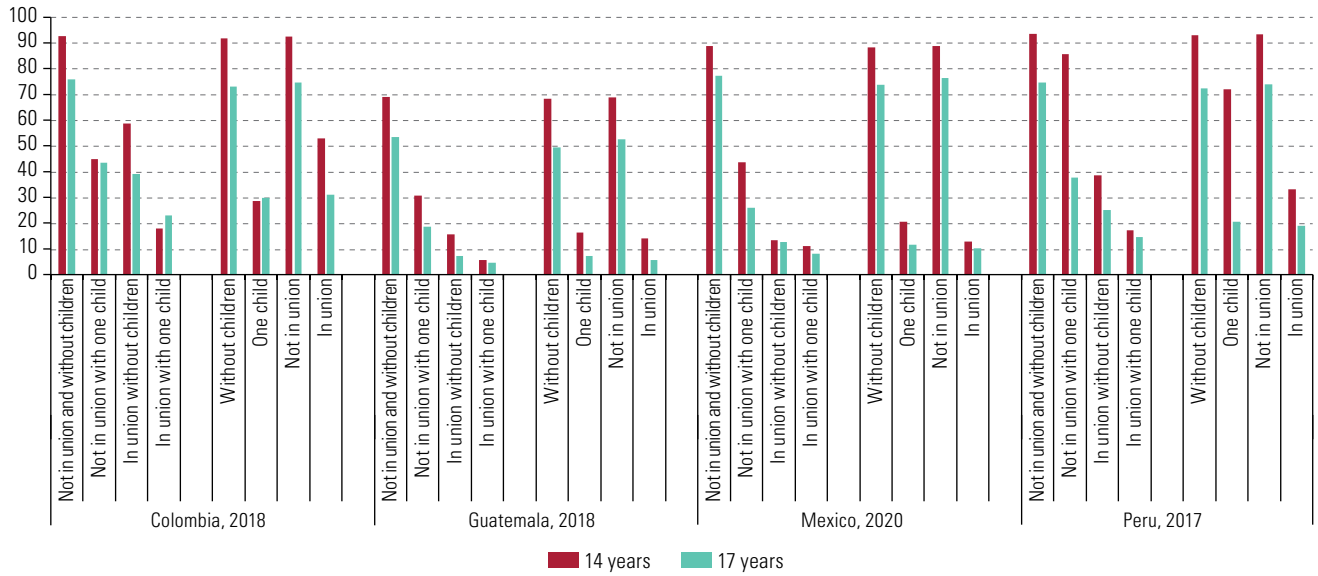
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

Using data from the censuses conducted in the region since 2017, figure II.20 illustrates the association between school attendance and motherhood and living in union, both separately and jointly for two ages: 14 and 17. The adolescents with the highest rates of school attendance are those who do not have children and are not living in union,[9] with rates on the order of 90% at age 14 (except Guatemala where the rate is only 70%), and

[9] The term "in union" encompasses all modalities of current union (consensual union or cohabiting, married, whether by religious or civil ceremony, or both) or previous union (separated, divorced, widowed). The term "not in union" corresponds to single women or "never in union" when that reply alternative exists.

on the order of 75% or more at age 17 (again with the exception of Guatemala were the figure approaches 55%). In contrast, adolescents who are mothers and are living in union have much lower school attendance rates (10% or less, with the rates among 17-year-olds lower than those of 14-year-olds). Between these two poles, the combinations of single mothers, on the one hand, and adolescent women living in union who are not mothers, on the other, are suggestive of the specific and net relationships of each condition.

Figure II.20
Latin America (4 countries): women aged 14 and 17 years attending school, by motherhood and union status, 2017, 2018 and 2020 census rounds
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of census microdata using REDATAM.

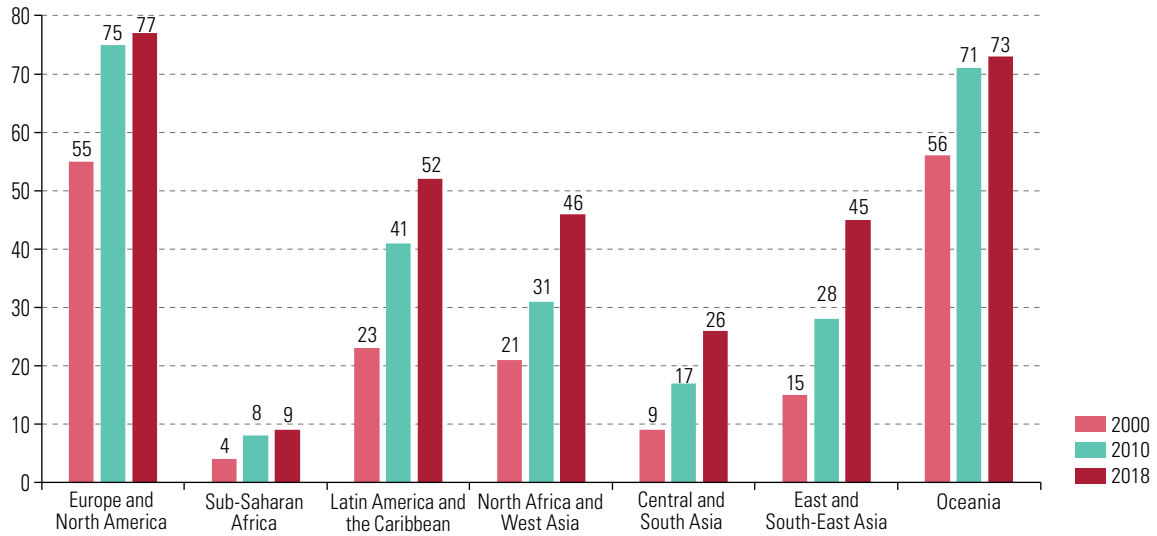
In general, the most frequent associations are between living in union and not attending school. This may reflect the fact that living in union implies an intensive domestic responsibility that is difficult to reconcile with school attendance. It may also be that childless union overlaps with pregnancy, in which case both events (nuptiality and fertility) operate simultaneously. In addition, early union is more prevalent in the case of persons belonging to Indigenous Peoples who are living in their ancestral lands. In such cases, early union usually marks the adolescents' entry into adulthood and thus implies the end of their educational pathway. Early union also tends to be more frequent among highly vulnerable adolescents who often have few options for other life projects and are more vulnerable to being subjected to abusive unions. In these cases, staying in school is often unsustainable even before the union. Whatever the situation, early interruption of studies implies a violation of the right to education and generates disadvantages for girls and adolescents, which, in conjunction with early union and motherhood, can contribute to the intergenerational reproduction of poverty, exclusion and inequality.

3. Beyond access, the challenge of completing higher education

Higher education includes all post-secondary educational alternatives, both those provided by universities and those offered in other educational centres geared to technical and vocational training. Access to this level of education had increased considerably worldwide before the outbreak of the pandemic, and growth rates were especially high

in Latin America and the Caribbean (see figure II.21). In the region, the gross coverage rate almost doubled between 2000 and 2010, rising from 23% to 41% in just 10 years, while between 2010 and 2018 growth continued, but at a slower pace, with coverage reaching 52% in 2018 (Valenzuela and Yáñez, 2022). The trend analysis published in the regional monitoring report on progress towards SDG 4 (UNESCO/UNICEF/ECLAC, 2022) indicates that the gross enrolment rate at this level of education has gone through an expansionary cycle that incorporated nearly 17 million students in 20 years.

Figure II.21
World (selected regions): trend in the higher education gross coverage rate, by region, 2000–2018
(Percentages)



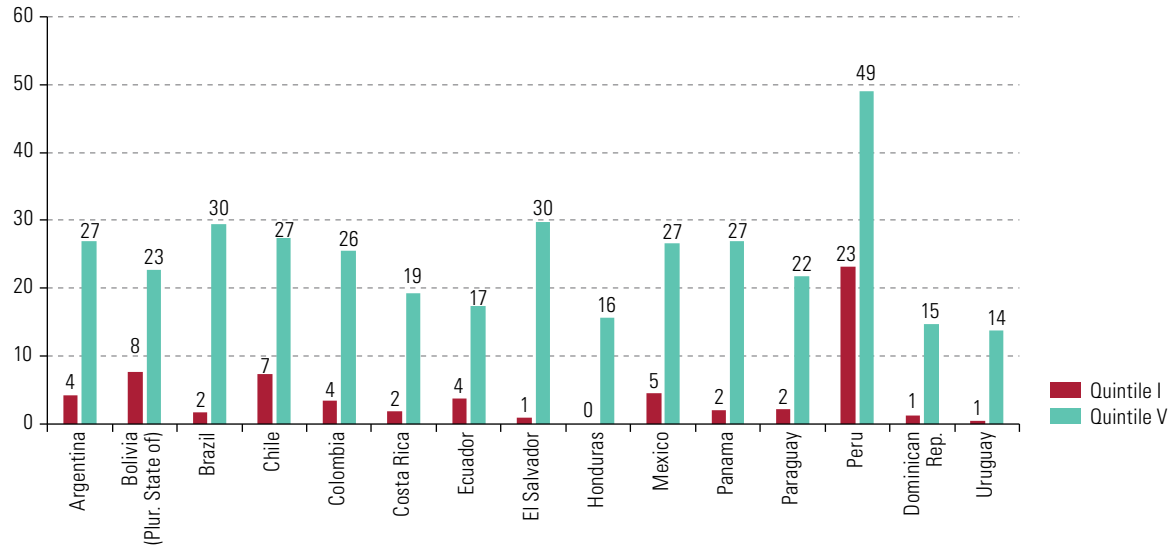
Source: J. Valenzuela and N. Yáñez, "Trajectory and policies for inclusion in higher education in Latin America and the Caribbean in the context of the pandemic: two decades of progress and challenges", *Project Documents* (LC/TS.2022/50), Santiago, Economic Commission for Latin America and the Caribbean/United Nations Educational, Scientific and Cultural Organization (ECLAC/UNESCO), 2022; UNESCO Institute for Statistics (UIS).

The trends analysed in the aforementioned regional monitoring report (UNESCO/UNICEF/ECLAC, 2022) suggest that these advances have been very uneven, both between and within the countries of the region, and that significant challenges persist in terms of progression and completion. While the five countries with the highest enrolment rates in higher education saw access increase by an average of eight percentage points, in the five countries with the lowest indicators, access at that level grew on average by just one percentage point between 2015 and 2020. The access gap according to the socioeconomic level of the population has also widened, as the expansion of access to higher education in recent years has favoured the middle and higher income groups in particular. In contrast, in the most disadvantaged population sectors, tertiary enrolment growth has been very meagre. For example, while access to higher education in the rural sector and in the lowest income quintile increased steadily but very modestly on average between 2015 and 2020, the increase was much more pronounced in the urban sector and in the highest income quintile (UNESCO/UNICEF/ECLAC, 2022).

Consistently with trend of the regional averages of school level access and coverage indicators, women are achieving higher levels of access to higher education than men, and the gap has been widening over the years. However, this situation conceals significant inequalities to the detriment of women, who display lower rates of enrolment in science, technology, engineering and mathematics (STEM) courses, as well as lower salaries and lower participation in managerial, leadership and academic positions (IESALC, 2021; ECLAC, 2019; Valenzuela and Yáñez, 2022) (see chapter III).

The major challenge is to ensure that young people who succeed in entering higher-education programmes in the region go on to complete that education level. According to the studies reviewed in Valenzuela and Yáñez (2022), in the region, close to 40% of those who enter higher education do not graduate, thereby losing a large part of the benefits of this level. Moreover, students in the region on average take 36% longer than expected in the study programme to graduate, thereby increasing the expected cost of the training. Educational pathways are also highly unequal. Among the countries with information (see figure II.22), Peru has the highest proportion of young people aged 20 to 25 who complete a programme of at least four years of higher education; but the number of young people in the fifth income quintile who do so is more than double that of the first quintile. In all other Latin American countries, the number of young people from the first quintile who attain this level of education is below 10% and in some cases close to zero.

Figure II.22
Latin America (15 countries): population aged 20–25 years in the extreme income quintiles that completed a programme of four or more years of higher education, around 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the Household Survey Data Bank (BADEHOG).

Some studies show that graduating from higher education in the region could yield up to 104% in additional income; but there is a considerable heterogeneity between types of institution and areas of training (Ferreyra and others, 2017), where STEM courses (which attract a smaller proportion of women) generate the highest return (Urzúa, 2017). The most prestigious higher education programmes and institutions have relatively fewer students from disadvantaged sectors. The rapid growth and expansion of this level of education has resulted in institutions of widely varying quality; and often the curricula do not generate the skills needed by the labour market (many graduates do not find jobs or are overqualified for the functions they perform) (Valenzuela and Yáñez, 2022).

In short, despite the progress made in recent decades in terms of educational access and inclusion at all levels, from early childhood to higher education, the countries of the region had large debts in terms of equality and quality of education before the crisis caused by the COVID-19 pandemic, which were already making it difficult to achieve the targets committed to in Goal 4 by 2030 (UNESCO/UNICEF/ECLAC, 2022). Given the importance of education as a pillar of sustainable development, and the worsening of the educational crisis resulting from the prolonged closure of educational establishments, urgent action is needed to turn this crisis into an opportunity for transformation.

C. The importance of ensuring safe face-to-face attendance without leaving anyone behind: recommendations for educational recovery

Schools are protective spaces that facilitate the comprehensive development of children and adolescents; so, it is important to learn from recent experience, and to develop protocols and implement health measures that will keep schools open now and during possible future crises. In the current process of resuming face-to-face education, practical and urgent steps need to be taken to address the impact of the pandemic on the socioemotional well-being and mental health of students and teachers alike, remedy learning losses and reduce the risk of school dropout. Among other measures, this involves closer interaction between education and other public policy sectors, such as health and social protection, and increased educational funding aimed, among other things, at meeting the minimum infrastructure needs of schools, implementing diagnostic and formative evaluations, improving early warning systems to prevent school dropout, and strengthening teacher training processes to provide teachers with the tools needed to meet the challenges of the reopening of schools in the future.

The pandemic highlighted the fundamental role that face-to-face education plays, not only in upholding the right to education without leaving anyone behind, but also in contributing to the comprehensive development and protection of children, adolescents and young people. Although the different modalities of remote education provided crucial solutions to the sudden closure of schools, they also posed various difficulties that in many cases hindered or reduced the continuity of teaching and learning processes, thereby serving to deepen pre-existing disparities. As has been noted in this chapter, not all students had suitable study spaces in their homes, with Internet access and appropriate devices for effective connectivity; nor parents or caregivers that had the tools needed to support them adequately in their learning processes; nor the skills required for autonomous learning through digital media. In addition, there were problems that the different schools and teachers had to face in order to adapt their teaching to remote learning.

Even in situations in which students did enjoy the conditions needed to maintain their educational links, remote teaching was not a perfect substitute for face-to-face education. Some school functions are difficult to fulfil in the virtual environment, since education is not just the transmission of content, but also encompasses a broader set of functions related to the students' comprehensive development. Schools are a space of socialization that enables interaction among peers and with adults outside the closest circles. They also contribute to recreation and physical activity, to the development of socioemotional skills and the construction of students' personal and social identity (Acción Educar, 2020; Durkheim, 1922; Piaget, 1985, UNESCO/UNICEF, 2022). In addition, schools represent spaces where governments can deliver basic services such as school meals, and detect and prevent violations of fundamental rights such as the right to live a life free from different forms of exploitation, violence and abuse (Huepe, Palma and Trucco, 2022).

Although it is too early to have data on school dropout following the reopening of schools, significant impacts on attendance rates have been noted in 2022. For example, in Chile, the national survey to monitor schools during the pandemic estimated that on average only 68% of enrolled students attended their school in June 2022 (Canales and others, 2022b). Although the average attendance rebounded to 74% in July (Canales and others, 2022c), a situation of widespread absenteeism persists, and attendance remains

below the pre-pandemic levels of around 90% (MINEDUC, 2022). A priori, one of the main explanations identified for non-attendance is students' health, especially in the winter months, when respiratory illnesses among the child population affect the regularity with which they attend school (Canales and others, 2022 and 2022b; Gálvez, 2022). However, absenteeism is also attributable to factors such as the diminished relative importance attached to school attendance by families, the relaxation of attendance requirements by the schools, greater precariousness and vulnerability among households, and more cases of children and adolescents who have had to assume care tasks (Gálvez, 2022).

In light of the above and considering the lessons learned from the pandemic for confronting future emergencies, this section proposes a set of measures to: (i) ensure that school closures are the last tool used among a wide-ranging set of actions to minimize the health risk among the student population; (ii) take steps to ensure that all schools and education centres are able to maintain teaching processes at the appropriate level for their students and make up for lost learning, while also addressing the impact of the pandemic on the mental health of the education community; and (iii) reduce the risk of students dropping out of school, in view of the increased disengagement that occurred during the pandemic, the learning backlogs, and the deepening poverty and vulnerability resulting from the economic crisis. Following school reopening, everything possible must be done to prevent these nearly three years of pandemic from leaving permanent scars on the current generations of children, adolescents and young people, which would affect their present and future individual well-being, as well as the prosperity of the region's different societies and economies.

1. Ensuring safe face-to-face attendance: measures to keep schools open

(a) Prioritize the vaccination of members of the education community and implement protocols to monitor and control infections

Considering the impact of the pandemic on education, various actors, including international organizations, trade unions and civil society organizations, advocated priority for the teaching community in national COVID-19 vaccination plans. This was intended to create a favourable environment for resuming or maintaining face-to-face teaching, in addition to guaranteeing the health and safety of the entire education community, and reinforcing the argument that teaching is an essential job (UNESCO, 2022a; UNICEF, 2020a; International Task Force on Teachers for Education 2030, 2020). In response, 26 of the region's 33 countries prioritized teacher vaccination among the key measures adopted to promote a safe return to school attendance. By late 2021, countries such as Chile, Colombia, Ecuador, Honduras, Mexico, Panama, Peru and the Plurinational State of Bolivia reported having more than 80% of their teachers vaccinated (UNESCO 2022a). Similarly, 2022 has been marked by the approval and expansion of paediatric vaccination in the countries of the region, which has made it possible to move forward in ensuring uninterrupted face-to-face classes and to make participation in group activities safer.

COVID-19 vaccination has proven to be the most effective tool for protecting individuals from becoming moderately or seriously ill, and for potentially reducing the number of infections. Consequently, vaccinating as many people as possible within the education community —teachers, students and other staff— has been a primary measure to control the health crisis and keep schools open. However, the progress of vaccination in Latin America and the Caribbean remains very uneven, as it also was in 2021 (ECLAC 2022). While in late 2021 only 5 of the region's 33 countries had met

the target set by the World Health Organization (WHO) of having 70% of the general population fully vaccinated, nine months later (September 15, 2022) the number had risen to 11 out of 33. Another seven countries had not covered 40% of the total population (Cid and Marinho, 2022; Ritchie and others, 2022).

Throughout the last two and a half years of the health crisis, the implementation of infection monitoring and containment protocols has also been crucial for ensuring that the risks of contracting or spreading the virus among children, adolescents and the teaching community are mitigated; that parents feel safe and confident in sending their children to school; and the likelihood of new waves of infection that would result in a potential new cycle of school closures, with all the aforementioned consequences, is reduced. The measures in question also include campaigns and communication strategies on protocols, staggered arrivals to avoid overcrowding, the use of masks, small class sizes in ventilated spaces, physical distancing, additional hand-washing units, temperature checks, restriction on materials for collective use and frequent disinfection of common spaces. The region's education ministries reported the adoption of measures to isolate positive or suspected cases in 92% of the countries, and also the implementation of temperature checks and testing to detect COVID-19 within school facilities in 83% and 13% of the countries, respectively (UNESCO/UNICEF, 2022).

(b) Guarantee health infrastructure and access to self-care facilities in all educational establishments

Currently, there are significant inequalities and disparities in access to minimum conditions of infrastructure in the region's schools. In 2020, approximately 30% of students in Latin America did not have drinking water in their schools, or appropriately equipped spaces to ensure a safe return to face-to-face education (Berlanga and others, 2020); and many schools lacked access to basic hygiene supplies for reopening (such as soap, disinfectant and other cleaning items) (World Bank/UNICEF/UNESCO, 2022). Nonetheless, it is important that countries take steps to guarantee the material conditions needed to ensure safe access to face-to-face education for all children, adolescents and young people; and that they build on the progress and innovations that have been developed during these years to make education systems more resilient.

It is important that educational recovery efforts treat infrastructure as an integral component of twenty-first century pedagogies, and as necessary to ensure inclusive and resilient quality education. Building on recent experience, schools should be designed to accommodate a flexible learning system that allows for both face-to-face and virtual modalities (Alasino, Atoche and Fuentealba, 2022). It is urgent to invest not only in the refurbishment of schools, so that they all meet minimum sanitary requirements for safe face-to-face interaction, but also in the material conditions needed to ensure access to the Internet and ICTs for all students and teachers in the region (Huepe, Palma and Trucco, 2022; UNESCO/UNICEF, 2022). Clearly, all of these measures underscore the need to protect and strengthen educational investment, and to ensure its sustainability, together with strengthened institutions and a new and broad social compact that places education at the centre of both inclusive social development and sustainable development.

2. Addressing the impact of the pandemic on socioemotional well-being and learning outcomes

Learning loss is one of the most worrying potential effects of the interruption of face-to-face education, since it affected all students (even those who were not prevented from continuing their educational processes). In particular, it affected those in situations of

greater vulnerability, thereby serving to deepen pre-existing gaps. Moreover, as shown by several studies and surveys, the pandemic had a significant impact on the socioemotional well-being and mental health of children, adolescents and young people (UNICEF, 2020b). Exploratory studies conducted by the working group on youth of the United Nations Regional Collaborative Platform (2021) indicate that the main concerns of young people during the pandemic have been related to their family or personal financial situation (or both), the possibility of losing friends or relatives due to the virus, and the setback in learning resulting from lockdown (Huepe, Palma and Trucco, 2022). The impact of the pandemic on well-being and mental health is even more complex in the case of children, adolescents and young people who have been orphaned by COVID-19; and it is compounded by the fact that the closure of schools, as protective spaces, increased the risk of child labour, intrafamily and gender violence and abuse, and early reproduction and union.

Although the end of the pandemic seems to be approaching, the social and economic crisis continues; so many of these situations and worries may continue to affect the lives of children, adolescents and young people. Moreover, even in a situation that is more favourable than at present, those who lack the self-regulatory and adaptive capacity to feel better may continue to find it hard to shed feelings of fear, uncertainty and anxiety, among others (Rich, 2022). In addition to the impact of the pandemic on socioemotional well-being and mental health, school closures and periods of lockdown have also affected the development of students' socioemotional skills. During the past few years, students in the region have been unable to develop normally, because they faced restrictions on sharing with their friends and peers, as well as with adults outside their most intimate family circles, thereby losing the habit of practising their social skills (UNESCO/UNICEF, 2022). In some cases, the effects of the prolonged absence of socialization have been reflected in problems of coexistence and school violence, which, although expressions of deeper social problems (particularly violence), have been exacerbated by the interruption of face-to-face school activities (Huepe, Palma and Trucco, 2022).

Accordingly, in the learning recovery process, it is important to remember that education does not occur in a vacuum; and it is impossible for a child, adolescent or young person to resume their educational path adequately if their basic needs are not met, or if they are affected by stress, anxiety, depression or other problems related to their well-being and mental health. Mental health and socioemotional well-being combine to support or hinder the learning process; so steps must be taken to approach their recovery in a comprehensive manner.

(a) Promote the mental health and socioemotional well-being of the education community

Schools are protective spaces that must guarantee security and inspire trust among the education community, while addressing the comprehensive needs of children, adolescents and young people, especially those from the most vulnerable backgrounds. Thus, as face-to-face schooling resumes, it is important to foster initiatives for (re)building connections, and generating spaces for expression and dialogue, in which all stakeholders participate (parent associations, student centres, teachers' councils, management teams, among others), in order to identify the main concerns and jointly agree on ways to address them.

At the same time, in view of their central role in teaching and learning processes, it is essential to support teachers' own well-being and provide them with the tools to support their students with affection and understanding, and to build a culture of trust and respect in the classroom (Huepe, Palma and Trucco, 2022). During the pandemic, many teachers maintained their teaching processes at the expense of their own mental health and socioemotional well-being, due to exhaustion and stress caused by the overload of work and caregiving tasks, compounded by anxiety, fears and concerns for their own

health, as well as that of their family members and students. In addition, in the context of reopening, some teachers have had to face complex challenges related to the loss of study habits and the flouting of basic rules of coexistence in the schools. In order to move forward in comprehensive education, it is important to provide spaces for training and developing socioemotional skills for teachers themselves (teachers cannot impart what they themselves lack), in addition to providing them with practical tools to support the development of these skills in their students (examples include conscious breathing exercises, active and empathetic listening, expressing emotions in writing, among others). It is also necessary to strengthen interaction between the education system and the health system to be able to address specialized mental health care needs in a timely manner.

Closer interaction between the education and health systems would also make it possible to strengthen professional staffs in schools by hiring counsellors or tutors trained to deal with the socioemotional and psychosocial needs of at-risk students, and to guide the professional referrals required in more complex situations, thereby easing the pressure on teaching and educational work. Similarly, as social inequality is a structural condition of the region which often denies students the minimum conditions needed to access and remain in the education system, and encourages the manifestation of violent reactions, it is important to strengthen interaction between the education sector and social protection systems. This will make it possible to guarantee the basic needs of students when they return to on-site education, with a direct impact on their socioemotional well-being and on conditions of coexistence in the classroom.

(b) Assess and reduce the learning gaps that affect students in the region

To determine the impact of the pandemic on students' well-being and learning, and thus be able to provide feedback on pedagogical and support practices, it is essential to conduct diagnostic assessments that, as far as possible, allow for comparisons over time to be made, including with pre-pandemic results. These assessments should be accompanied by strategies to strengthen the work of teaching, so that those who perform this function can make effective use of the information gathered in the recovery process (Herrero and others, 2022). In addition to large-scale diagnostic assessments, the learning recovery process could also benefit from a more effective use of formative assessments, which enable adjustments to be incorporated into the teaching process according to the specific needs of the students and their contexts (Perusia, 2021).

In order to reduce learning gaps, remedial measures can be applied, such as face-to-face or online tutoring, individual guidance sessions, and pedagogical interventions to support the development of skills that foster accelerated learning (such as metacognition or collaborative learning), among others. The type of support depends on the needs identified among the students and their specific contexts. In this sense, it is crucial to provide support to teachers by ensuring that they have the flexibility, resources and knowledge required. This effort will probably mean additional investment, in particular to reorganize teachers' time or make new hirings to ensure sustained actions over time, or both.

The use of digital media and, in particular, the implementation of digital education can be a great facilitator of learning recovery processes, since it allows (and requires) actions targeted on the students, with teaching processes adapted to their needs, circumstances and contexts. In addition, by facilitating feedback between teachers and students, the use of technologies facilitates the design of more personalized educational materials and more diverse and relevant curricular paths, thus increasing the students' motivation to participate in learning activities (UNICEF, 2021).

Measures that can facilitate the recovery of learning include the prioritization of content in curricula, revision of the academic calendar to compensate for periods of remote education, and the suspension of final exams (World Bank, 2021). However, it is important to understand that the regional challenge goes beyond ensuring that the new generations have additional years of schooling; educational quality also needs to be enhanced (Huepe, Palma and Trucco, 2022). The skills that are being formed, and the achievements and gaps that have been identified in the various standardized assessments at the national and international levels, reveal a very significant educational debt in the region. The fact that this dates back many years underscores the impossibility of making the objective of recovery a return to the pre-pandemic situation (UNESCO/UNICEF/ECLAC, 2022).

Thus, post-pandemic learning recovery endeavours can be viewed as an opportunity to review curricula and the contents being taught, in order to incorporate into teaching processes the development of skills that respond to the challenges that new generations are facing and will face in the future (UNESCO, 2021b). These go beyond the basic cognitive skills of reading and writing, arithmetic or science. They include more complex ones such as creativity and the development of critical thinking, as well as digital and socioemotional skills that are crucial and necessary for life as an active citizen with the ability to confront the uncertainty and instability of the contemporary world, and to strengthen democratic coexistence and care for the environment in pursuit of the sustainability of the planet (Huepe, Palma and Trucco, 2022).

3. Preventing school dropout

Measures to prevent school dropout require a comprehensive approach that involves understanding that schooling requires appropriate conditions that go beyond what happens inside the school premises —factors that are also highly relevant in deciding whether to stay in school or to drop out. Thus, effective dropout prevention strategies require closer harmonization between education and other public policies, such as household social protection policies and cash transfer programmes, policies focused on the physical and mental health care of students and their families, transportation and infrastructure policies, housing; and even cross-cutting policies, such as those targeted on the prevention and elimination of early unions as a harmful and persistent practice in the region (see section D.1.c). In countries where they exist, comprehensive child protection systems are mechanisms that could prove very important.

Complementing coordinated corrective and support actions, strategies to address the potential increase in educational dropout following the pandemic would benefit from the strengthening of systems designed to identify the students who are most at risk. Early warning systems have been identified as a valuable prevention tool, which functions by continuously monitoring certain variables or factors associated with increased dropout risk, thereby making it easier to identify at-risk students and implement specific actions according to the type of risk identified (Perusia, Paparella, and Bucciarelli, 2022; UNESCO, 2021b and 2022b). For example, in Latin America and the Caribbean, countries with early warning systems typically identify a broad set of risk variables, including the following: (i) individual variables, such as weak academic performance, low attendance rates, and behavioural problems; (ii) family variables, such as socioeconomic status and early reproduction; (iii) institutional variables, such as the school climate (for example the presence of bullying) and conditions of overcrowding in the school; (iv) and contextual variables, such as migrant status and manifestations of violence in the student community (for example, levels of crime and drug addiction) (Perusia and Cardini, 2021).

Although, before the pandemic, there were already some experiences of early warning systems in Latin America and the Caribbean to monitor dropout risks, the prolonged closure of schools has underscored their importance. The pandemic has thus

served as a catalyst and an opportunity for their development and implementation in different countries of the region. One factor that facilitates the development of these systems in a country is the presence of an educational information system that collates and updates different sources of data. Thus, the implementation and development of early warning systems go hand in hand with progress in the development of educational management information systems, particularly with regard to the collection of nominalized educational data through the interoperability and integration of different sources (UNESCO, 2021c and 2022b).

Lastly, it is essential that the development of early warning systems be integrated into educational management. In other words, the end users tasked with implementing remedial and support actions must value and make use of the data collected. In other words, the systems need to be useful for educational authorities and officials at the central level, as well as for directors, school management teams and teachers. Similarly, when designing this type of system, it is also important to integrate the needs and objectives of the different types of users, in other words, to recognize "which system data can be useful for the central level and which for the local level, distinguishing periodicities and levels of information disaggregation according to user" (UNESCO, 2022b: p. 11). Lastly, is also crucial that the development of the early warning systems be accompanied by concrete actions focused on protecting students' personal data, since the information required will be of a sensitive nature and its use must be mediated by protocols for information access and use at each user level (UNESCO, 2022b).

D. The opportunity to transform education in Latin America and the Caribbean: overarching objectives and lines of action

Prior to the pandemic, the region was already experiencing a slowdown in educational achievements relative to previous decades; and it was facing a long-standing learning crisis and hard cores of exclusion that hindered achievement of the SDG 4 targets agreed upon for 2030. The impacts of the pandemic accentuated these educational challenges, while also creating an opportunity to innovate and transform education in the region. Education is essential for sustainable, inclusive and equitable development; and it can also play a key role in the transformative recovery strategy, since investing in education means investing in the most important asset that countries have, namely their citizens, and in the prosperity of society as a whole. Educational transformation requires a new, broad and long-term social, political and fiscal compact, strengthening the role of digital technologies in teaching and learning processes and management systems, addressing specific challenges at each educational level, fostering intersectoral coordination and ensuring financial sustainability, together with strengthened educational institutions for greater equity and more efficient expenditure.

The world, in general, and Latin America and the Caribbean in particular, are undergoing major transformation processes and confronting new and urgent challenges related mainly to high levels of social and economic inequality (and, in particular, to the way in which the different structural axes of the social inequality matrix in the region, such as gender, ethnicity and race, territory and socioeconomic level, combine to form hard cores of exclusion). The challenges also relate to high levels of exposure to violence and social and political instability; the climate crisis, biodiversity loss and overexploitation of natural resources; and rapid technological change, which heightens uncertainty and

can also increase exclusion from the economy and the labour market. The document *Reimagining our futures together: a new social contract for education*, which summarizes the main guidelines put forward at the United Nations Transforming Education Summit, highlights the foundational role of education —or the way in which teaching and learning processes are organized throughout the life cycle— in the transformation of societies, as it not only develops knowledge and skills, but also connects us with the world and to each other, exposes us to new possibilities, and strengthens our capacities for dialogue and action (UNESCO, 2021d). For these reasons, educational transformation is at the heart of the structural change needed by the region's countries to be able to overcome contemporary challenges on the path to sustainable development with equality.

During the pandemic, education systems displayed a great capacity to innovate in order to maintain teaching and learning processes. It is important to learn from and build on this experience, and to continue to encourage these spaces of flexibility and creativity, and foster innovation geared towards greater quality, inclusiveness and educational relevance. The various collaborative mechanisms that have arisen in recent years between governments, schools and teachers, and between them and other state or non-state educational actors, can be harnessed to build a culture of innovation and collaboration that will be maintained over time as a legacy of the crisis. Addressing the great challenges of quality and equity in education in Latin America and the Caribbean requires constructive collaboration by the different actors.

To reimagine today's societies and economies, it is crucial to transform education. Specifically, education needs to foster the knowledge, skills and values required for new generations not only to achieve individual prosperity, but also to have the tools to become productive and responsible citizens who contribute to building more peaceful, just and sustainable societies (UNESCO, 2019). The United Nations Secretary General has called for a transformation of education to steer it towards meeting our higher purposes in the context of the twenty-first century, which can be grouped into the following four areas: Learn to learn; Learn to live together; Learn to do; and Learn to be (see box II.1). Latin America and the Caribbean is the most unequal region in the world; and its education systems have generally been unable to function as an effective mechanism that contributes to social mobility and equal opportunities in society. It is therefore necessary to implement urgent actions aimed at reducing inequalities, recovering learning processes and getting back on track towards the goals defined in the 2030 Agenda for Sustainable Development. For this region of the world, the following lines of action are proposed, framed by the action tracks agreed on at the United Nations Transforming Education Summit 2022 (as described in box II.1 above).

1. Action track 1: Inclusive, equitable, safe and healthy schools

(a) Invest more in early childhood

The United Nations Children's Fund (UNICEF) highlights two alternatives for countries seeking to achieve universal access to early childhood education: either (i) set ambitious targets for pre-primary education of three years or more, with a variety of services, which would initially be limited to a small and privileged subset of children, to be gradually expanded; or else (ii) provide on a universal basis, a minimum package of one year of quality pre-primary education to all children, and gradually increase the number of years included. In line with the progressive universalism approach, the second alternative would be the more appropriate, since, from the outset, children living in more socially and economically vulnerable contexts would have access to services similar to those received by their more privileged peers (UNICEF, 2019).

Although there has been a general effort in the region to expand access to, and the coverage of, early childhood education in recent decades, even before the pandemic, progress was insufficient in terms of the quality of care provided. It is striking to note that most countries in the region have not yet established quality standards and evaluation and monitoring tools. This includes both structural aspects —such as having adequate infrastructure and appropriate group characteristics (for example, the adult/child ratio), as well as adequately trained teachers— and process aspects —such as the establishment of a curricular framework and pedagogical proposals built in an inclusive manner led by the Government. Particularly important in terms of the quality of the education provided is the professional development of teachers who work in early childhood education, where low levels of training and remuneration persist, as well as scant social recognition of their work (UNICEF, 2019 and 2020c; López, Moyá and Presno, 2019).

During the COVID-19 pandemic, the consensus on the importance of early childhood education for children's development did not translate into effective actions to guarantee educational continuity. A study by UNESCO and UNICEF (2022) indicates that this was the education level that least implemented strategies for reopening and adapting to the new scenario. It was also the level with the fewest evaluations, the fewest measures aimed at reducing learning gaps, and the fewest remedial and adaptation measures for those who did not access distance education (UNESCO/UNICEF, 2022).

Thus, challenges and specific issues are recognized for this age group. In addition to having lost access to stimulating environments that promote their comprehensive development, to quality food or to the care and protection they need, which are only provided within educational environments, often children did not have the option of remote learning either. Moreover, even when this alternative was available in favourable environments, children faced challenges in terms of their ability to sustain their attention and interest during distance learning processes. Whether or not accompanied by the material or platforms provided by the education system, mothers, fathers and caregivers were responsible for maintaining the continuity of children's learning, which also had a disproportionate and unbalanced impact in terms of the distribution of caregiving tasks among the different household members (Herrero, Saez and Roche, 2020). Worldwide, an estimated 10.75 million children suffered early developmental delays as a result of the disruption of early childhood education services, with particularly high developmental losses projected in low- and lower-middle-income countries, and hence the risk of exacerbating pre-existing inequalities still further (McCoy and others, 2021).

Given the discouraging context, targeted steps should be taken to measure the impact of school closures on children's early education pathways, in addition to preparing early childhood education systems and families to support the development of children who will enter elementary school without having had access to preschool. In the latter case, accelerated catch-up and transition programmes should be considered, either before or during the first year of elementary school. In addition to addressing the immediate impacts of the pandemic, greater efforts are required to expand the coverage and quality of this level of education —not only because of its implications from a rights perspective, but also because of its virtuous synergies with the development of comprehensive care systems, the need to support female labour participation in the context of economic recovery, and the positive long-term impact that strengthening early childhood education would have on sustainable development with equality in the region.

There remains, therefore, the need to continue investing in early development and pre-primary education —at least 10% of the education budget, as suggested by UNICEF. The reopening of schools and preschool centres should be viewed as an opportunity to reimagine and strengthen early-years education systems. There should be a special focus on ensuring inclusiveness and quality, developing and implementing a curricular framework aligned with the new context, which should also include special attention to strengthening

socioemotional skills that will serve in later stages of life (World Bank/UNICEF/UNESCO, 2022). Lastly, as a lesson from the period in which schools were closed, it is important to provide parents and caregivers with training in protection and early development.

(b) Universalize secondary education in terms of both access and completion, with a view to inclusion

It is urgent to maintain and hasten progress towards the universalization of secondary education, which, as ECLAC has been arguing for over a decade, is the minimum floor to support individuals' pathways and enable them to achieve greater well-being, out of poverty and with opportunities for decent work. The crisis caused by the COVID-19 pandemic has highlighted the importance of equality and inclusion in access to training and education; so strategies are required that focus on population groups exposed to greater vulnerability, including Indigenous Peoples, Afrodescendent populations, refugees and migrants, the most socioeconomically disadvantaged populations, persons with disabilities, and persons with non-heterosexual orientation or non-cisgender identity (ECLAC/UNESCO, 2020). In this period of educational recovery and the resumption of face-to-face education, countries will need to implement active mechanisms to reach students at greatest risk of disengagement and dropout, and also implement remedial strategies to recover basic learning and promote educational continuity.

The expansion of secondary education in the region has been based on the diversification of supply, generating more inclusive channels that have made it possible to reach historically excluded populations, but at the same time have reinforced educational segmentation. This segmentation has generated tracks of different quality, many of which do not attain the minimum levels required to train students in the skills that today's world demands, to be able to participate fully in society. The lessons on inclusion associated with these new educational alternatives need to be learned and absorbed, to underpin the quality of education for all.

The study by Acosta (2022) makes a series of recommendations to strengthen the institutional arrangements for education supply at the secondary level and facilitate student inclusion and progression. The transition between levels (from primary to lower secondary, and thence to upper secondary) should be recognized as a turning point in the educational pathway of many students, and as a moment of heightened risk of dropout. It is therefore essential that the schools themselves facilitate these transition processes, by eliminating access barriers (exams, financial costs for families in terms of uniforms or materials, transportation, among others), improving communication between the different institutions to facilitate the change, and deploying information systems that make it possible to monitor individual student progression. Evidence indicates that early specialization also creates an obstacle for progression, and it is advisable to postpone such orientation decisions until the latter years of secondary school. Lastly, it is vital to have support figures, such as tutors, vocational counsellors or teachers focused on academic reinforcement, since the evidence shows that they play an important role in the continuity of schooling.

(c) Harmonize education with other public policy sectors

As noted throughout this chapter, despite the progress made in recent decades in terms of access, coverage and reducing gaps in educational inclusion, the education system alone is not capable of completely overcoming the axes of inequality structured by the region's social inequality matrix (ECLAC, 2016). This reveals the importance of having integrated social protection systems that protect the rights and paths of all people. For the same reason, education policies need to be more closely harmonized

with policies in other domains of well-being, such as nutrition and the physical and socioemotional health status of students, the economic well-being of households and the protection of students from violence, as well as with employment, transportation and care policies, among others (López, 2021; Huepe, Palma and Trucco, 2022).

Cash transfer programmes, along with their educational components, have become a central key to support families with children and adolescents who are studying; and they serve as mechanisms that have become a crucial element in preventing school dropout. For example, educational scholarships and food services have proven to be important tools in helping to keep students in the education system. They contribute to strengthening the link between students and school, while alleviating household income needs and mitigating the incentives faced by adolescents and young people to choose employment over school attendance (Rossel and others, 2022). School feeding programmes have regained a central role, given the food emergency confronted by several countries of the region, as a result of the crisis and uncertainties of the current global situation. In addition to support during the transition from one level of education to another, it is essential to connect the school to vocational and guidance services. Moreover, especially in view of the impact of the pandemic on students' well-being and sexual health, the education system also needs to interact more closely with health policies, by including specialists on schools' professional staff, and to provide specialized support on sexual and reproductive health, and to address any increase in adolescent pregnancy recorded during the pandemic (ECLAC/UNFPA, 2020; Huepe, Palma and Trucco, 2022).

Greater coordination between the education sector and gender equality policies would help prevent and eliminate harmful practices, such as early union (see box II.6) and gender-based violence, in general, as well as overcoming the sexual division of labour that becomes entrenched in the region from a very early age. In addition, secondary and tertiary education, in particular, need to interact more with production sectors, both locally and nationally. The ever-changing nature of the contemporary economy requires both young people and adults to have opportunities to acquire new skills throughout their life cycles, to complement and update those they already have, and to adapt to new labour demands (ECLAC/OEI, 2020). In this context, greater communication between the educational, labour market and economic authorities has a strategic role to play, as also do short technical and vocational guidance programmes (Valenzuela and Yáñez, 2022). Lastly, greater coordination between education and transportation policies could help strengthen efforts to extend years of schooling, since mobility problems are a major obstacle to attending school. This particularly true in rural areas, owing to the distances and journey times involved in attending school, but also in urban zones because of safety issues on the way to school (a problem that affects female students in particular) (Acosta, 2022).

Box II.6

Measures to prevent and mitigate the disruptive impact of early union and reproduction on educational pathways

Section B.2.c of this chapter analyses the disruptive impact of early union and reproduction on the educational and life paths of adolescents and young people, and in particular their harmful effects on gender equality, the intergenerational reproduction of poverty, exclusion and inequality. Preventing such disruption of educational progression requires action that is multilevel (at the individual, family, community, national, regional and even global level), multisectoral (in particular, harmonizing education policies with gender, health and child protection policies) and multi-agency, since these are interactive and complex issues that respond to different factors and violate different human rights of girls and adolescents (ECLAC and others, 2022).

First and foremost, it is important to prevent the disruption of schooling by reducing early fertility and union, in line with SDG targets 3.7 and 5.6 (and indicators 3.7.2 and 5.3.1). With regard to preventing early reproduction, the recent significant drop in the adolescent fertility rate (15-19 years) in the region, from 73 per 1,000 adolescents in 2010 to 53 per 1,000 adolescents in 2022

(United Nations, 2022) is encouraging; and lessons can be learned from experience, especially in the countries that have had most success in this area. In all cases, policies and programmes that provide timely and informed access to contraceptive methods to the adolescents who need them (including highly effective contraceptives with excellent performance among adolescents, such as implants and intrauterine devices, long-acting and reversible methods) have been decisive. Nonetheless, the recent drop in adolescent fertility in the region should not hide the fact that 53 per 1,000 adolescents is the second highest rate in the world after Africa (90.7 per 1,000 in 2022) and well above the global average (41.8 per 1,000 in 2022). This underscores the need to persevere in the area of prevention, especially considering that during the coronavirus disease (COVID-19) pandemic, there were interruptions and limitations in access to contraceptive devices. Restoring this service and assuring it for the future are essential.

As regards prevention of early union, several of the region's countries have introduced legal amendments that outlaw child marriage and set the minimum age for marriage at 18 years without exceptions (ECLAC and others, 2022). However, the prevalence of this rights violation in the region shows that regulatory changes alone are insufficient. The determinants of early union are often related to entrenched cultural roots or anchored in conditions of exclusion and vulnerability, and structural gender inequalities that are often hard to change. However, none of these determinants should become naturalized, since that would leave girls and adolescents defenceless and without options. Thus, some of the actions mentioned below could be decisive in reducing early union.

Secondly, it is important to implement school retention programmes for children and adolescents living in union or with children, or both. There are cases that show that it is possible to promote their schooling through these programmes, for example, in Chile, 67% of 17-year-old adolescent mothers were in the school system in 2017. In this area, the consolidation of comprehensive care systems, and social protection policies specifically designed for this population group, in harmony with the education sector and supported by gender mainstreaming in education from early childhood, are all fundamental for advancing towards the educational inclusion of this population group. Thirdly, it is useful to reinforce comprehensive sex education, which is still a pending issue in many of the region's countries. This not only contributes to preventing adolescent pregnancy and less risky and more careful sexual behaviour among the youth population, but also contributes to the empowerment and autonomy of girls and adolescents and to gender equality, and hence to questioning early union. Given that sex education was affected by the pandemic, it is urgent to restore it in terms of information delivery; reinforce it through channels that are not necessarily educational —such as health counselling, content dissemination and mass promotion campaigns in adolescent-friendly services, such as messaging and social media; and guaranteeing it against pandemics or similar events that could occur in the future.

Fourthly, efforts to improve access to education and enhance its quality and relevance also contribute to this endeavour, since it achieves two objectives simultaneously: first, increasing the coverage, retention and valuation of education; and second, reducing fertility and early union. With respect to the second point, it is widely documented that education discourages both events in various ways, particularly because school is a space where children and adolescents are exposed to messages, content and ideas that can influence their behaviour. However, it should be borne in mind that school alone is not enough, as evidenced by the fact that the vast majority of today's adolescent mothers have completed primary education and many of them have gone on to secondary school (Rodríguez and San Juan, 2020). The school itself can generate risks, which are accentuated if it reproduces patterns of learned helplessness and gender inequality; if it ignores or denies its students' reality; and if it fails to offer comprehensive sex education. Thus, actions beyond the school are required, especially considering that not all of the population attends school or completes all of its cycles. For those who do not attend school, it is even more necessary to operate with messages, information and incentives related to the prevention of early fertility and union in alternative channels.

In short, preventing and reducing the disruptive impact on education of early reproduction and union requires the concurrence of several actions. These include increasing the coverage of the school system and maintaining the school's role as a space for protection and development; access to comprehensive sex education, both in and outside of school; access to sexual and reproductive health, including the adequate and timely use of contraception; the existence of activities that are meaningful to adolescents and project them as individuals who are growing up and developing but are not yet prepared for parenthood; and the generation of longer-term opportunities for children and adolescents to have life projects and personal fulfilment that are naturally incompatible with early motherhood and union. Lastly, it is important to break the statistical silence that conceals these and related phenomena, such as unpaid domestic work and sexual violence against girls and adolescents.

Source: Economic Commission for Latin America and the Caribbean (ECLAC) and others, "Child, early and forced marriages and unions deepen gender inequalities", Santiago, 2022; United Nations, *World Population Prospects 2022*, New York, 2022; J. Rodríguez and V. San Juan, "Maternidad, fecundidad y paridez en la adolescencia y la juventud: continuidad y cambio en América Latina", *Population and Development series*, No. 131 (LC/TS.2020/89), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2020.

2. Action track 2: Learning and skills for life, work and sustainable development

(a) Develop cognitive and socioemotional skills

The outbreak of the COVID-19 pandemic and the protracted school closures revealed the deficits of equality and quality that characterize education systems across the region. The concept of education quality refers not only to the learning of knowledge and cognitive skills, which are certainly very important for leading a full life; but —as highlighted in the Incheon Declaration and the Framework for Action for the implementation of Goal 4— it also alludes to the need to promote creativity and other high-level analytical, interpersonal and social skills: "Quality education fosters creativity and knowledge, and ensures the acquisition of the foundational skills of literacy and numeracy as well as analytical, problem solving and other high-level cognitive, interpersonal and social skills. It also develops the skills, values and attitudes that enable citizens to lead healthy and fulfilled lives, make informed decisions, and respond to local and global challenges through education for sustainable development (ESD) and global citizenship education (GCED)" (UNESCO and others, 2016: p. 8).

The concept of "skills", which involves the combination of knowledge, abilities and values to undertake certain tasks, acquires a central role in today's highly unstable and uncertain globalized world. Current generations of students need to develop cognitive, digital and socioemotional skills to achieve their full potential in the contemporary world, both personally and professionally. In particular, in the context of the fourth technological revolution —characterized by automation and the use of artificial intelligence to perform routine tasks (both simple and complex)— socioemotional skills, in other words the set of intrapersonal and interpersonal skills that enable a healthy relationship with oneself and others, which are related to the capacity to adapt to different contexts and situations, are increasingly valued in labour markets. It is therefore essential that educational systems integrate the development of these skills into teaching processes.

The future is uncertain and will bring with it new problems and opportunities. Education must therefore train students to think for themselves and develop the skills to recognize and solve problems creatively. In this regard, the Transforming Education Summit argued that education must recognize students as active agents of change and, therefore, must provide tools to enable them to discover their own purposes and define their own paths. For humanity to find new solutions and paths, it needs to train its new generations to think creatively. An education for the future must provide safe spaces that promote intellectual freedom and allow the right to make mistakes and learn from them, going beyond instruction on what and how to think (UNESCO, 2021d). In particular, teaching and learning processes need to incorporate the development of projects, initiatives and educational activities of inquiry and discovery that transcend disciplines and require collaboration within the classroom, between students and teachers, to create viable and imaginative solutions to concrete problems. "To make a new social contract for education together, we need to think about curricula as much more than a grid of school subjects. Curricular questions need to be framed in relation to building competencies" (UNESCO, 2021d: p. 64).

(b) Higher education as the backbone of a policy of inclusion and sustainable development

Higher education, which includes both technical-vocational and university training programmes, generates major benefits both for the individuals who attain this educational level, and for society as a whole. It increases opportunities to access

higher-quality and better paid jobs, while also allowing for better health conditions and more active participation in the challenges and strategies of sustainable development. This level of education is also associated with the possibility of building a personal development project; it facilitates participation in the knowledge society and in lifelong learning processes; and it provides better skills for adapting to increasingly rapid global changes. For society as a whole, higher education fosters greater economic and social development and well-being, as it is one of the main sources of knowledge production and drives progress and innovation. Higher education also facilitates the intergenerational transmission of this development and well-being. Globally, in recent years, greater emphasis has been placed on promoting access to higher education, because of its close link with innovation and the knowledge society, two elements that are indispensable for sustainable development (Valenzuela and Yáñez, 2022).

Studies conducted for the region show that raising secondary education completion rates has been the most important factor in improving access to higher education for all groups of students. This is a necessary but not sufficient condition. The quality of the skills, learning and knowledge attained at primary and secondary school have a direct impact on the possibility of gaining access to higher education with equal opportunities, and on the chances of remaining in this level and completing it. The countries with the highest overall coverage of higher education are also those that have made the most rapid progress in terms of coverage for the most vulnerable groups. It is therefore also necessary to deploy broad access strategies, with mechanisms that seek actively to overcome the gaps and inequalities that exist, so that no one is left behind. In other words, progress is needed with a perspective of universalism that is sensitive to differences, implementing affirmative actions to break down the access barriers faced by individuals and groups that experience various types of inequality, discrimination and exclusion. At the same time, it is essential to modify the cultural stereotypes that are imposed in families, schools and society at large, where patriarchal behaviour patterns are constructed that segregate and reinforce relatively less participation by men in careers and jobs in the social spheres, such as education and health, and less participation by women in careers with greater future demand and better pay, such as those related to the STEM disciplines.

The massification of higher education must be supported by greater efforts to raise quality standards in the respective institutions and in their vocational and technical programmes. These endeavours should focus mainly on programmes in which the most vulnerable students participate. Otherwise, higher education will not meet their expectations in terms of social mobility; nor will it be an effective mechanism for equalizing opportunities and enhancing productivity across society as a whole. It is essential to have training and education policies throughout the life cycle that are connected to the world of work and the production sectors, given the uncertainties and changes that are being faced at the global level. The highly dynamic nature of the current situation demands that both young people and adults have opportunities to acquire new skills to complement those they already have; and higher education plays a key role in supplying this type of training.

Lastly, it is important to highlight the strategic role of short technical and vocational guidance programmes, which need to be strengthened in the region. In general, these programmes have multiple positive attributes: they are of shorter duration and less costly; they can be run in conjunction with other consecutive programmes of greater complexity for continuing education, or with secondary vocational training programmes; and they have close links with the labour market. Moreover, the students who participate in them can more easily access authentic experiences in their training process, such as professional internships (Valenzuela and Yáñez, 2022).

3. Action track 3: Teachers, teaching and the teaching profession

(a) Enable teachers to reinvent themselves as agents of change

The educational transformation needed for the contemporary world requires teachers to be more highly valued, since they play a vital role in teaching and learning processes. It is important that they have the tools to become agents of educational change, designing and implementing innovations in response to their students' needs. They also need autonomy to exercise their professional judgment and participate in public dialogue on the futures of education. All of this goes hand in hand with the need to ensure adequate working conditions for teaching to be a profession of excellence, strengthening initial and ongoing vocational training processes, fostering channels of collaboration between teachers and schools to share and improve ideas, and implementing strategies to identify, disseminate and scale-up successful practices.

The recommendations issued by the Transforming Education Summit include the implementation of pedagogic practices involving cooperation and solidarity among students and teachers, and the incorporation of different types of knowledge into curricula. Education should reflect and encourage the construction of desired societies. It is therefore important that educational spaces invite students to unlearn biases, prejudices and divisions, and contribute towards healing historical injustices, generating opportunities for children, adolescents and young people to learn from each other and value each other, regardless of their differences in terms of gender, religion, race, ethnicity and sexual identity, social class, disability and nationality, among other characteristics. In more general terms, and considering both the social and environmental challenges of the contemporary world, education should be based on an ethic of reciprocity and a logic of care, recognizing the interdependence that exists between the different individuals, groups and species that inhabit the planet (UNESCO, 2021d).

It is also important that study plans recognize knowledge as the result of a historical, social and cultural process that belongs to all and never ends, and is characterized by exclusions and appropriations that need to be corrected. Teachers should therefore encourage students to take a critical view of the dominant knowledge, leading them to place it in a historical and sociopolitical context, and to value the different ways of viewing and understanding the world from an intercultural perspective (see box II.7). In addition, students should feel invited to participate in the processes of co-creation of knowledge, recognizing the value of different points of view within their classrooms and the communities in which they live. A new educational approach should therefore contribute to integrating different knowledge traditions, revaluing common knowledge, as the product of interdisciplinarity and interculturality. The curriculum should contribute to the construction of an active, participatory and democratic citizenship, which places respect for human rights, diversity and care for the environment at the centre for the sustainability of our planet (UNESCO, 2021d).

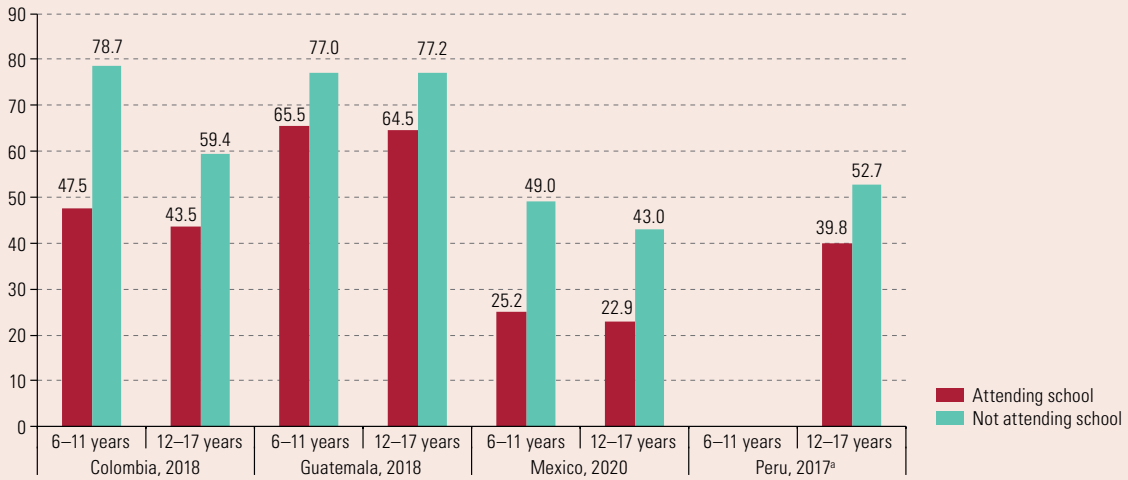
Box II.7
Indigenous languages and urgent challenges for the education system

Language is essential to human development and identity, since it is related to the intergenerational transmission of centuries-old knowledge, worldviews, beliefs and traditions; and it contributes to self-determination, active participation in public life and the construction of new futures (UNESCO, 2020). For Indigenous Peoples, in particular, their languages also constitute an undeniable link to their way of life and their connection to the land. In this sense, the traditional knowledge transmitted through Indigenous languages is of the utmost importance to humanity, by helping to combat and mitigate climate change and biodiversity loss (UNESCO, 2020). However, according to a World Bank report, in Latin America and

the Caribbean, one in five Indigenous Peoples have lost their mother tongue in recent decades; and more than a quarter of the existing Indigenous languages are at risk of disappearing (approximately 560 Indigenous languages are spoken in the region,) (World Bank, 2019). Recognizing the serious loss of Indigenous languages, the United Nations General Assembly has proclaimed 2022–2032 as the International Decade of Indigenous Languages, to draw attention to the pressing need to conserve, revitalize and promote them through urgent action at the national and international levels (United Nations, 2020).

In addition to the need for census data on the status and number of linguistic variants in the different countries and territories, in order to guide and evaluate policies and actions for their preservation and development, the region faces the challenge of providing quality education that takes account of the linguistic rights and cultural integrity of Indigenous Peoples. At present, intercultural bilingual education programmes have a very limited scope; and educational achievements seem to be attained at the expense of the culture itself, which is manifested as a sustained reduction in the number of speakers of Indigenous languages as access to higher levels of schooling increases, as shown in the figure below. In contrast, Indigenous children and adolescents who are outside the educational system retain their languages to a greater extent; but, at the same time, the inability of the educational system to accommodate these children and adolescents, which means that their rights are violated. The educational continuity programmes promoted remotely also limited the number of languages in which education was provided during the COVID-19 pandemic.

Latin America (4 countries): Indigenous population aged 6–17 that speak an Indigenous language, by age group and school attendance status, 2020 census round
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of population and housing surveys using REDATAM
[a] In the case of Peru, the census question on ethnic self-identification was applied to individuals aged 12 years or older.

The revitalization of Indigenous languages is a fundamental requirement for the transmission of Indigenous thought, knowledge systems, technologies, history and identity. In general, it is an essential element for providing effective, inclusive and quality education in multiethnic and multilingual contexts, as well as for Indigenous Peoples' own educational projects, in accordance with the provisions of the Indigenous and Tribal Peoples Convention, 1989 (No. 169) and the United Nations Declaration on the Rights of Indigenous Peoples (2007). Ensuring inclusive, equitable and quality education for Indigenous Peoples, in line with SDG 4, entails the need to consider the linguistic rights and cultural integrity of Indigenous Peoples, and their effective participation, in the design and implementation of policies. In addition to advancing in intercultural bilingual education, which represents how the State guarantees education in Indigenous Peoples' language and culture, it is also important to mainstream an intercultural approach in education, for a new form of relationship between people who belong to Indigenous Peoples and Afrodescendent populations and those who do not (Corbetta and others, 2018).

Source: World Bank, "Languages at risk in Latin America and the Caribbean", Washington, D.C., 2019 [online] https://www.worldbank.org/en/news/infographic/2019/02/22/lenguas-indigenas-legado-en-extincion; United Nations, *Rights of indigenous peoples* (A/RES/74/135), New York, 2020; United Nations Educational, Scientific and Cultural Organization (UNESCO), *Global education monitoring report 2020. Latin America and the Caribbean, inclusion and education: all means all*, Paris, 2020; S. Corbetta and others, "Educación intercultural bilingüe y enfoque de interculturalidad en los sistemas educativos latinoamericanos: avances y desafíos", *Project Documents* (LC/TS.2018/98), Santiago, Economic Commission for Latin America and the Caribbean/United Nations Children's Fund (ECLAC/UNICEF), 2018.

4. Action track 4: Digital learning and transformation

(a) Harness the digital revolution to the full for the educational transformation

The inclusion of digital technologies in education is not new, and for 40 years the region has considered it a priority to accompany the learning process. The pandemic and its impacts revealed the need to advance digital inclusion throughout the population; and, in the case of education, it highlighted the potential of digital technologies to contribute to improving the quality and efficiency of management, and to achieve equity and coverage targets (Sunkel, Trucco and Espejo, 2014). This is an opportunity for countries to learn from the lessons and challenges left by the pandemic, to consolidate the development of digital education in the region (Huepe, Palma and Trucco, 2022).

Undoubtedly, a first step involves laying the foundations for the implementation of digital education and identifying the areas that need strengthening so that it can be developed effectively. Huepe, Palma and Trucco (2022) identify four fundamental areas that must be coordinated across sectors with the relevant stakeholders: (i) infrastructure and equipment; (ii) digital transformation of learning; (iii) platforms and content; and (iv) financing. Coordination with the digital strategies of each country is essential, in order to guarantee the structural conditions that enable a smooth transition between the face-to-face and digital spaces, without leaving anyone behind. In other words, countries need to provide the education community with universal access to digital equipment and quality connectivity, placing special emphasis on students and teachers (Cardini and others, 2021). In this regard, ECLAC has proposed investing in a basic digital basket to reduce the gaps in access to effective connectivity, which —as revealed during the pandemic— are particularly relevant in rural and remote areas. First-generation technological media, such as television and radio, can be useful tools to advance the implementation of mixed (face-to-face and non-face-to-face) systems, while the necessary technological advances are being achieved.

In addition to ensuring effective connectivity, the digital transformation of education requires investment in the development of the digital and socioemotional capacities of the education community. On the one hand, teacher training needs to be strengthened to enable teachers to adapt their teaching processes to make use of these technologies, and to feel empowered with the flexibility to edit, enrich and adapt digital resources and curricular pathways to the needs of their students (Cardini and others, 2021). On the other hand, investment is also needed to develop digital skills among parents and caregivers, since experience shows that active mediation in the digital environment is important to enable children and adolescents to take better advantage of the opportunities that digital spaces provide (Trucco and Palma, 2020; Arias, Hincapié and Paredes, 2020; Trucco, Claro and Cabello, 2022). In addition, alongside the development of students' digital skills, it is also necessary to strengthen the socioemotional skills associated with autonomous learning (such as motivation, time management and self-care).

Educational management information systems can be improved using technological tools. The pandemic has revealed the need to have an integrated information system, to be aware of the overall state of education communities in the face of any crisis. The countries of Latin America and the Caribbean have made progress in terms of technological equipment in schools and the consolidation of online digital materials. However, challenges persist in effectively exploiting the information collected through digital media in educational management. These include the lack of interoperability between information systems, which have mostly been created to respond to specific needs and demands, and do not have a strategic and integrated vision. Educational management information systems are a tool that can facilitate the operation and management of schools, providing data on educational staff, inventories of available resources, and so forth, in addition to automating human resources and budgetary management processes (Huepe, Palma and Trucco, 2022).

Lastly, the digital transformation of education requires quality educational resources to be developed and made available free of charge, to be easily accessible, and to be linguistically and interculturally adapted and aligned with the curricula. The promotion and use of open educational resources could be a particularly useful alternative for the region (United Nations, 2022). There needs to be a debate on the technological transformation of education systems in Latin America and the Caribbean; and greater collaboration is needed between different countries, territories, schools, teachers and other education-sector actors (both public and private), to encourage greater innovation and creativity in developing resources that complement classroom learning through the creation of digital platforms and content.

5. Action track 5: Financing of education

(a) Ensure the financial sustainability of education with strengthened educational institutions

Quality education is the most important investment a country can make for its future and that of its population. The cost of not funding education is much higher than the cost of doing so. Although the region has adopted measures to expand education spending in recent decades, the rising trend in public expenditure was already stalling during the years leading up to the pandemic (and even reversing in some countries); and its magnitude was already insufficient to achieve the SDG 4 targets (see chapter IV) (Gajardo, 2020; Huepe, Palma and Trucco, 2022; UNESCO, 2017; UNESCO/UNICEF/ECLAC, 2022). The impacts of the pandemic aggravate financial needs in education and make it even more urgent to increase education budgets in order to meet the targets agreed upon for 2030.

Following the resumption of face-to-face education, greater investment is required in this area, among other things to finance learning recovery measures, mitigate the rise in dropout rates, offer educational alternatives to students who will definitely not return to school, and cover new expenses focused on improving school infrastructure and equipment to comply with health protocols (UNESCO, 2020). Furthermore, in order to build on the progress and innovations of recent years and strengthen the resilience of education systems in the face of new emergencies that may arise, it is important to make progress in financing the digital transformation of education (Huepe, Palma and Trucco, 2022). However, while needs in education are increasing, the economic slowdown following the health crisis imposes new constraints on financing the sector, given fiscal contractions and new requirements and demands in other sectors of public policy.

Nonetheless, and despite the aforementioned obstacles, it is important that the countries prioritize educational financing as a central element of the region's recovery efforts (see chapter IV). It is urgent to address historical debts in terms of upholding the right to quality education and to respond to the new requirements associated with the widening of educational inequalities after the pandemic. It is also essential to prioritize educational investment, because the region is facing a potentially transformative moment on its path to sustainable development with equality. The region needs to provide the different generations with tools to confront the complex local and global challenges facing humanity, including rapid technological change, the climate crisis, demographic pressures and elevated social and economic inequality, among others. Investing in education is investing in the prosperity of all; and, given the major challenges of the contemporary world, this is a task that the region can no longer afford to postpone.

In addition to making more resources available, the actions of the different countries need to be targeted towards more efficient and equitable use of those resources. Governments need the capacity to plan and manage education systems. This means having the knowledge and skills to establish and maintain priorities, innovate when evidence

shows that actions or strategies have failed, coordinate conflicting objectives in a coherent manner, and maintain the stability of policies over time so that they can generate results (Huepe, Palma and Trucco, 2022; Rivas, 2021; UNESCO UNICEF/ECLAC, 2022). In other words, it is not sufficient merely to expand education budgets; actions are also needed to promote efficient, transparent and equitable use of the corresponding resources. As agreed by the region's education authorities in the recent Declaration of Buenos Aires (2017), in addition to maintaining, optimizing and progressively increasing funding for education (UNESCO and others, 2017, p. 13), countries should strive to strengthen and modernize the institutional framework and governance of their education systems.

Firstly, making efficient use of educational resources entails developing technical and political capacities among the education authorities (governance), which would also generate the trust and legitimacy needed to achieve broad educational pacts (founded on common medium- and long-term interests and motivations), and to underpin the financial sustainability of educational strategies (Tedesco, 2005). Secondly, additional dialogue and participation mechanisms are needed that involve students, teachers and other members of educational communities in defining clear and measurable objectives that provide feedback for decision-making; accountability mechanisms; and the strengthening of continuous training and merit-based selection of teachers and state agents (Ehren and Baxter, 2021; Rivas and others, 2020; UNESCO/UNICEF/ECLAC, 2022).

At the same time, it is important to address inequalities in the use of educational resources. Education is a human right that must be guaranteed for each and every person, under conditions of equal opportunities (UNESCO/UNICEF, 2007). Latin America and the Caribbean is one of the most unequal regions in the world; and one of the structural causes of its inequality is unequal access to quality educational opportunities. The health, social and economic crisis generated by the pandemic revealed and accentuated existing asymmetries and inequalities, so policies that promote a more equitable distribution of educational resources, benefiting students who are in the most vulnerable situations, are urgently required. In this sense, educational funding must observe horizontal and vertical equity criteria; that is, it must ensure equal treatment for students in similar conditions, while also providing extra resources for students living in more vulnerable contexts who have greater needs and require more support. In addition, the information collected shows that efficiency and equity in the use of educational resources go hand in hand, since school systems with more equitable spending also tend to use their resources more efficiently (Izquierdo, Pessino and Vuletin, 2018).

In short, to meet the targets agreed on in SDG 4 by 2030, countries need to expand the public financing of their education systems and, at the same time, strengthen government and institutional capacities to translate the corresponding resources into consistent, systemic and durable actions, aimed at improving quality and inclusion in education. The pandemic provides an opportunity for countries to strengthen the role of education as a central mechanism for reducing social and economic inequalities, and to recognize its strategic importance for regaining the path to both inclusive social development and sustainable development.

(b) Advance towards a new social, political and fiscal compact that recognizes and strengthens the central role of education for sustainable development with equality

The Regional Monitoring Report SDG 4 (2022) notes that most of the educational progress during the last two decades in Latin America and the Caribbean took place between 2000 and 2010; but, during the following decade, the region flatlined in various indicators of economic, social and educational progress. It is unrealistic to imagine that

the educational recovery will take place under the same conditions as existed before the pandemic, since the region was already facing a major learning crisis and displayed hard cores of exclusion; and progress was being made too slowly to achieve the SDG 4 commitments by 2030. Thus, the educational challenges facing the region must overcome the economic cycle in order to resume the path towards sustainable development. Education can be leveraged for development with equality; and it is essential that the sector resumes this role, emerges from the crisis in which it is immersed, and addresses the deepening inequality that the pandemic has provoked over an entire generation, to empower the progressive construction of genuine welfare states.

The educational transformation requires a new social compact that positions education as a human right and a common good that is central to sustainable development. This broad, long-term social and political agreement must be accompanied by new fiscal contracts that make it possible to afford financial sustainability to the restructuring of education systems, in order to turn them into more inclusive and resilient systems that guarantee access to relevant and pertinent lifelong training processes. Research and innovation must be at the service of this new social and fiscal contract, based on an agenda that includes not only the production of relevant knowledge, but also the development of the skills needed to meet the present and future challenges of the contemporary world, recognizing the different ways of creating knowledge and gaining access to it, and prioritizing the reduction of existing inequalities.

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CHAPTER III

Gender inequalities in educational and employment trajectories: challenges and opportunities in a protracted social crisis

Introduction

Latin America and the Caribbean has been one of the regions hit hardest by the coronavirus disease (COVID-19) pandemic, and, almost three years into the pandemic, its impact still reverberates through the societies and economies in the region. The outbreak of the pandemic occurred under complex circumstances, deepening the inequalities that have historically characterized the region, where there are high levels of informality and inadequate social protection. It also exposed the persistent structural challenges of inequality, particularly gender inequality, that hinder the equal participation of women and men in the societies and economies of Latin America and the Caribbean. The region is also grappling with a protracted social crisis that has worsened as a result of global crises in the energy, food and financial sectors, in addition to the growing challenges caused by climate change. Added to this is the care crisis, compounded by a rise in violence against women and girls during the COVID-19 pandemic. These conditions pose serious challenges to achieving gender equality, ensuring the fulfilment of women's rights, empowering women to exercise their autonomy and promoting sustainable development with equality in the countries of the region.

The pandemic-induced social and economic crisis caused an historic reversal in the economic autonomy of women in Latin America and the Caribbean. These conditions triggered sharp falls in employment and labour force participation, which had a disproportionately large impact on women, young people and workers in the informal sector earning low incomes (ECLAC, 2021a). The crisis led to an overwhelming departure of women from the labour market, which in 2020 represented an 18-year setback in their levels of labour force participation (ECLAC, 2022c). Women simultaneously absorbed the bulk of the excessive burden of unpaid domestic and care work resulting from the health measures, where their already unequal workload was three times that of men in the region prior to the pandemic (ECLAC, 2022c).

The climate of limited mobility and restricted social contact that prevailed during the health crisis gave fresh momentum to the digital transformation process and the digital economy in the region (Bidegain, Scuro and Vaca-Trigo, 2020; Bércovich and Muñoz, 2022). During the first quarter of 2020, the use of teleworking solutions increased by 324% and distance learning solutions by more than 60%. The remote provision of services, such as health services, and the use of digital government platforms to facilitate cash transfers increased (ECLAC, 2020b; Bércovich and Muñoz, 2022). Regarding the development of digital industries, the growth rate in Latin America and the Caribbean in recent years has been comparable to that observed in member countries of the Organisation for Economic Co-operation and Development (OECD), although there is still a substantial lag in the region (ECLAC, 2021c).

The rapid expansion of the digital economy is having a massive impact on the labour market and on the types of skills needed to participate in economic and social activities. The need for science, technology, engineering and mathematics (STEM) skills, and for information and communications technology (ICT) professionals in particular, is growing in all sectors and opening up new opportunities for well-paid, skilled jobs that are less routine and repetitive, often with flexible working hours and the option of teleworking. In addition to ICT professionals, new digital skills are required in all activities that are being digitalized. It is likely that many of the jobs, careers and professions of the future will require increasing levels of digital and STEM-related skills.

If affirmative steps are not taken to promote gender equality in these areas and the structural challenges of gender inequality are not addressed, such as the sexual division of labour and the unjust social organization of care, there is a risk of maintaining and even deepening this inequality in the labour market, where women are often employed in traditionally undervalued economic sectors and occupations, with lower wages and less favourable working conditions. Women are also often underrepresented in STEM fields —and particularly in ICT fields— where, despite the growing demand for labour, there is a conspicuous lack of women trained in advanced digital skills. At present, women's participation in the technological activities, careers and sectors that are now booming is low compared to men's (Bércovich and Muñoz, 2022).

As illustrated in chapter II, there has been noteworthy progress in Latin America and the Caribbean in recent decades, which has seen an increase in women's access, retention and completion rates at all education levels. Despite this outlook, challenges associated with education quality and the components of the region's social inequality matrix (ECLAC, 2016) persist, especially in terms of certain levels and types of education systems. Specifically, there are notable gender gaps in the participation of girls and young women in science, technology, engineering and mathematics. These disparities deepen as one progresses through the school system and become more acute in higher education, where gender gaps in this area become apparent.

It is, therefore, necessary to promote the equal participation of women in different spheres, especially in STEM fields, not only to address inequalities in the labour market, but also to ensure the right of all people to equal opportunities, including the right to study and work in the field of their choice. This requires equal access to different fields of study and support for conditions and affirmative measures that promote access and retention in all areas, including high-quality technical, vocational and higher education in STEM fields.

The prolonged social crisis has reaffirmed the need to move towards transformative recovery with equality and sustainability. It has challenged countries to ensure the fulfilment of Goals 4 and 5 of the 2030 Agenda for Sustainable Development (UNESCO, 2015; UNESCO/ECLAC/UNICEF, 2022) and to sustain the achievements of recent decades. In order for Latin America and the Caribbean to move towards transformative recovery with equality, various policies must be implemented, including those aimed at ensuring the inclusion of women in digital transformation processes, supporting diverse educational and employment paths, and building a more equitable and inclusive labour market that will enable decisive progress towards gender equality and women's autonomy in the region. This will also require addressing inequalities in the different spheres of men's and women's lives and in the lives of women from different territories, socioeconomic strata, places of origin and ethnic-racial backgrounds, among other measures (Bércovich and Muñoz, 2022).

A. Education trends from a gender perspective: an analysis aimed at dismantling the structural challenges of gender inequality

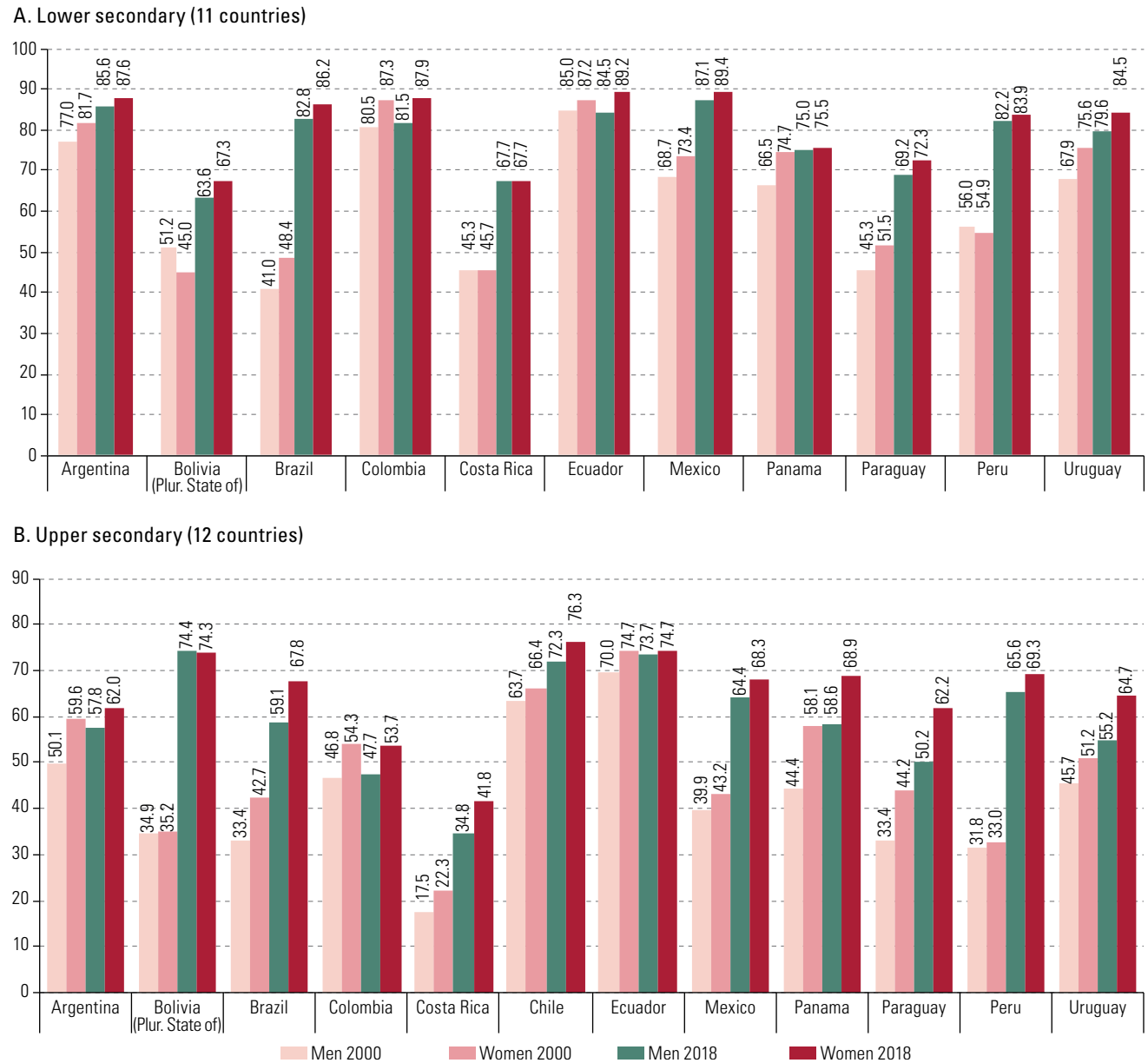
Latin America and the Caribbean has made significant progress at the national level in women's access to education at all levels of the education system. However, challenges remain, such as ensuring full access to STEM fields. As noted previously, gender bias against girls emerges early in this field of education and deepens as they progress through their academic careers. Gender inequality is most pronounced in higher education, where, globally, women account for 35% of learners enrolled in STEM fields. This attrition continues during higher education, the transition to the world of work and even throughout their career paths. There are multiple factors driving the progressive exclusion of girls and adolescents from subjects in this field, and the consequent low representation of women in higher education in this area, and they pertain to different dimensions.

Improving access to education for girls and women is considered one of the major achievements in education in Latin America and the Caribbean in recent decades. Such significant progress has been made that today, women register higher completion rates than men in secondary and higher education.

In 2019, the regional net enrolment rate for girls in primary education was 97.5%, compared to 96.9% for boys (UNESCO, 2022; ECLAC, 2022d), figures that show a high degree of access by both sexes to this level of education in the region. In secondary education and, in particular, in upper secondary education, the net enrolment rate falls in comparison to the primary level, but there has been considerable progress in recent decades.

In 2018, the net enrolment rate for girls in lower secondary education exceeded 80% in several countries in Latin America (Argentina, Brazil, Colombia, Ecuador, Mexico, Peru and Uruguay), and there were significant increases of around 20 percentage points in some countries that registered very low net enrolment rates in the early 2000s (Plurinational State of Bolivia and Costa Rica) (see figure III.1). At the upper secondary level, the enrolment rate for women also surpasses that of men, and there is a clear trend towards higher enrolment and participation.

Figure III.1
Latin America (12 countries): net enrolment rate in secondary education, by sex, 2000 and 2018
(Percentages)

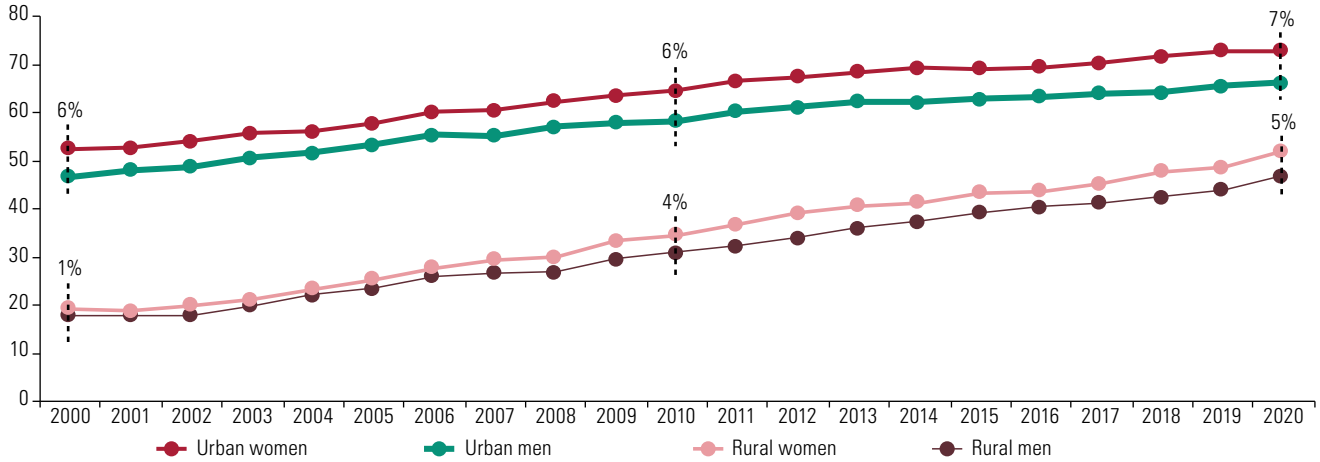


Source: International Institute for Educational Planning (IIEP), on the basis of National Institute of Statistics and Censuses, Permanent Household Survey; National Institute of Statistics, Household Survey; Brazilian Institute of Geography and Statistics (IBGE), National Household Survey (PNAD); National Administrative Department of Statistics (DANE), Continuous Household Survey; National Institute of Statistics and Censuses, Multipurpose Household Survey; Ministry of Social Development and Family, National Socioeconomic Characterization Survey (CASEN); National Institute of Statistics and Censuses, National Survey of Employment, Unemployment and Underemployment; National Institute of Statistics and Geography (INEGI), National Survey of Household Income and Expenditure; National Institute of Statistics and Census, Multipurpose Survey; General Directorate of Statistics, Surveys and Censuses, Permanent Household Survey; National Institute of Statistics and Informatics (INEI), National Household Survey; National Institute of Statistics, Continuous Household Survey.

Note: Data for Brazil are for 2001 and 2018; Colombia, 2016 and 2018; Chile, 2000 and 2017; Ecuador 2016 and 2018 and Mexico 2000 and 2016.

In terms of secondary school completion, women have more favourable indicators than men and are more likely to succeed in this area. In 2020, on average, 67.4% of women in the region aged 20-24 years had completed secondary education, compared to 60.9% of men of the same age.[1] However, despite the increase in secondary school completion rates, there is still marked segmentation between urban and rural areas, which demonstrates that territory represents a structural pillar of social and educational inequalities, in an area where inequalities are clearly present (ECLAC, 2016) (see figure III.2).

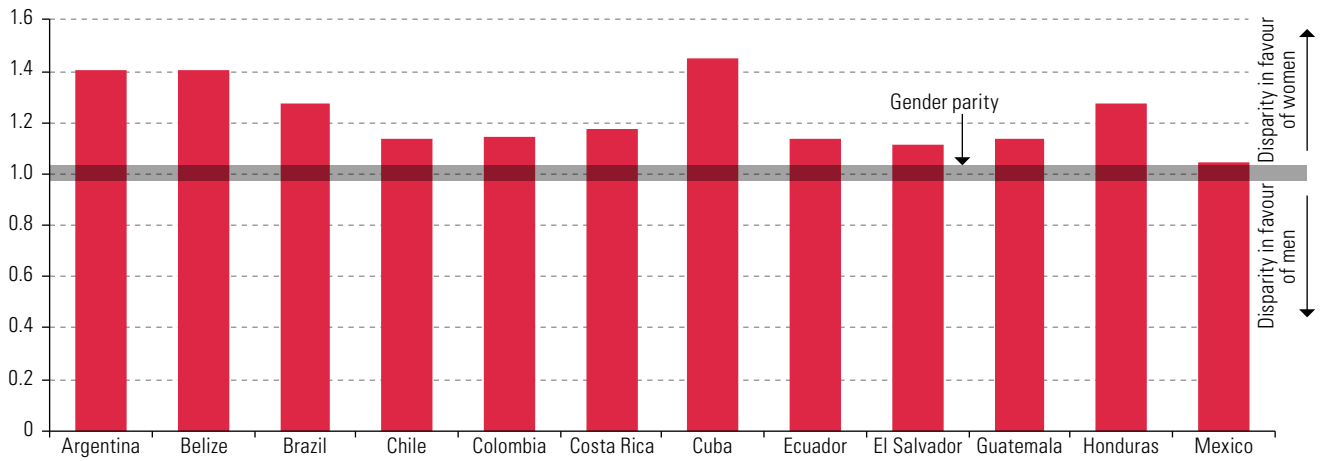
Figure III.2
Latin America and the Caribbean (18 countries):[a] percentage of 20–24-year-olds who completed secondary education, by sex and geographical area, 2000–2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en.
Note: The dotted lines represent the difference between urban and rural women and men.
[a] Simple averages for the following countries: Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela (Bolivarian Republic of).

Overall, women's participation in higher education in Latin America and the Caribbean exceeds that of men in all countries. At this level, the gender parity index shows a positive trend in favour of women (see figure III.3).[2]

Figure III.3
Latin America and the Caribbean (12 countries): gross enrolment ratio in tertiary education, adjusted gender parity index, 2019

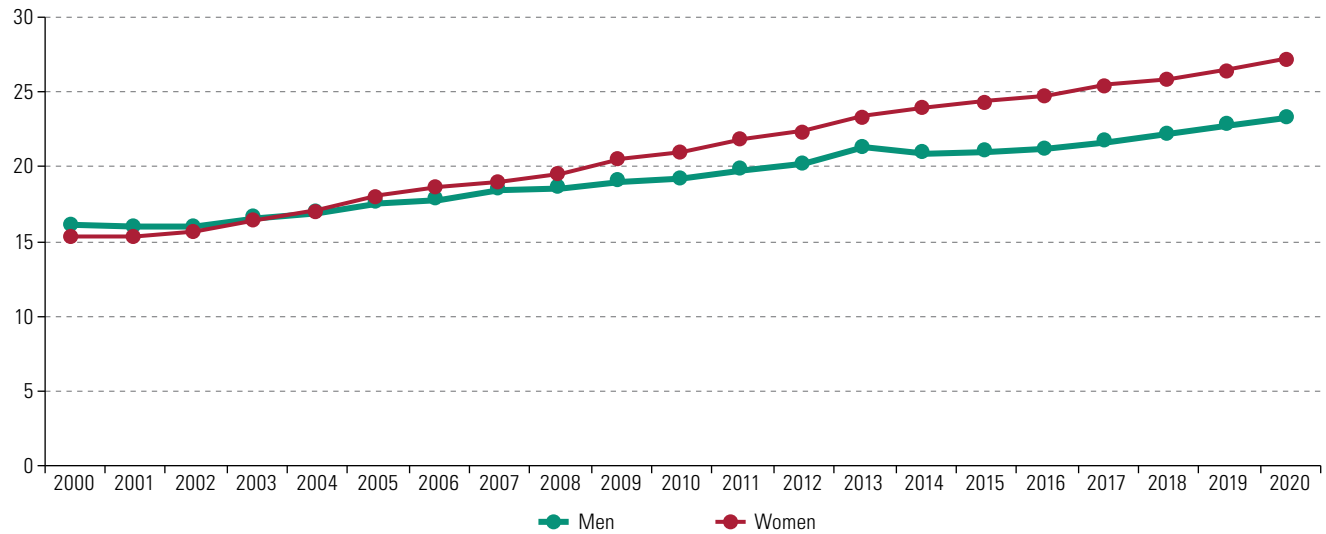


Source: UNESCO Institute of Statistics (UIS).
Note: Data are for 2019, except for Belize, Colombia and Cuba, where they are for 2020.

1 On the basis of Economic Commission for Latin America and the Caribbean (ECLAC), Household Survey Data Bank (BADEHOG); CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en.
2 The gender parity index (GPI) is the ratio of women to men for a given indicator. A GPI between 0.97 and 1.03 indicates gender parity. When the GPI is below 0.97, there is a disparity in favour of men, and when the GPI is above 1.03, the disparity favours women. See United Nations Educational, Scientific and Cultural Organization (UNESCO), "Gender parity index (GPI)" [online] https://learningportal.iiep.unesco.org/es/node/5395.

Other educational indicators, such as the literacy rate and average years of schooling, show positive trends for women. In 2020, an estimated 27.3% of women in the region aged 25–59 years had 13 or more years of schooling, compared with 23.3% of men in the same age group. These figures represent an increase of 11.9 percentage points between 2000 and 2020 for women and 7.2 percentage points for men, resulting in a significant difference in favour of women (see figure III.4).

Figure III.4
Latin America and the Caribbean (18 countries):[a] proportion of women and men aged 25–59 years with 13 or more years of education, 2000–2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Household Survey Data Bank (BADEHOG); CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en.

[a] Simple averages for the following countries: Argentina, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay.

While there is high participation of women at various levels of education—most notably in upper secondary and especially in higher education—gender gaps persist in STEM fields. The participation of girls and young women, the disciplines they choose, and their progress in STEM fields of education are areas in need of analysis as they reveal inequalities between women and men at all education levels.

One of the determining factors in the choice of careers in STEM fields is the unequal performance of men and women in different disciplinary areas. Regional and international standardized educational assessments enable the analysis of learning achievement in these subjects at the primary and secondary levels, with a focus on science and mathematics. Overall, the results of these assessments reveal gender gaps between women and men in these areas.

At the primary level, assessments conducted by the Latin American Laboratory for Assessment of the Quality of Education (LLECE) of the Regional Bureau for Education in Latin America and the Caribbean (OREALC) provide relevant information on the performance differences between girls and boys in primary education. In 1997, LLECE administered the First Regional Comparative and Explanatory Study (PERCE) in reading and mathematics to third- and fourth-grade primary school students. In 2006, the Second Regional Comparative and Explanatory Study (SERCE) was conducted, with coverage extended to 16 countries and to other grades and subjects. As in the first study, SERCE assessed third- and sixth-grade students in the areas of reading and mathematics and incorporated a third discipline, science, to assess sixth-grade students in eight countries. The Third Regional Comparative and Explanatory Study (TERCE) was conducted in 2013

and, similar to the Regional Comparative and Explanatory Study (ERCE) conducted in 2019, it measured learning achievement in mathematics and language in third and sixth grade and learning achievement in natural sciences only in sixth grade.

The findings of these studies highlight gender gaps in girls' and boys' performance in the skill sets assessed (reading, mathematics and science) (UNESCO, 2016a, 2016b and 2021). While the results show differences in the magnitude and persistence of gender gaps within each country and between assessments, there are some general trends that remain constant: overall, girls significantly outperform boys in reading and writing, while boys outperform girls in mathematics. With regard to science, while boys scored higher on the SERCE, the TERCE and ERCE results showed either negligible differences between the two groups or better performance by girls.

The OECD Programme for International Student Assessment (PISA) tests, which measure the academic performance of 15-year-old students regardless of their grade level, also show gender disparities in performance in STEM subjects.[3] With the exception of the Dominican Republic, in the other nine countries in Latin America and the Caribbean that participated in the 2018 tests, boys' average performance in mathematics was between 7 and 20 points higher than that of girls (OECD, 2020) (see table III.1). In science, on average, boys outperformed girls in 8 of the 10 participating countries in the region, except in Brazil and the Dominican Republic, although the differences are smaller than in mathematics.

Table III.1
Latin America and the Caribbean (10 countries): difference between average scores for women and men in mathematics and science on the Programme for International Student Assessment (PISA) tests, 2018

	Mathematics			Science		
	Average score		Score difference	Average score		Score difference
	Men	Women	Women-Men	Men	Women	Women-Men
Argentina	387	372	-15	409	399	-10
Brazil	388	379	-9	403	404	1
Chile	421	414	-7	445	442	-3
Colombia	401	381	-20	420	407	-13
Costa Rica	411	394	-17	420	411	-9
Mexico	415	403	-12	424	415	-9
Panama	357	349	-8	365	364	-1
Peru	408	392	-16	411	397	-14
Dominican Republic	324	327	3	331	340	9
Uruguay	422	414	-8	428	424	-4

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organisation for Economic Co-operation and Development (OECD), "Girls' and boys' performance in PISA", *PISA 2018 Results (Volume II): Where All Students Can Succeed*, Paris, 2020.

Gender disparities in performance widen in the lowest income quartiles. According to the PISA indicator for socioeconomic and cultural status, educational outcomes appear to be closely correlated with learners' economic, social and cultural status (ESCS).[4] In mathematics, for example, in the lower ESCS quartile, there is a greater proportion of women than men registering scores below level 2, which is considered the threshold for satisfactory performance. In the upper ESCS quartile, performance differences in favour of men narrow overall (except in the Dominican Republic, Panama and Peru, where they widen), but the trend remains the same. In the science test, while in the lower ESCS quartile a greater proportion of women than men do not achieve the minimum threshold for performance, in the upper ESCS quartile, the trend is reversed, with a greater proportion of men falling below level 2.

[3] There is no minimum or maximum score in the PISA tests: results are scaled to fit approximately normal distributions, with means around 500 score points and standard deviations around 100 score points.

[4] The economic, social and cultural status (ESCS) dimension is used to gauge students' socioeconomic status. It is calculated on the basis of the financial, social and cultural resources available to students. The relevant variables are associated with students' family background: the educational level and occupation of the mother and father, and an index of household resources, which can serve as an indicator of material availability or cultural capital (having a car, having a quiet environment for homework and access to the Internet, as well as the number of books and other educational resources available at home) (OECD, 2020).

Data from the 40 countries that participated in the PISA tests show a positive correlation between women performing better in these assessments and favourable indicators of access to education, the labour market, and political participation or representation and a high score on the global gender gap index (González de San Román and de la Rica, 2010; Guiso and others, 2008, in UNESCO, 2016a).[5] However, other studies point out that even in contexts where there is a high level of gender equality, gaps are detected in STEM subjects. The concept of the gender equality paradox in science, technology, engineering and mathematics (Stoet and Geary, 2018; Muñoz, 2021) illustrates that such a disparity exists in secondary and tertiary education in countries with high levels of gender equality, while countries with low levels of gender equality have the highest proportions of women obtaining advanced degrees in technology. The authors suggest that in the first group of countries, the financial cost of forgoing a career in science, technology, engineering and mathematics is lower, and that both the difference between women's and men's academic strengths and their attitudes towards science are significant factors that contribute to the bifurcation of women's and men's academic focus during secondary school and then at university. The authors also submit that in countries where gender equality in the workplace is lower and there are more challenges to achieving a decent quality of life, STEM careers are perceived as offering good employment opportunities. Similarly, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has observed a gender equality paradox in ICT (UNESCO, 2019; Muñoz, 2021), noting the absence of a direct relationship between a country's level of gender equality and the proportion of women pursuing advanced studies in digital or ICT skills. The UNESCO (2019) study revealed that the gender equality paradox in STEM fields (Stoet and Geary, 2018) is replicated in the ICT subfield, thus concluding that the employment appeal of that field is not sufficient to nullify the paradox and alter the country-specific indicators observed by Stoet and Geary (2018).

The disparities to the disadvantage of girls that were observed in the results of the aforementioned assessments in mathematics and science are detected early and become more evident as girls progress through school. This is especially true between early and late adolescence, and the disparities deepen in the transition to higher education, where gender gaps in STEM education become more apparent. Although women dominate numerically in higher education, they account for only 35% of students worldwide enrolled in STEM fields; the lowest proportion of women is found among students enrolled in computer science, telecommunications and engineering-related fields. Globally, there is a high proportion of women abandoning STEM disciplines during their studies, the transition to the world of work or even over the course of their professional careers (UNESCO, 2019).

The literature has extensively addressed the factors that explain the progressive exclusion of girls and young women from subjects associated with science, technology, engineering and mathematics (STEM) and the consequent underrepresentation of women in STEM fields in tertiary education. Women's low participation in these areas and their disadvantages in terms of advancement and achievement cannot be attributed to a single cause. The UNESCO report (2019) reviews a number of studies and identifies a complex ecological framework that explains this issue from different angles. First, it mentions studies that conclude that self-selection bias is the main reason girls do not pursue an education in science, technology, engineering and mathematics, and that this decision is influenced by socialization processes and stereotypical ideas about gender roles and, in particular, that careers in these fields are men's territory. These stereotypes are ingrained early in life and can negatively affect girls' interest, commitment and performance in these fields, as well as their aspiration to pursue such

[5] The Gender Gap Index (GGI) is based on the World Economic Forum's *Global Gender Gap Report 2009* and considers the following: educational attainment, health-related factors, economic opportunities, components of well-being, and economic participation. A high score on the index indicates a smaller gender gap.

careers. It has also been found that women find it more difficult than men to identify with science, technology, engineering and mathematics, and that self-efficacy, linked to the assimilation of gender stereotypes or the perception of these beliefs in others, as well as the absence of supports and role models, affect women's educational outcomes in these fields (Blackburn, 2017; Sevilla and Farias, 2020).

Girls' interest and motivation in science, technology, engineering and mathematics are intricately linked to their perceived self-efficacy and performance, and are influenced by the social context, including parents' educational levels and professions, the family's socioeconomic status, the expectations of parents who hold traditional beliefs, and the influence of female peers and the media.

In the school setting, women's participation, performance and progression in STEM subjects are also linked to teachers' skills and pedagogical strategies, as well as teachers' beliefs and attitudes towards their students (UNESCO, 2019). A study in the United States found that higher student achievement in science and mathematics was associated with factors pertaining to teachers, namely, more experienced teachers who were more confident in teaching these subjects and had higher levels of professional satisfaction (Mullis and others, 2012). Teachers' perceptions of skills as a function of gender can create an uneven classroom environment and deter girls from pursuing studies in science, technology, engineering and mathematics. Conversely, effective teaching practices can cultivate a constructive learning environment that motivates and engages girls. One hypothesis that has been advanced is that as students progress through school, some of these factors could function as mechanisms that reinforce stereotypes and shape learning opportunities for boys and girls differently in the various areas of knowledge (UNESCO, 2016a). Textbooks and educational materials are another critical aspect as the depiction of male and female characters in school texts conveys explicit and implicit messages about boys' and girls' roles and abilities in science, technology, engineering and mathematics. In addition, the availability of equipment, materials and resources is a critical aspect of fostering girls' interest and supporting learning in these subjects.

Finally, the burden of unpaid domestic and care work that falls primarily to female students, especially those from low-income strata, constitutes an obstacle throughout women's lives, both in their educational and career paths. It also presents a barrier for women in the fields of science, technology, engineering and mathematics and can affect the pursuit of scientific and technological vocations, especially in adolescence, when gender roles become entrenched and gender discrimination is more pronounced. Specifically, this burden also limits the time that girls can devote to continuous learning activities, exploring cyberspace and acquiring new digital skills (Vaca-Trigo and Valenzuela, 2022).

In the region, the COVID-19 pandemic led to prolonged school closures, which affected more than 160 million young people in 2020 and had a negative impact on learning opportunities and pedagogical continuity (ECLAC/UNESCO, 2020; ECLAC, 2021b). Recent studies of household surveys conducted in 11 countries in Latin America show that the number of hours spent studying during the pandemic was significantly diminished, which adversely affected learning and the likelihood of successfully completing their education (Acevedo and others, 2021). For female students, this reduction in hours was more pronounced owing to the increase in the number of hours they spent on unpaid domestic and care work as a result of lockdowns and school closures. The study conducted in Mexico revealed that the number of hours spent on domestic activities had increased by 18% for women and only 2% for men. The pandemic exacerbated existing inequalities: before the pandemic, the time spent by girls on care work in countries such as the Plurinational State of Bolivia, Guatemala and Nicaragua was between 3 and 4 hours a day, while for boys it was less than 2.8 hours a day. In Ecuador, girls spent 3.8 hours more per week than boys on household chores (ECLAC/UNICEF, 2016; ECLAC and others, 2020). Although there is still no conclusive data in the region on the concrete effects of COVID-19 on education, analysis of the differentiated impact on women's learning and academic continuity will prove instructive.

B. Pronounced and persistent gender gaps in higher education: analysis in the field of science, technology, engineering and mathematics

In higher education, the structural challenges of gender inequality are embodied in the replication of horizontal segregation in these fields of knowledge and in the vertical segregation of academic careers. The latter can influence whether women choose these disciplines or can impose limitations on their professional growth. Androcentric biases in the generation and appropriation of knowledge engender inequality in knowledge products and create barriers to women's access, retention and promotion in scientific and technological careers and, therefore, in research, development and innovation. The small share of women graduates in science, technology, engineering and mathematics has implications for scientific and technological development. Thus, securing women's participation in the STEM professions is one way of ensuring that gender stereotypes are not carried over into knowledge generation and technological design, while enhancing equality in those areas to support sustainable development.

The field of science, technology, engineering and mathematics subsumes disciplines and fields of knowledge related to these subjects and includes emerging fields such as information and communications technologies (ICT), biotechnology, nanotechnology and interdisciplinary sciences (Muñoz, 2021). It has also been found that the skills required in this field are research, critical thinking, problem solving, creativity, communication, collaboration and that seek to project from STEM to other educational fields in a cross-cutting manner (Muñoz, 2021, p. 13).

Latin America and the Caribbean must move towards progressive structural change through the development of more knowledge-intensive sectors, particularly those that require expertise in STEM fields (CEPAL, 2020a). Advances in these fields, and the digital revolution in particular, are seen as instruments for fostering sustainable development and offer the potential to create more productive and better-paid jobs, provided that the new model of digital governance promotes inclusive digital transformation. Hence the relevance of ensuring the participation of women in professions related to science, technology, engineering and mathematics in order to bridge the gap in access to jobs in the most dynamic areas of the economy and to achieve sustainable development in line with the Montevideo Strategy for Implementation of the Regional Gender Agenda within the Sustainable Development Framework by 2030.

The International Labour Organization (ILO, 2019b) is projecting that there will be new jobs emerging from technological advances, and the World Economic Forum (2021) maintains that new occupations with higher skill levels can be expected to respond to increased technological integration. The COVID-19 pandemic has considerably expanded the digital economy through the use of cloud computing, e-commerce, electronic banking and financing mechanisms, the digital transformation of education systems, artificial intelligence (AI), automation and the use of big data.[6] Jobs in these areas require new competencies or skills (ECLAC/OEI, 2020; Martínez, Palma and Velásquez, 2020; Mateo and others, 2019; Mateo and Rucci, 2019; Mateo and Rhys, 2022; Bello, 2020), and those who are less prepared to take advantage of the new opportunities may find themselves out of work. The jobs that may be lost are in lower value-added areas and are performed mainly by women, such as customer service, administrative and accounting tasks, data entry and online production processes (ECLAC, 2021b; Vaca-Trigo and Valenzuela, 2022).

6 Cloud computing is an information technology usage model that provides on-demand access to a network comprising a set of IT services, such as applications, data storage and processing.

However, while the high proportion of women enrolled in tertiary education offers an example of overcoming access barriers, is not correlated with enrolment in science, technology, engineering and mathematics career paths (Muñoz, 2021; OEI, 2018; UNESCO, 2020b; Bello, 2020). It is therefore essential to understand the causes of the low participation of women in these professions, and particularly in science and technology, since it cannot be attributed to biological differences between men and women, but results from multiple social, cultural and economic factors. The research reveals that there are no cognitive differences between men and women in the acquisition of various skills, nor is there any physical, biological or genetic element that justifies the difference: the underrepresentation of women is induced by a complex network of social and cultural, rather than cognitive, causes (Cifuentes and Guerra, 2020; Donoso-Vázquez, Estradé and Vergés, 2022).

The underrepresentation of women in the areas of science, technology, engineering and mathematics largely stems from the structural challenges of gender inequality that have historically been a structural feature of the region, contributing to the unequal incorporation and integration of women in these areas and hindering women's full participation in them (see diagram III.1).

Diagram III.1
Structural challenges of gender inequality and their manifestations, which determine women's participation in higher education and in technical and vocational education in STEM fields

Structural challenges of gender inequality	Manifestation in the education system and environment	Manifestation in science and technology in higher education	Manifestation in technical and vocational education
Sexual division of labour and the unjust social organization of care	Overload of domestic and care tasks as an impediment to education and job placement Gender socialization: from the family to stakeholders in the education system	Limitations on the time spent learning information and communication technologies and studying science, technology, engineering and mathematics Underrepresentation in careers related to science, technology, engineering and mathematics	Segregation of careers and professions
Discriminatory and patriarchal cultural patterns and the predominance of the culture of privilege	Gender socialization Experiences with the gender-biased pedagogical model at the secondary level Discrimination against women graduates in labour market participation and transition to the world of work	Gender stereotypes in academic and scientific communities Stereotypes regarding women's lack of STEM skills Self-perception of low efficacy and poor academic performance in STEM subjects at the secondary level	Gender stereotypes in vocational choice and educational offerings Hostile educational environments for women in male-dominated settings
Concentration of power and hierarchical relations in the public sphere	Limited promotion of STEM careers to women Lack of support from family, the school and teachers Limited presence of women in managerial positions in STEM careers and academic departments Lack of support and role models	Power dynamics in the field of science Androcentrism in knowledge production and technical and scientific development STEM-related public policies that fail to take a comprehensive and systematic approach to gender equality	Male-dominated teaching and managerial positions Uneven recognition of women's and men's technical skills: unequal treatment and opportunities for equal training
Socioeconomic inequality and the persistence of poverty	Early entry into the labour market (paid and unpaid) Digital gender divide Scarcity of household assets and support	Barriers to access faced by poor households to study science, technology, engineering and mathematics, which require extra time and resources	The reproduction of disparities in labour market insertion (participation, employment, unemployment and wages, among other aspects), which perpetuates inequality and poverty among women graduates of technical and vocational education programs

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Montevideo Strategy for Implementation of the Regional Gender Agenda within the Sustainable Development Framework by 2030* (LC/CRM.13/5), Santiago, 2017; C. Muñoz, "Políticas públicas para la igualdad de género en ciencia, tecnología, ingeniería y matemáticas (CTIM): desafíos para la autonomía económica de las mujeres y la recuperación transformadora en América Latina", *Gender Affairs series*, No. 161 (LC/TS.2021/158), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2021; A. Bello, *Women in Science, Technology, Engineering and Mathematics (STEM) in the Latin America and the Caribbean Region*, Panama City, United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), 2020; M. Sevilla and M. Farías, "Brechas de género en trayectorias STEM y educación media técnico profesional", *serie Investigación en Educación*, No. 002/220, Santiago, Alberto Hurtado University, 2020; United Nations Educational, Scientific and Cultural Organization (UNESCO), "A new generation: 25 years of efforts for gender equality in education", *Global Education Monitoring Report*, Paris, 2020.

Many factors influence the choice of field of study and career path of women in the region. In addition to the performance disparities between women and men in secondary education, other factors specifically linked to higher education have been noted: educational environments that are hostile to efforts to include women; gender stereotypes; the image portrayed by teachers and in study materials, laboratories and educational practices; the influence of the family environment and peers; barriers to entry into employment for graduates of secondary education; limited implementation at the secondary level of projects aimed at strengthening vocational pursuits associated with information and communications technologies; low self-efficacy and the digital gender divide, both in terms of the digital skills acquired and barriers to accessing devices and meaningful connectivity (Bércovich and Muñoz, 2022; Muñoz, 2021; Sevilla and Farías, 2020) (see box III.1).

Box III.1

Meaningful connectivity and gaps in access in Latin America and the Caribbean

The concept behind the term "meaningful connectivity," which was coined by the Alliance for Affordable Internet (A4AI), is based on four dimensions: daily Internet use; availability of an appropriate device; sufficient data and a reliable connection; and adequate speed to meet demand.

In the region, there are disparities in all four dimensions. With respect to the digital divide in terms of access to technology, inequality is observed in access to high-speed broadband connections and appropriate devices. In terms of connectivity, between 2017 and 2018, 63% of men in the region had access to the Internet compared to 57% of women (Agüero, Bustelo and Viollaz, 2020). However, the regional average masks significant differences between countries. Overall, these gaps favour men by a margin of 1 percentage point (in Uruguay) to 15 percentage points (Vaca-Trigo and Valenzuela, 2022). The gap is more acute among women with a low level of education living in rural areas, who make up the most poorly connected group (IICA/IDB/Microsoft, 2020). With respect to the availability of devices, although access is generally higher in the region than in Africa, the Arab States and Asia and the Pacific, the Gallup Global Survey results (IICA and others, 2020) show that there are differences among countries, and that in the 23 countries analysed in Latin America and the Caribbean, there is a gap in favour of men in terms of mobile phone ownership. While 83% of men and 80% of women had access to and used a mobile phone between 2017 and 2018 (Agüero, Bustelo and Viollaz, 2020), access to the Internet via these devices was limited in terms of usability and connectivity when compared to tablets or computers. Microdata from the AfterAccess survey conducted in six countries in the region in 2017 and 2018 indicate that access to computers is more widespread among men (54%) than among women (45%). The gender gap is, therefore, also linked to the quality of the devices available to many women.

In addition to the gaps in basic access to the Internet and mobile devices, the low quality of Internet service affects the entire region. Data collected by ECLAC/CAF (2020) show that the region lags behind the world average and the most advanced countries in broadband connection speed. According to ECLAC (2020a), in 67% of the countries in the region, download speeds could not handle simultaneous data-intensive activities. The gap was also evident in the types of subscriptions available to users —namely, prepaid plans or post-paid subscriptions— which indicated that a small share of the population enjoyed reliable Internet service, while the majority of the population grappled with unstable access and lower-quality mobile connectivity (Becerra, 2021). A study conducted by A4AI in Colombia, Ghana and Indonesia found that most women experience suboptimal Internet connectivity as access conditions do not meet the minimum thresholds for effective connectivity (A4AI, 2020; Vaca-Trigo and Valenzuela, 2022).

Against this backdrop, during the sixtieth meeting of the Presiding Officers of the Regional Conference on Women in Latin America and the Caribbean, organized by ECLAC in coordination with UN-Women, the high-level authorities of machineries for the advancement of women in Latin America and the Caribbean agreed to promote a Regional Alliance for the Digitalization of Women in Latin America and the Caribbean, under the leadership of Chile in its capacity as Chair of the Presiding Officers of the Regional Conference, and with support from ECLAC, in coordination with UN-Women and other agencies, funds and programmes within the United Nations system. This partnership aims to promote the full participation of women in the digital economy and to reduce gender gaps in terms of women's and girls' access to information and communications technologies, as well as in the use of these technologies and skills development in this area.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of A. Agüero, M. Bustelo and M. Viollaz, "¿Desigualdades en el mundo digital?: brechas de género en el uso de las TIC", *Technical Note*, No. 01879, Washington, D.C., Inter-American Development Bank (IDB), 2020; I. Vaca-Trigo and M. Valenzuela, "Digitalización de las mujeres en América Latina y el Caribe: acción urgente para una recuperación transformadora y con igualdad", *Project Documents* (LC/TS.2022/79), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2022; Alliance for Affordable Internet (A4AI), "Meaningful connectivity: a new target to raise the bar for internet access", Washington, D.C., 2020; Inter-American Institute for Cooperation on Agriculture/Inter-American Development Bank/Microsoft (IICA/IDB/Microsoft), *Rural Connectivity in Latin America and the Caribbean: A Bridge for Sustainable Development in a Time of Pandemic*, San Jose, 2020; *Habilidades digitales en la ruralidad: un imperativo para reducir brechas en América Latina y el Caribe*, San Jose, 2021; Inter-American Institute for Cooperation on Agriculture (IICA) and others, *Digital Rural Gender Divide in Latin America and the Caribbean*, San Jose, 2020; AfterAccess [online] https://afteraccess.net/about-afteraccess; Economic Commission for Latin America and the Caribbean/Development Bank of Latin America (ECLAC/CAF), *Las oportunidades de la digitalización en América Latina frente al COVID-19*, Santiago, 2020; Economic Commission for Latin America and the Caribbean (ECLAC), "Universalizing access to digital technologies to address the consequences of COVID-19", *COVID-19 Special Report*, No. 7, Santiago, 2020; M. Becerra, "Accesos TIC 2000-2020 en Argentina: ¿20 años no es nada? Conectividad y brechas en telecomunicaciones, internet y tv paga en el siglo XXI", Buenos Aires, 2021 [online] https://martinbecerra.wordpress.com/2021/06/16/accesos-tic-2000-2020-en-argentina-20-anos-no-es-nada/.

The feminist perspective of science offers arguments for analysing the paltry participation of women in the field of science, technology, engineering and mathematics, delivering a sharp rebuke of scientific objectivity and distancing as a situated product or social construct fraught with gender biases (Harding, 1996 and 2012; Haraway, 2014). Through a feminist lens, the critique challenges an approach to women's participation in the field of science and technology focused solely on the woman's perspective, given that the very structure of the scientific fields is constitutively exclusionary to women. Androcentric biases in knowledge production, as well as in knowledge products, explain the exclusion of women and are producers of inequality (Muñoz, 2021, p. 15). This perspective raises doubts about the knowledge production process as well as who sets the priorities, who participates in the process and for whom such scientific knowledge is produced.

From a feminist viewpoint, one notable aspect of the production, dissemination and recognition of knowledge is the concept of epistemic violence (Fricker, 2017). In the context of gender bias, this form of violence is a way of exercising symbolic power by making women invisible, dispossessing them of the opportunity to be represented in scientific production and denying their capacity for agency or influence in the definition of topics and issues to be researched, such as in scientific development itself. Epistemic objectification and disqualification, the division of intellectual labour and the creation of totalizing and stereotyped representations (Radi, 2019), for example, the androcentric ethos whereby knowledge produced by women does not carry the same value as that produced by men, are a reflection of the power hierarchies in science and represent barriers women face when entering, pursuing and persevering in scientific careers (Bello, 2020; Muñoz, 2021; ECLAC, 2017).

One example of the findings of applied research is technological development. Technology can be viewed as a set of sociotechnical products whose development is awash in gender biases. Artificial intelligence, robotics and management processes based on large volumes of data (big data) are classic examples. The underrepresentation of women in designing artificial intelligence applications and the persistence of gender biases in artificial intelligence datasets, algorithms and training mechanisms, reinforce gender stereotypes that stigmatize women and drive them from these fields (UNESCO, 2019 and 2020a; Vaca-Trigo and Valenzuela, 2022). From the standpoint of scientific and technological neutrality, gender biases permeate robotics algorithms, programs and designs as they are created by experts who may be susceptible to the biases present in a patriarchal society.

Two sources of bias in artificial intelligence can be identified: the characteristics of the models and the characteristics of the data. Model bias stems from biases held by the design and programming specialists. A typical example is the assignment of gender roles in robotics (military robots are generally male and relational or caregiving robots, female). However, the data used to train algorithms are susceptible to societal gender biases and are thus influenced by the underlying definitions and applications that imbue them with stereotypical concepts. Consequently, machines are trained to observe biased data and perpetuate the bias (Colett, Neff and Gouvea, 2022; UNESCO, 2020b; UNESCO/EQUALS Skills Coalition, 2019). From a scientific perspective, women's participation in scientific development engenders excellence and improves the quality of STEM products by including diverse perspectives, reducing bias and promoting more robust knowledge and solutions.

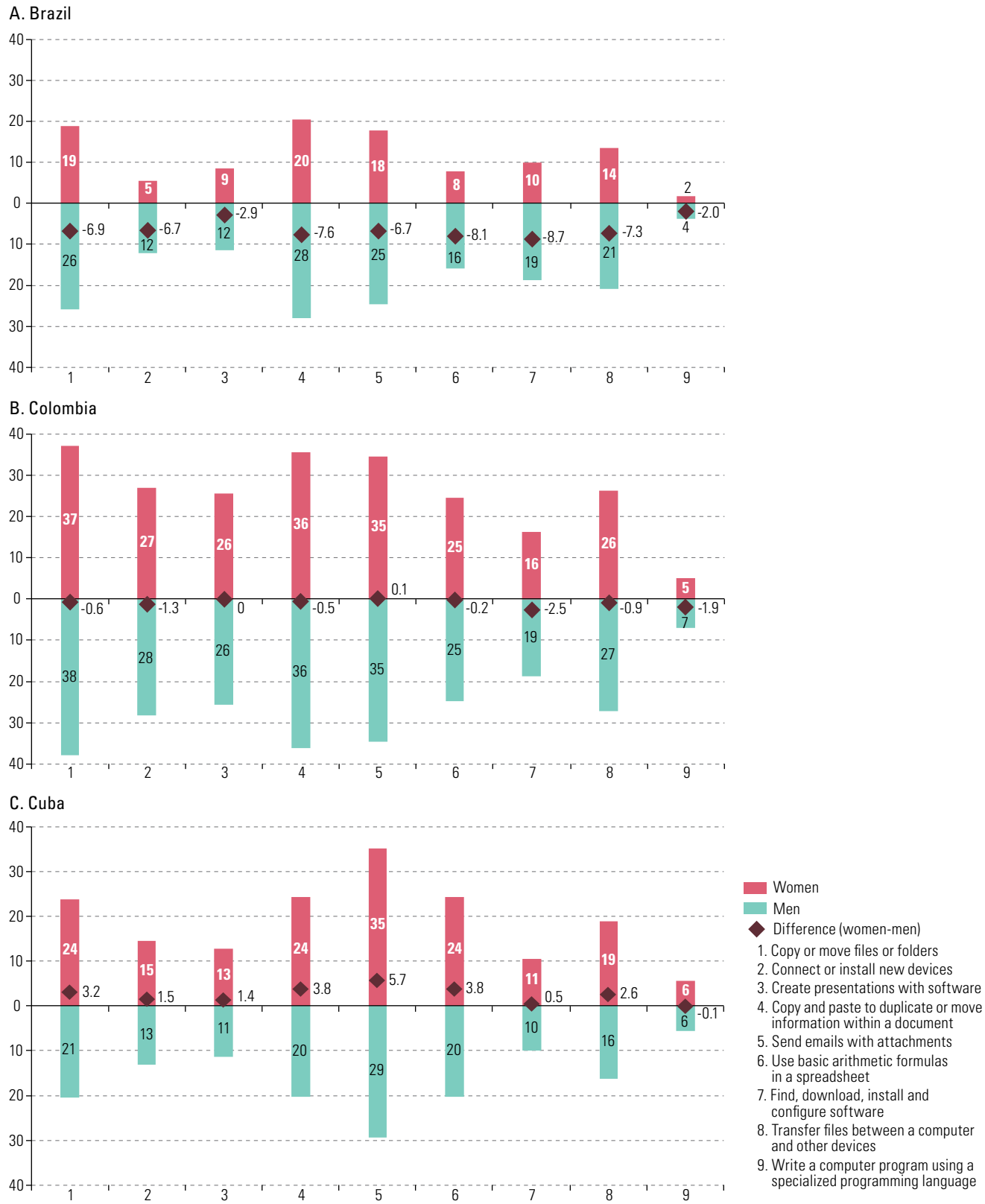
Finally, digital skills represent a significant barrier to women's access to STEM fields. The acquisition of these skills, understood as the set of technical, cognitive and social skills needed to perform tasks in digital environments, must be carefully studied from a gender perspective (Bércovich and Muñoz, 2022). In the region, digital gaps of different types and scope (Bércovich and Muñoz, 2022; Castaño and others, 2009) function as a determining factor of the opportunities available to women (Bércovich and Muñoz, 2022; Castaño and others, 2009; Vaca-Trigo and Valenzuela, 2022). Gaps in access to technology and the skills needed to use it, as well as gaps related to the specialized use and design of the most advanced ICT services, have been widening as technologies become more sophisticated and expensive (UNESCO/EQUALS Skills Coalition, 2019; Vaca-Trigo and Valenzuela, 2022). The structural challenges of gender inequality influence women's access to digital skills, as well as their use and appropriation across all dimensions, and have a greater impact on women in the lowest quintiles, especially in rural areas.

In line with Goal 4 on inclusive, equitable and quality education, and particularly target 4.4 on promoting the relevant skills to access decent work, UNESCO gathers data on eight digital skills (Bércovich and Muñoz, 2022). In countries where such data are available, less than half the population possesses digital skills and, for the most complex activities (such as programming, configuring software or devices, or using formulas on spreadsheets), the share of people claiming proficiency is very low (less than 9%), and there is a wider gender gap that is reinforced by women's low self-perception of academic proficiency in science and mathematics (Muñoz, 2019).

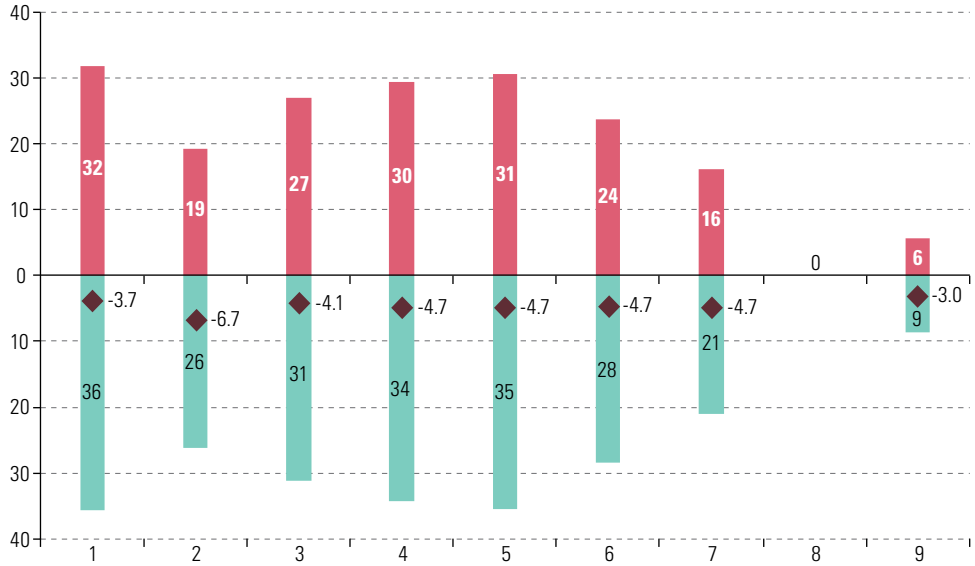
This situation perpetuates discriminatory patterns and inhibits holistic development, as technological skills are a means of accessing other social assets, such as access to STEM careers. These, in turn, grant access to jobs associated with the digital economy and frontier technologies, as well as to the development of exponential technologies, given that such access stimulates and enhances innovation and enables the attainment of higher levels of development (ECLAC, 2020a, 2020b and 2021d). Ensuring equal access to STEM careers for girls and women is a human rights imperative and paves the way for women's economic empowerment, while contributing to a country's scientific and sustainability prospects. However, such development must be framed in terms of technologies that are socially relevant, safe and sustainable, both environmentally and in terms of their role in eliminating gender inequalities, as outlined in the Montevideo Strategy. Otherwise, the digital skills gaps that currently leave women in Latin America and the Caribbean trailing their male counterparts will persist (see figure III.5).

In all countries except Cuba, the data show that women's reported skill levels are lower than men's. This gap is especially noticeable in Brazil, although it is also significant in Mexico and Peru. Colombia shows some measure of equity, while in Cuba, women are in a better position. In all cases, the proportion of people with complex skills, particularly in writing a computer programme using a specialized programming language, is very low for both men and women, and does not exceed 6% in any country.

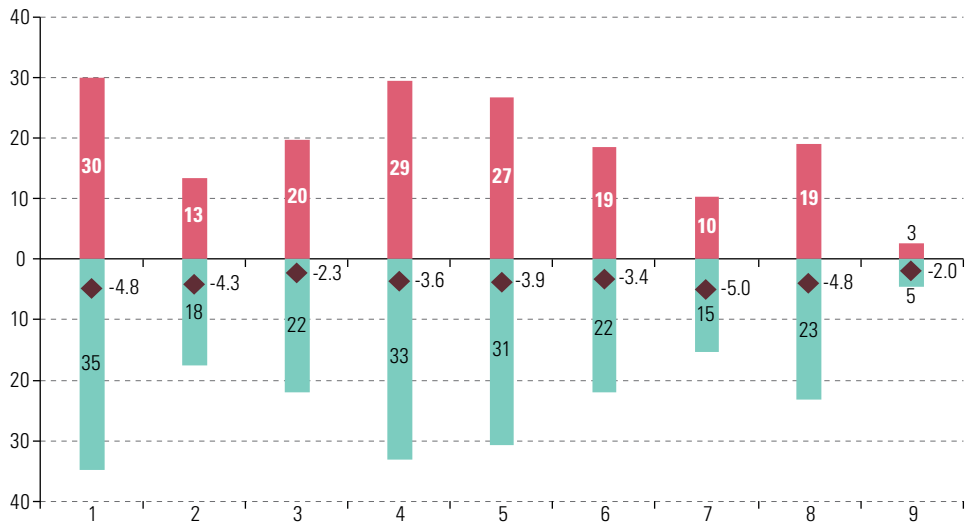
Figure III.5
Latin America and the Caribbean (5 countries): proportion of people possessing digital skills, by skill type and sex, 2019
(Percentages)



D. Mexico



E. Peru



Women
Men
Difference (women-men)

1. Copy or move files or folders
2. Connect or install new devices
3. Create presentations with software
4. Copy and paste to duplicate or move information within a document
5. Send emails with attachments
6. Use basic arithmetic formulas in a spreadsheet
7. Find, download, install and configure software
8. Transfer files between a computer and other devices
9. Write a computer program using a specialized programming language

Source: UNESCO Institute of Statistics (UIS).
Note: In category 1, data for Mexico and Peru are for 2018. In category 9, data for Peru are also for that year.

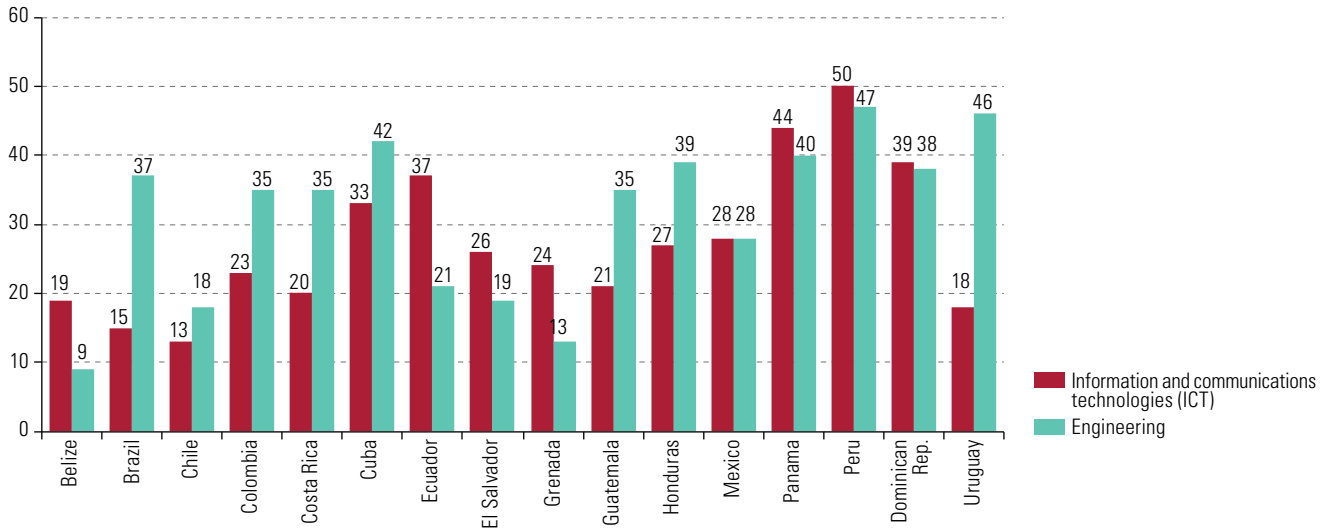
1. Horizontal segregation in higher education in science, technology, engineering and mathematics

Gender gaps in science, technology, engineering and mathematics begin to appear in secondary education and widen when choosing fields of study at the tertiary level. While the majority of the student body is female, there is a clear pattern of gender segregation by discipline. Overall, women are concentrated in education, health, social sciences, arts and humanities, with a limited presence in engineering and technology, which adds to already pronounced horizontal segregation.

In Latin America and the Caribbean, less than 30% of all tertiary education graduates are in STEM careers. In this regard, the underrepresentation of women in careers in these fields is a major problem, and only four countries have a female graduation rate above 40% in these areas: Argentina, Belize, Panama and Uruguay (ECLAC, 2019a).

Within STEM fields, in ICT and engineering, industry and construction, which have traditionally been considered male domains, women's participation is notably low. According to data compiled by UNESCO, with some exceptions, such as Peru and Panama, women make up less than 40% of graduates in the ICT sector, and there are several countries where this share is lower, such as Chile (12.7%), Brazil (14.6%) and Uruguay (17.7%) (UNESCO, 2022; Bello, 2020; Muñoz, 2021) (see figure III.6).

Figure III.6
Latin America and the Caribbean (16 countries): share of women in total tertiary education graduates in engineering and information and communications technologies (ICT)
(Percentages)



Source: United Nations Educational, Scientific and Cultural Organization (UNESCO), "A new generation: 25 years of efforts for gender equality in education", *Global Education Monitoring Report*, Paris, 2020.
Note: Latest available data; percentage of female graduates in tertiary education according to UNESCO Institute for Statistics classifications: information and communications technologies, and engineering, manufacturing and construction.

Data gathered by the Ibero-American Network of Higher Education Indicators (INDICES Network) initiative of the Organisation of Ibero-American States for Education, Science and Culture (OEI) on Latin American countries reflect the same trend. In the fields of education or health, over 70% of students enrolled in education and 60% enrolled in the arts are women. Yet, in the fields of ICT and in engineering, industry and construction, women's participation is very low: less than 18% in the former and around 31% in the latter (Lugo and Ithurburu, 2019). Regional averages conceal significant differences between countries, since these values are more noticeable in some, such as in Chile, where only 11.21% of students in the fields of technologies and communications are women; in Brazil, where this proportion is 13.62%; in Uruguay, where the percentage rises to 15.8%, and in Argentina, where women represent 16.84% of students in these fields. Although participation is higher in engineering, with some exceptions, the proportion of women does not exceed one third of enrolment (see table III.2).

The responses to the pandemic have triggered transformations in the various forms of communication, education, work and consumption, and offer an excellent opportunity to enhance the links between education and employment in the STEM fields as this is one of the sectors that has seen the most development during the pandemic. However, as has been established, this is the field in which women are most underrepresented, and gender biases in technological development impose limits on innovation and its appropriation (ECLAC, 2021a). It is therefore necessary to design and implement public policies aimed at promoting gender-sensitive transformation of the technologies themselves and dismantling the structural challenges of inequality.

Table III.2
Latin America (10 countries): women's share of enrolment in higher education, by field of knowledge, 2019
(Percentages)

	Argentina	Brazil	Chile	Colombia	Cuba	Honduras	Mexico	Panama	Paraguay	Uruguay	Latin America
Education	73.7	72.2	80.3	60.6	78.9	70.7	73.9	74.8	56.0	75.4	72.7
Health and well-being	75.2	71.1	75.8	67.7	67.3	73.8	67.7	76.4	--	76.3	71.6
Social sciences, journalism and information	86.4	66.8	62.8	70.9	69.9	70.7	66.7	68.4	--	67.3	66.5
Arts and humanities	62.3	53.4	52.1	46.9	67.2	59.6	55.9	59.5	58.1	67.3	60.4
Business administration and law	57.5	54.8	54.7	59.5	70.5	60.4	54.6	66.6	56.4	62.2	55.8
Services	53.0	60.7	49.0	50.3	39.3	48.1	49.2	54.9	--	38.1	53.4
Natural sciences, mathematics and statistics	62.2	48.2	45.6	53.7	59.9	49.7	49.4	60.8	--	58.1	52.5
Agriculture, forestry, fisheries and veterinary medicine	50.1	50.3	53.1	46.7	51.9	29.0	41.4	43.7	56.4	50.5	47.7
Engineering, industry and construction	33.8	33.5	20.2	32.2	41.1	35.9	29.3	38.4	44.5	40.8	30.8
Information and communications technologies	16.8	13.6	11.2	20.8	31.9	28.4	23.7	29.5	38.6	15.8	18.0

Source: Organization of Ibero-American States for Education, Science and Culture (OEI), "Las brechas de género en la producción científica iberoamericana", *Papeles del Observatorio*, No. 09, Buenos Aires, 2018.
Note: Values are shaded according to women's participation in each of the fields: green corresponds to participation above 50%, yellow to participation between 35% and 50%, and red to participation below 35%.

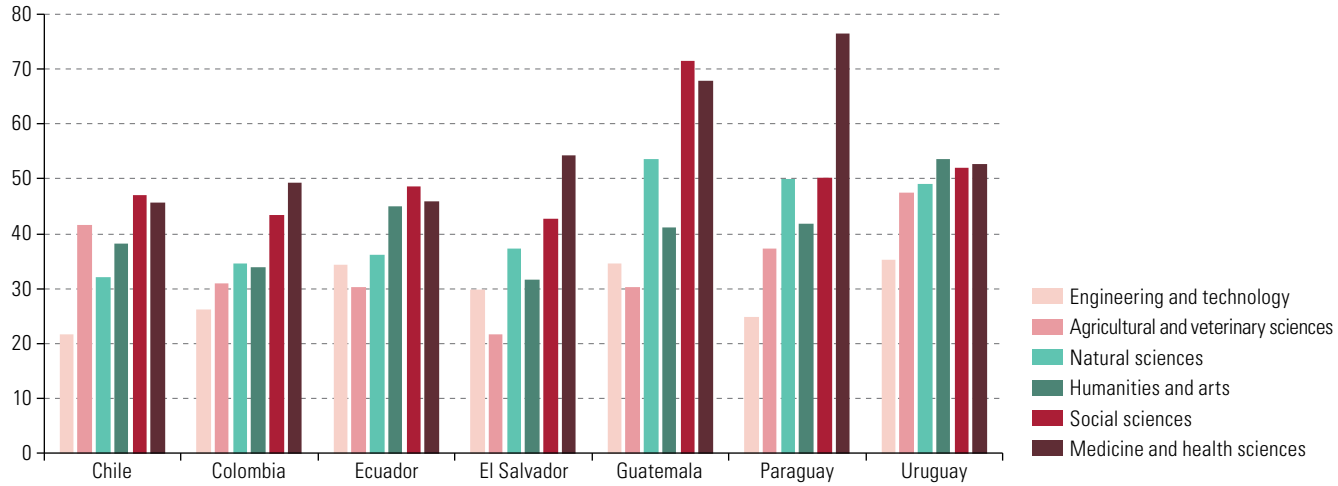
2. Academic profession and vertical segregation in the field of science, technology, engineering and mathematics

The gender inequalities observed in the field of education continue throughout academic careers, where gender gaps exist in several areas. Evidence of this includes the low participation of women in research and development (R&D), the presence of gender biases in scientific culture and in science and technology content itself, women's lower scientific output (e.g. publication of academic research and patenting), and their lower representation in leadership positions.

Although women make up the majority of higher education faculties, they tend to spend more time teaching than researching and are less likely to hold senior or leadership positions (university rectors and deans). They are also underrepresented at the highest levels of research careers (Bello, 2020). This differentiation is even greater in STEM careers. Women's representation decreases as they advance through academia; thus, the gender gap widens as they ascend the career ladder (Bello, 2020).

To understand vertical segmentation and the scenario women face in academia, it is necessary to analyse women's participation in R&D activities. Overall, in one third of the countries in the region there is a certain measure of gender parity, as women's share of the total number of researchers is between 48% and 53% (UNESCO, 2022); the average for the region is 45.7% (Ministry of Science and Innovation, 2021). However, in the area of research development, segregation in the field of R&D is pronounced. On average, women in Latin America are overrepresented in the fields of medicine and health sciences, social sciences, humanities and the arts, but make up only slightly more than 25% of researchers in engineering and technology (UNESCO, 2022) (see figure III.7). While this trend was observed across the region, there are significant differences among countries.

Figure III.7
Latin America (7 countries): women's participation in research and development (R&D) activities, by field of study
(Percentages)



Source: UNESCO Institute for Statistics (UIS), on the basis of official data from the countries.
Note: The years considered are: Chile, 2016; Colombia, 2017; Ecuador, 2014; El Salvador, 2018; Guatemala, 2018; Paraguay, 2018; and Uruguay, 2018.

This situation is even more acute if only those working in R&D full time are considered (Bércovich and Muñoz, 2022). Patriarchal cultural patterns arise in science based on male hierarchies that reproduce their own biases and contribute to the hierarchical organization of the processes of producing and validating scientific knowledge. It is essential to analyse how knowledge is created, who creates it and for whom, and how these biases are translated into employment and research in science, technology, engineering and mathematics. Therefore, it is not only important to examine the quantitative participation of women in science, but also how gender bias impacts access, selection and promotion in scientific careers in science and technology (Castaño and Webster, 2014; Bello, 2020), in the very processes of validation of knowledge through the peer community, and in scientific culture itself.

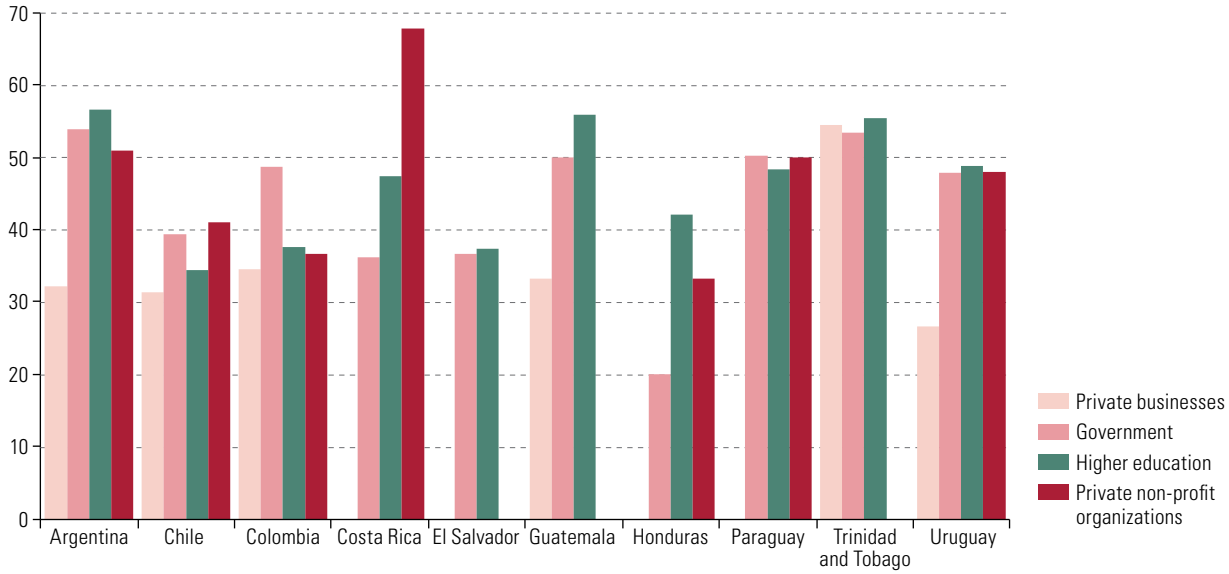
Deeper analysis by sector of occupation reveals additional, specific gender gaps. A review of gender segregation by sector of occupation (higher education, government and private companies), reveals that women are woefully underrepresented as researchers in R&D, where salaries tend to be higher, particularly in the fields of engineering and ICT. Gender biases are also observed in companies' recruitment, promotion and compensation processes (Bello, 2020). In all cases, gender parity is highest in public R&D centres and universities (Bello, 2020; Albornoz and others, 2018) (see figure III.8).

One indicator of academic career progression is the possession of a doctoral degree (corresponding to ISCED level 8).[7] There is a significant gap between men and women as they progress through post-graduate education. The proportion of female researchers of the total number of researchers (full-time equivalent) at ISCED level 8 is low in most countries reporting this indicator: Colombia, 36.4%; El Salvador, 23.4%; Guatemala, 39.1%; Paraguay, 39.8%, and Uruguay, 46%.[8] In Argentina and Trinidad and Tobago, women are in the majority at 54.4 9% and 53.6%, respectively (UNESCO, 2022) (see figure III.9).

7 The International Standard Classification of Education (ISCED) is part of the United Nations' international family of economic and social classifications and allows internationally comparable data to be collected and analysed in a uniform manner. It represents a benchmark classification that allows educational programs and their respective certifications to be organized by education level and field of study. ISCED level 6 corresponds to degree programs in tertiary education or equivalent; ISCED level 7 corresponds to master's or specialization programs or the equivalent; and ISCED level 8 corresponds to doctoral programs or the equivalent.

8 The full-time equivalent (FTE) for R&D personnel is the ratio of the hours worked in R&D during a calendar year to the total hours a person typically works in a year. Someone who normally spends 30% of their time on R&D and the rest on other activities is considered to be 0.3 FTE. For more information on this unit of measurement, see United Nations Educational, Scientific and Cultural Organisation (UNESCO), "Full-time equivalent (FTE) of R&D personnel" [online] http://uis.unesco.org/en/glossary-term/full-time-equivalent-fte-rd-personnel.

Figure III.8
Latin America and the Caribbean (10 countries): participation (full-time equivalent) of women in research and development (R&D) activities, by hiring sector
(Percentages)



Source: UNESCO Institute for Statistics (UIS), on the basis of official data from the countries.
Note: The years considered are: Argentina, 2017; Chile, 2017; Colombia, 2017; Costa Rica, 2018; El Salvador, 2018; Guatemala, 2018; Honduras, 2017; Paraguay, 2018; Trinidad and Tobago, 2018; Uruguay, 2018.

Figure III.9
Latin America and the Caribbean (7 countries): women researchers at levels 6, 7 and 8 of the International Standard Classification of Education (ISCED)
(Percentages)

Source: UNESCO Institute for Statistics (UIS), on the basis of official data from the countries.
Note: The years considered are: Argentina, 2018; Colombia, 2017; El Salvador, 2018; Guatemala, 2018; Paraguay, 2018; Trinidad and Tobago, 2018; Uruguay, 2018.

In some countries, the gaps between men and women are widening in the fields of science, technology, engineering and mathematics. The most notable cases are El Salvador and Colombia, where there is a difference of 20 and 14 percentage points, respectively, between the two groups at the doctoral level. There are also significant gaps in Chile and Ecuador.

Another indicator of progress in scientific career advancement is based on scientific output. Globally, women publish fewer papers than men and are less likely to be the first or last authors of an article;[9] moreover, publications written by women are cited less often (Bello, 2020). While women in Latin America have moved toward parity in authorship of scientific publications, the scenario conceals striking differences between countries and disciplines (IEO, 2018). Women's participation in publishing is lowest in the physical and chemical sciences and in engineering, at 38% and 30% respectively. Between 2011 and 2015, the women's share of the total number of authors of scientific articles was 38% in Chile, 39% in Colombia and 38% in Mexico; Brazil, meanwhile, was the country with the highest percentage of female authors (49% of the total) (López-Bassols and others, 2018).

The COVID-19 pandemic may have had a major impact on this situation. According to a study conducted by the University of Siena (Squazzoni and others, 2021) on a corpus of 2,329 journals published by the academic publisher Elsevier, the first wave of the pandemic created unanticipated research opportunities as a collective response from the academic community. The production of scholarly articles increased dramatically, especially in the health fields, driven by changes in the editorial management of many scientific journals, but with an imbalance in favour of men. The study concluded that this situation may have created inequalities in academic careers, particularly for young women. One plausible explanation for this is the increased demand for care activities that are primarily undertaken by women. It is thought that this may have an impact on their academic career development. This has also been confirmed in research into the impact of COVID-19 on higher education in Latin America (Marquina and others, 2022).

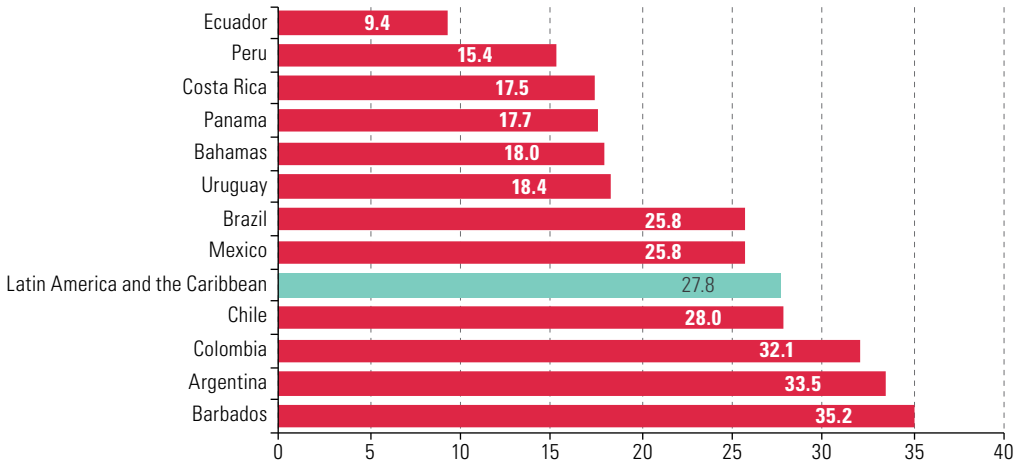
Another gap in women's participation in science and technology —particularly in STEM fields— arises as a result of barriers to obtaining significant funding; it is also evident in the underrepresentation of women at prestigious universities. Women are also at a disadvantage in the composition of faculty among tenured university professors, which puts them at an even greater disadvantage in terms of high-impact scientific publications (ECLAC, 2019a). Similarly, globally, women receive smaller grants than men and find it more difficult to raise venture capital for science and technology start-ups (World Economic Forum, 2021; Bello, 2020).

There is also a significant gender gap in terms of technology transfer. Data from the World Intellectual Property Organization (WIPO) on women's participation in patenting activities indicate that patents with at least one woman inventor on the team, on average, represent less than 30% of the total in countries in Latin America and the Caribbean (López-Bassols and others, 2018) (see figure III.10); internationally, the rate of women inventors is around 17% (Bello, 2020).

Reducing the segregation of women in science and technology requires policies and regulatory frameworks that actively promote gender equality in science and technology by mainstreaming gender in research activities and promoting gender parity in the allocation of positions in national science and technology systems. Undoubtedly, the lower participation of women in STEM careers is linked to pedagogical processes in basic education, where gender stereotypes and other structural challenges of inequality are propagated; therefore, policies must address all dimensions of this complex issue.

[9] In research articles in STEM fields, authors' names are ordered according to the scope of their contribution. The first author is usually the one who proposed the idea and was most involved in the research and writing of the paper, while the last author is the one who coordinates or supervises the project. Identifying someone as the first or the last author denotes the relevance of his or her participation in the knowledge production process.

Figure III.10
Latin America and the Caribbean (12 countries): patents with at least one female inventor on the team, 2007–2016
(Percentages)



Source: World Intellectual Property Organization (WIPO).
Note: The figure only includes countries that filed more than 40 patents under the Patent Cooperation Treaty during the period 2007–2016.

C. Technical and vocational education and women's insertion in the labour market: focus on the STEM sectors

While there has been an increase in the number of female students in higher technical education and vocational training, this is not evident in STEM fields or at the secondary level of technical education. Barriers to access to traditionally male-dominated careers are linked to sociocultural factors that date back to the origins of vocational technical education and its association with the sexual division of labour and the unjust social organization of care in the context of industrial development. Gender stereotypes that are reproduced in the design and format of academic offerings, in the pedagogical model, in curricular content, and in teaching and learning methods and resources in technical and vocational education, particularly in STEM subjects, deepen segregation. Inequalities linked to gaps in the labour market insertion and promotion of women graduates of technical and vocational education are other factors affecting working conditions in the STEM sectors.

The teaching and learning processes involved in technical and vocational education are intricately linked to the world of work and the acquisition of professional skills related to socio-productive issues. Prompted by the pandemic, technological advances and automation have increased the demand for skills in science, technology, engineering and mathematics. In recent times, technical and vocational education and training systems, which are closely related to practical issues and real-life problems, have witnessed an increase in competency-based training, particularly in science, technology, engineering and mathematics, to facilitate employability and make the world of work more dynamic and empowering. The field of science, technology, engineering and mathematics is usually associated with traditional academic education, rather than with technical and vocational education. However, designing technical and vocational education programmes linked to technology and engineering is seen as being conducive

to fostering labour market insertion and advancement through higher education, which enable the deepening of skills and competences and promote greater specialization among the professionals working in these areas (Sevilla, 2021).

Data from a number of studies (Wolniak and Engberg, 2019, cited in Sevilla, 2021) indicate that professions in science, technology, engineering and mathematics offer a higher return in the labour market, regardless of students' socioeconomic background. Therefore, technical and vocational education at various levels, but especially in these areas, has the potential to galvanize the employment and educational trajectories of women in the region, especially those belonging to the lowest income quintiles. Viewed though this lens, technical and vocational education is a critical component in achieving structural change in the development model as it speaks directly to people's capabilities and has transformative potential that can drive women's economic autonomy at the nexus of education and work. However, technical and vocational education programmes are highly segregated by gender, and there are several curricular, organizational and cultural elements that prevent the potential of such education from being harnessed to propel girls and young women in these areas (Sevilla, 2021).

The studies that have been carried out on women's participation in science, technology, engineering and mathematics address general or university education and have not specifically considered technical and vocational education, where gender differences tend to be more evident because of the heightened dominance of women or men in the associated areas of study. A report recently published by UNESCO warns of the need for in-depth research on the factors that hinder and facilitate women's participation and performance in areas of technical and vocational education related to science, technology, engineering and mathematics (Sevilla, 2021).

In the region, technical and vocational education is generally offered at various levels corresponding to the following UNESCO ISCED categories: secondary education (depending on the country, ISCED 2 and 3); post-secondary non-tertiary education (ISCED 4); tertiary education (ISCED 5, short cycle, and ISCED 6, degree programme); and vocational education or training.

Women's participation at each of these levels is uneven. At the secondary level, their participation is low, especially in the industrial sector and in careers associated with science, technology, engineering and mathematics. In technical higher education and vocational training, however, this trend is reversed in overall enrolment, but gender gaps persist with respect to the types of careers that are traditionally male dominated.

The wide gender gaps at the secondary level of technical and vocational education —which vary by career, but on average indicate that only 30 of every 100 students are female— may be caused by individual characteristics linked to social identity, the construction of self-identity by adolescents and gender representation in this age group, which influences vocational choices (ECLAC, 2021a). This also speaks to the very origin of technical and vocational education, which, at the social level, instilled gender stereotypes in vocational choice and educational offerings (Sepúlveda, 2017).[10]

Although some countries show evidence of gender parity in enrolment in technical and vocational education, the figures belie a considerable degree of heterogeneity within the educational offerings, as there are sectors that are seen as female-dominated professional niches, which are primarily associated with occupational fields in which remuneration is low or job prospects are limited compared to occupations in the areas of science, technology, engineering and mathematics.

In recent years, there has been an increase in policies and initiatives developed by ministries of Education or other public or private bodies to include gender mainstreaming in technical and vocational education among the lines of action established in national

[10] See Sepúlveda (2017) for more details of the historical context, the evolution of technical and vocational education in Latin America and the Caribbean and the origin of gender inequalities in this academic area.

gender equality plans and mainstreaming policy. However, no specific STEM-related initiatives have been in technical and vocational education. Rather, initiatives associated with these areas aim to foster scientific and technological vocations and promote a progressive increase in women's participation in these fields, mainly in tertiary education.

Despite these efforts, the proportion of women in technical and vocational education in the region reveals marked gender segregation. Men are concentrated in programmes in the engineering, manufacturing and construction sectors, while women are concentrated in programmes related to business, education and health care (Sevilla, 2021). For example, as figure III.11 shows, the average rate of women's participation in secondary-level technical and vocational education in the industry, production and technology sectors does not exceed 30%.

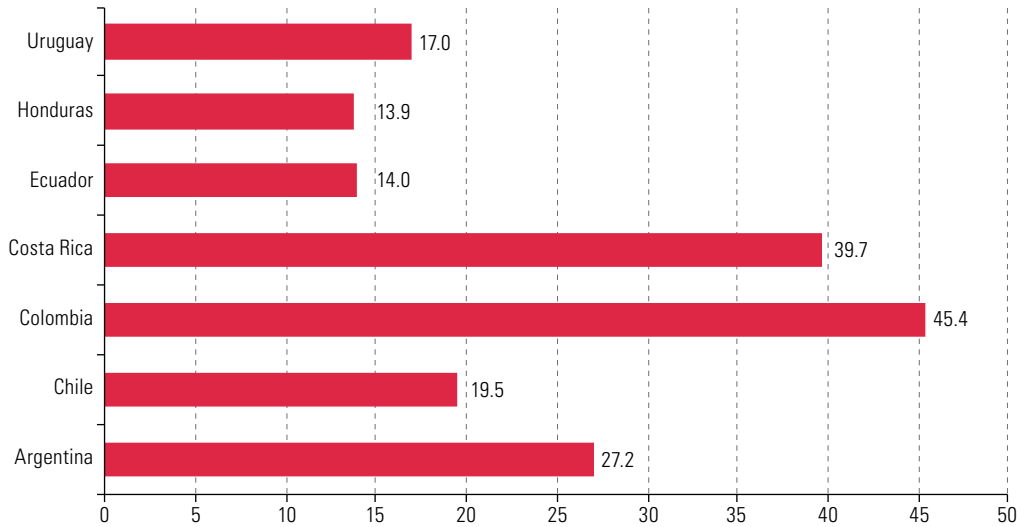


Figure III.11
Latin America (7 countries): share of women in total enrolment in secondary technical and vocational education in the areas of industry, production and technology, selected years
(Percentages)

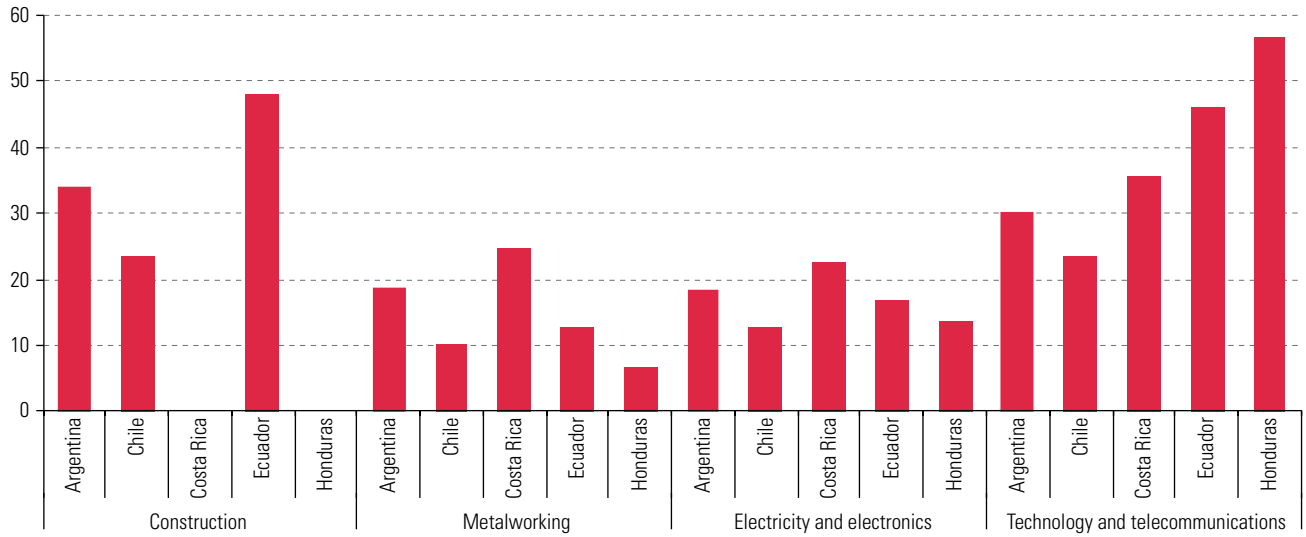
Source: M. Sevilla, "La educación técnico-profesional y su potencial para mejorar la trayectoria educativa y laboral de las mujeres en las áreas de ciencia, tecnología, ingeniería y matemáticas: una revisión regional", *Gender Affairs series*, No. 160 (LC/TS.2021/155), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2021; National Institute of Technological Education (INET); Ministry of Education of Chile; National Administrative Department of Statistics (DANE); Ministry of Science, Innovation, Technology and Telecommunications (MICITT); S. García, "Trayectorias de mujeres: educación técnico-profesional y trabajo en el Ecuador", *Gender Affairs series*, No. 156 (LC/TS.2019/28), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2019; L. Rivero, "Educación técnico profesional en Uruguay: aproximación de análisis de aspectos clave bajo una mirada con enfoque de género", *Informe de consultoría*, Montevideo, Economic Commission for Latin America and the Caribbean/National Women's Institute/Professional Technical Education Council (ECLAC/INMUJERES/CETP), 2019, unpublished.

Note: The years considered are: Argentina, 2021; Chile, 2019; Colombia, 2019; Costa Rica, 2020; Ecuador, 2017; Honduras, 2017 and Uruguay, 2018.

In Argentina, Chile, Ecuador, Honduras and Uruguay, women's participation in secondary-level programmes associated with industry, production and technology is low, while in Colombia and Costa Rica, higher levels are observed, with the caveat that enrolment in programmes in the industrial sector only represents around 20% of total enrolment.

Regarding total enrolment in selected sectors related to science, technology, engineering and mathematics, the share of women does not exceed 30% in the metalworking sector and in the electricity and electronics sector in any of the countries (see figure III.12). According to Sevilla (2021), the high percentage of female participation in Ecuador's construction sector could be influenced by the fact that the curricula are focused on less male-dominated tasks, such as providing support for the administrative management of construction sites and projects.

Figure III.12
Latin America and the Caribbean (5 countries): share of women enrolled in selected sectors related to the field of science, technology, engineering and mathematics
(Percentages)



Source: M. Sevilla, "La educación técnico-profesional y su potencial para mejorar la trayectoria educativa y laboral de las mujeres en las áreas de ciencia, tecnología, ingeniería y matemáticas: una revisión regional", *Gender Affairs series*, No. 160 (LC/TS.2021/155), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2021; National Institute of Technological Education (INET); National Administrative Department of Statistics (DANE); Ministry of Science, Innovation, Technology and Telecommunications (MICITT); S. García, "Trayectorias de mujeres: educación técnico-profesional y trabajo en el Ecuador", *Gender Affairs series*, No. 156 (LC/TS.2019/28), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2019.
Note: The years considered are: Argentina, 2021; Chile, 2019; Costa Rica, 2020; Ecuador, 2017 and Honduras, 2017.

Gender disparities are apparent within countries depending on the regional distribution of technical and vocational education options in general, and in areas related to science, technology, engineering and mathematics in particular. In Argentina, for example, while almost 20% of the student body in the metalworking sector is made up of women, in some regions of the country this share is less than 10% (INET, 2021). Thus, it is necessary to strengthen States' commitment to promoting public policies aimed at incentivizing the closure of these gender gaps and the promotion of women in various sectors of the labour market, such as in science, technology, engineering and mathematics, in line with subnational needs and disparities.

The STEM-focused academic offerings in technical and vocational education are highly segregated by gender in terms of curricular aspects as well as organizational and cultural aspects (Sevilla, 2021), which reveal persistent barriers that function as structural challenges of unequal opportunities for women (see diagram III.1). From this standpoint, it is possible to analyse the factors that produce the barriers and obstacles that affect the educational trajectory of girls and women in technical and vocational education at the regional level, particularly in the areas of science, technology, engineering and mathematics.

Since their inception, academic offerings in technical and vocational education have been segmented based on the sexual division of labour and the unjust social organization of care, from the advent of industrialization. Technical and vocational education was, therefore, designed to prepare men for work and women for arts and crafts associated with manual labour and household chores (Sepúlveda, 2017). Based on this premise, the burden of domestic and care work and the gender socialization ingrained by the family and actors in the education system can be identified as structural challenges of gender inequality in technical and vocational education and function as barriers in women's education in technical and vocational education and in the career paths of women graduates of these programmes.

Patriarchal cultural patterns affect women's career choices in technical and vocational education and lead to their underrepresentation in science, technology, engineering and mathematics. This is largely due to stereotypes associated with differences in men's and women's bodies in terms of the physical strength required for professions in STEM-related sectors (particularly in the industrial sectors related to construction and metalworking). The main factors associated with women's underrepresentation are sociocultural and individual: the former stem from the impact of sociocultural elements regarding women's likelihood of success in their professional performance in the face of stereotypes that correlate the feminine with kindness and sensitivity and suggest that these characteristics are incompatible with occupational fields traditionally dominated by men (such as science, technology, engineering and mathematics). Individual factors refer to biological, psychological, sociocultural and contextual aspects that influence the choice of careers in these fields (Sevilla, 2021).

Linguistic and extra-linguistic practices (cultural codes) that are typically used in the field of technical and vocational education also function as a barrier. Three aspects of this dynamic are particularly noteworthy. First, the terms "women" or "gender" are practically absent from the curricula content. Second, educational offerings in technical and vocational education are communicated and promoted through visual language that associates images of men with careers that are traditionally considered masculine (those linked to the sexual division of labour of the past century), while female iconography is used to promote offerings related to subject areas that are viewed as women's exclusive domain (for example, fashion design). Lastly, the names of technical and vocational education qualifications are expressed in masculine form, for example, in Spanish, the term for technician is "*técnico*" (Bloj, 2017).

The inexorable persistence of gender stereotypes in vocational choices and educational offerings in technical and vocational education reinforces segregation. Female students' scientific and technological career aspirations are influenced by representations of gender associated with mothers and fathers in terms of activities that women cannot perform or would perform poorly (Buquet and Moreno, 2017). Several regional studies show that these gender representations and stereotypes in family structures influence individual female students' decisions to enter and remain in technical and vocational education careers in science, technology, engineering and mathematics. Studies also show that there are, on average, 2 women per 20 men enrolled in technical and vocational education at the secondary level, and that the gap is even wider at the non-university tertiary level (Sevilla, 2021).

Other studies reveal that female students who did opt for technical and vocational careers, despite all the barriers, attribute their decision to the following factors: motivation or encouragement from male relatives (fathers, uncles, brothers or boyfriends); the family's encouragement or mandate to participate in the family's productive activity, or to continue or inherit it; the expectation of early entry into the labour market; the distinguished careers of women who are viewed as role models or early signs of excellence in subjects associated with science, technology, engineering and mathematics (García, 2019).

Despite regional progress in women's access to and participation in technical and vocational education, potent discriminatory sociocultural patterns that reproduce gender inequality remain. This is evidenced by educational environments that are hostile to women in male-dominated spheres, such as discrimination against women graduates of technical and vocational education on entry into the labour market and in career transitions.

Educational models in technical and vocational education respond to gender diversity in terms of school format, the organization of time, spaces and groupings, as well as in their connection to care work performed by women. Discrimination linked to the gender stereotypes of men's physical strength and women's weakness are reflected in institutional culture and teaching and learning resources (school equipment and infrastructure), as well as in hostile or harassing classroom environments (particularly

in male-dominated careers where women are underrepresented by a ratio of 2:20) that promote dropout or create a situation in which women must earn the respect of their male peers (Buquet and Moreno, 2017).

The organization of professional internships, a vital component of the educational model of technical and vocational education, also presents barriers. The scarcity of women in internships appears to be related to the scarcity of women in managerial positions or in scientific and technological positions in the fields that offer internships, where gender stereotypes and segmentation of the tasks assigned to female interns are observed, as well as resistance from companies to host female interns (García, 2019).

These training opportunities reinforce the structural challenges of gender inequality associated with the concentration of power and hierarchical relationships in male-dominated public and private spheres, and the unequal valuation of women's and men's technical capacities, since, despite equal training, treatment and opportunities are unequal. This dynamic is replicated in technical and vocational education institutions through male-dominated teaching and management roles. The regulatory frameworks operating at each level reinforce this structural challenge since the regulations governing access to posts and promotions (in teaching and managerial positions) require a technical degree and, therefore, generate a feedback loop in the technical specialties whereby the majority of students and teachers are men, which hinders effort to close the gender gap in these positions (Muñoz, 2019; Bloj, 2017).

Lastly, discrimination against women graduates of technical and vocational education in labour market entry and progression, the propagation of gaps on entry into the labour market (participation, occupation, unemployment and wages, among others), and the coordination with domestic work and care tasks, which affect both working and non-working women, constitute another structural challenge of gender inequality in technical and vocational education, as they perpetuate inequality and poverty among female graduates (Muñoz, 2019).

Since the 1990s, regional programmes aimed at increasing women's participation in technical and vocational education were launched with the objective of promoting economic autonomy and increasing employment opportunities. Examples of these were the regional programmes promoted by the Inter-American Centre for Knowledge Development in Vocational Training (CINTERFOR), namely, the Regional Programme for the Promotion of Women's Participation in Technical and Vocational Training, 1991 and the Regional Programme to Strengthen Technical and Vocational Training of Low Income Women in Latin America (FORMUJER), 1998, which included, among other elements, a scholarship for vocational training for women living in poverty. Following an evaluation of these experiences, it was recommended that the gender perspective should be more deeply embedded in training programmes for trainers and instructors in this area of knowledge in the region. The expectation was that this recommendation would have a positive impact on training processes in technical and vocational education institutions in terms of diversity in the pedagogical materials and methodologies.

It is worth highlighting experiences with this initiative in several countries in the region, where gender policies and programmes have been launched in technical and vocational education, generally as a component of national equality plans (see section E). Various initiatives have been promoted to reduce gender gaps and eradicate stereotypes in this area: the Ministry of Education of Ecuador prepared a *Guide for mainstreaming the gender perspective in the operational management of technical education in Ecuador*; the National Institute of Technological Education (INET) of Argentina prepared an *Orientation Guide for the design of professionalizing practices with a gender perspective*, and carries out follow-up studies of students and graduates of technical and vocational education, including a National Survey of Student Trajectories (ENTrE); in Chile, studies have also been carried out on the educational and employment trajectories of students in technical and vocational secondary education.

These policies must be strengthened and expanded, and information systems on the educational and employment trajectories of students and graduates must be implemented to eliminate gender segregation in the workplace and promote women's entry into high-productivity sectors, while reinforcing technical and vocational education strategies, particularly through proposals that address the areas of science, technology, engineering and mathematics. Given that technical and vocational education is a key area for launching women into the world of work in these sectors and can enhance economic autonomy, it is essential to mainstream the gender perspective into training systems in this type of education to enhance academic and employment trajectories in traditionally male-dominated domains and to overcome the gaps in access to jobs and promotions in the areas of science, technology, engineering and mathematics, as well as in the dynamic sectors of the economy.

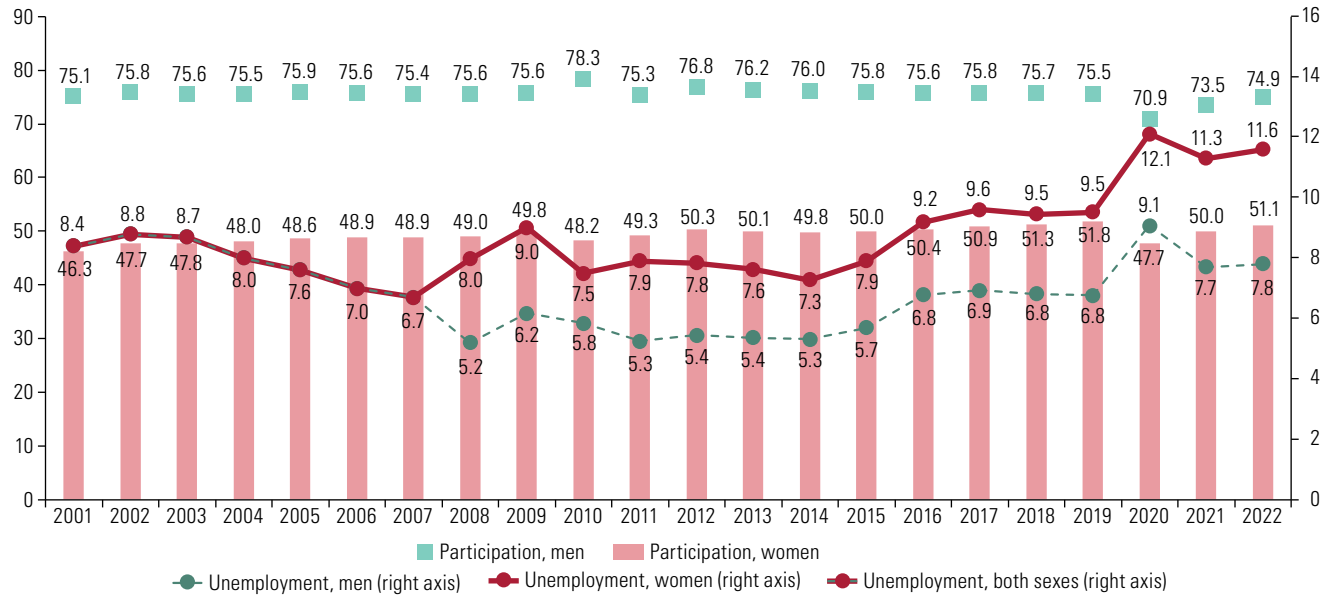
D. Women's labour market insertion and career paths: progress in access to education does not translate into equal employment conditions

Gender inequalities that originate in primary and secondary education influence the choice of fields of study at the tertiary level, as well as women's subsequent labour market insertion and career path. This process is illustrated by marked occupational gender segregation, where women are often concentrated in sectors associated with more precarious working conditions and low wages, as well as in sectors related to care, such as health and teaching. The pandemic's impact on the labour market and women's overwhelming exit from paid employment brought to light the structural challenges of gender inequality and, in particular, the sexual division of labour and the unjust social organization of care, which fall disproportionately on women. The areas of science, technology, engineering and mathematics, and technology in particular, offer an excellent opportunity to achieve sustainable development and gender equality on the path towards transformative recovery with equality, as outlined in the Montevideo Strategy for the Implementation of the Regional Gender Agenda within the Sustainable Development Framework 2030. However, it is imperative that public policy responses address the structural challenges of gender inequality.

The gender gaps that begin to emerge in primary and secondary education are clearly manifested in the choice of fields of study at the tertiary level and, later on, in women's labour market insertion and trajectories. The persistence of the structural challenges of gender inequality are a key factor in the evolution of these trajectories, and their effects were already evident before the pandemic in the overrepresentation of women in informal jobs and in sectors characterized by lower productivity, in wage gaps and, in general, in the lower participation of women in the labour market.

The pandemic and its impact interrupted the slow progress made in the labour market in recent decades. In 2019, the labour market participation rate for women in Latin America was 51.8%, compared with 75.5% for men, and the unemployment rate for women was 9.5%, 2.7 percentage points higher than that of men (6.8%) (see figure III.13). The pandemic triggered a sharp exit by women from the labour market: in 2020, the female participation rate fell to 47.7%, representing an 18-year setback in women's labour participation. While this figure is projected to reach 51.1% in 2022, this still means that one in two women does not fully participate in the labour market, which represents a major obstacle to progress towards economic autonomy (ECLAC, 2022c and 2022e).

Figure III.13
Latin America and the Caribbean (24 countries):[a] trend in labour market participation and unemployment, by sex, 2001–2022
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Economic Survey of Latin America and the Caribbean, 2022* (LC/PUB.2022/9-P), Santiago, 2022; on the basis of official country figures.
Note: Projections for 2022 are included using data from the *Economic Survey of Latin America and the Caribbean*, 2022.
[a] Argentina, Bahamas, Barbados, Belize, Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia, Trinidad and Tobago and Uruguay. The figures for 2019 do not include the Bolivarian Republic of Venezuela.

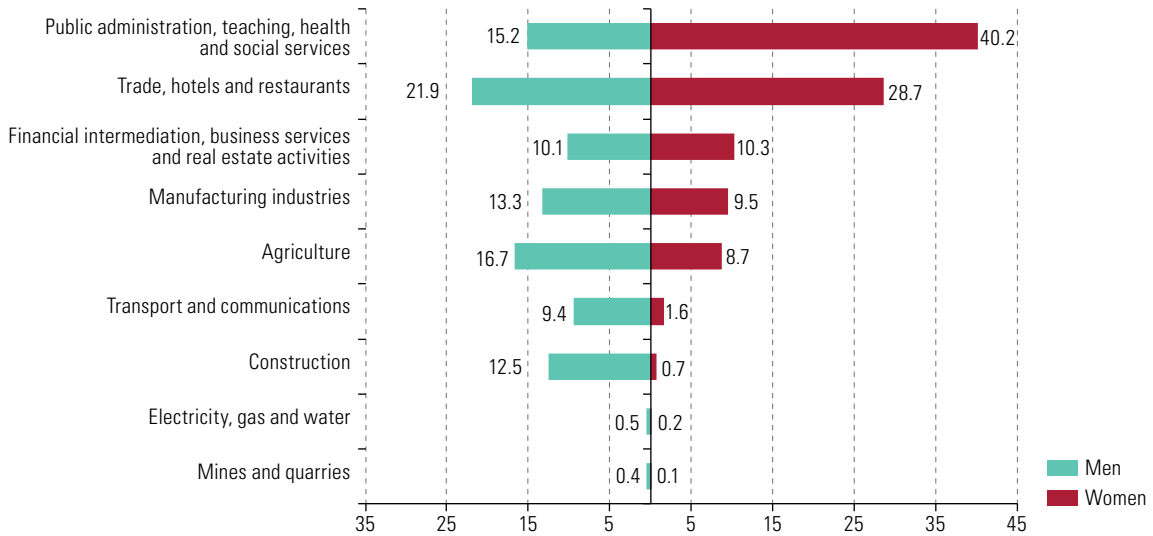
Women's mass exodus from the labour market is associated with two phenomena in particular: marked occupational gender segregation, as several of the productive sectors most affected by the pandemic have been precisely those in which women are heavily overrepresented, and the overload of unpaid domestic and care work, which falls disproportionately on women and was exacerbated by lockdowns, the closure of educational establishments and other measures aimed at coping with the health crisis.

Occupational segregation in the region reveals a high concentration of women in trade sectors and care-related sectors (education, health, social assistance and domestic employment) (Vaca-Trigo, 2019) (see figure III.14). These sectors are associated with a high incidence of part-time work and relatively low wages (Vaca-Trigo, 2019).

The pandemic had a major impact on tourism, trade, manufacturing and domestic services as these sectors suffered the greatest losses in terms of production volume and employment (Bidegain, Scuro and Vaca Trigo, 2020). Moreover, these sectors account for about 56.9% of women's employment and 40.6% of men's employment in Latin America, and 54.3% of women's employment and 38.7% of men's employment in the Caribbean (ECLAC, 2021b). In the largely female-dominated sectors of health and education, workers had to contend with intensified working hours, new demands and high exposure to contagion.

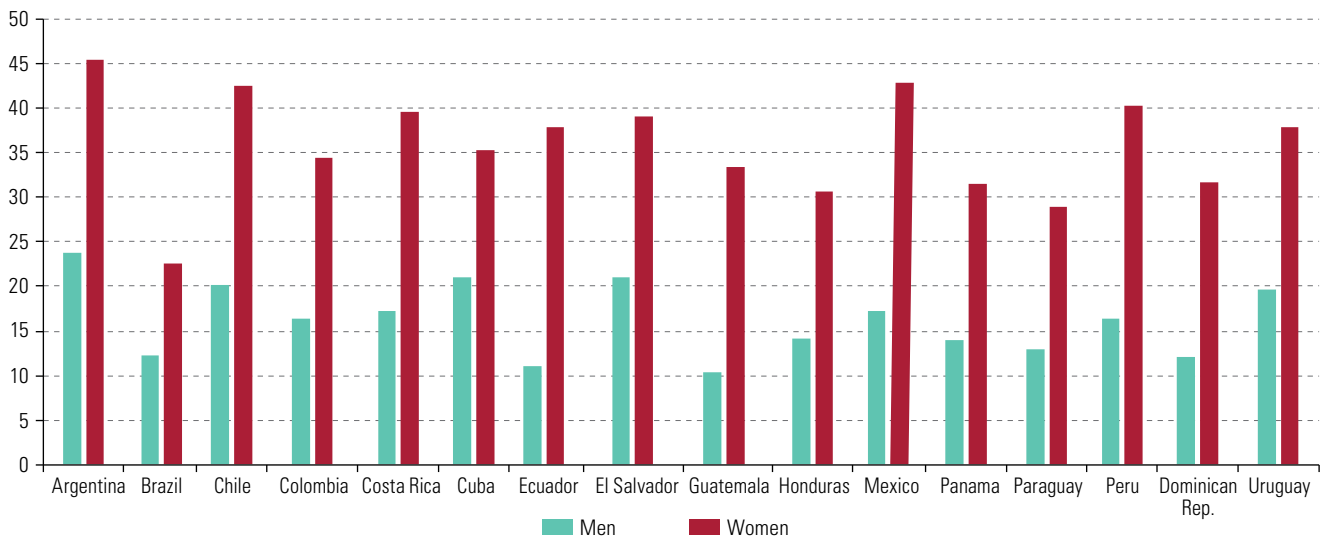
At the same time, during the pandemic, women faced an overwhelming increase in their workload, to the detriment of their physical and mental health, their work assignments, their personal spaces and their overall autonomy (ECLAC, 2021b). This situation is closely tied to the sexual division of labour and the unfair social organization of care, which represents one of the most persistent structural challenges of gender inequality in the region and leads women to assume a greater burden of work and responsibility in this area. The systemic role of unpaid care work is invisible and takes a heavy toll on women's autonomy, especially their economic autonomy. Data from time-use surveys in the region provide a very clear picture of this situation. Every week, women in the region spend double or triple the time spent by men on unpaid domestic and care work (see figure III.15).

Figure III.14
Latin America and the Caribbean (10 countries):[a] distribution of the employed population by sector of economic activity, by sex, around 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG).
[a] Weighted average of the following countries: Argentina, Brazil, Colombia, Costa Rica, the Dominican Republic, Ecuador, Panama, Peru, Paraguay and Uruguay

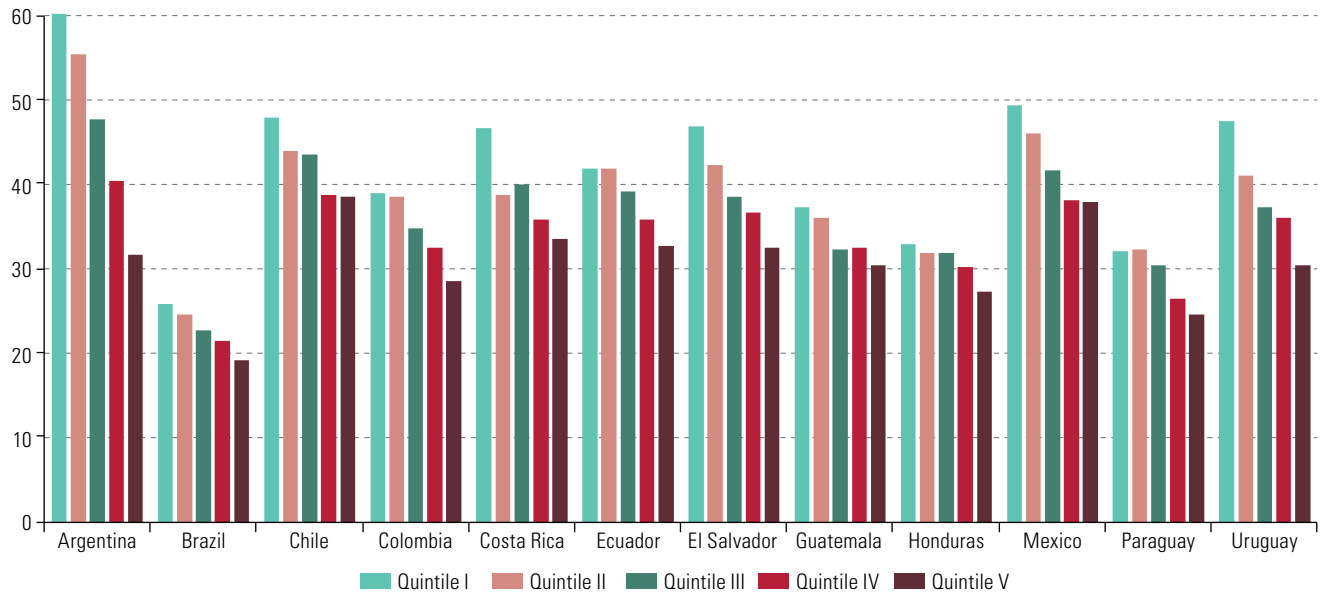
Figure III.15
Latin America (16 countries): average time per week spent on unpaid work by the population aged 15 and over, by sex and country
(Number of hours)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en.
Note: The years considered are: Argentina, 2013; Brazil, 2019; Chile, 2015; Colombia, 2017; Costa Rica, 2017; Cuba, 2016; the Dominican Republic, 2016; Ecuador, 2012; El Salvador, 2017; Guatemala, 2019; Honduras, 2009; Mexico, 2019; Panama, 2011; Paraguay, 2016; Peru, 2010 and Uruguay, 2013.

In addition to patriarchal cultural patterns, socioeconomic stratification in the region and the lack of quality public services leaves lower-income households more vulnerable to this situation as they find it more difficult to organize care and are unable to buy goods and services on the market that would help reduce the burden of domestic and care work. On average, women in the top quintile spend up to 40% of their working hours on domestic chores, and the early assignment of these tasks to girls widens the gaps by making it more difficult for them to access education and better jobs (see figure III.16) (ECLAC, 2019a).

Figure III.16
Latin America and the Caribbean (12 countries): average time weekly spent by women on unpaid work, by quintile
(Number of hours)

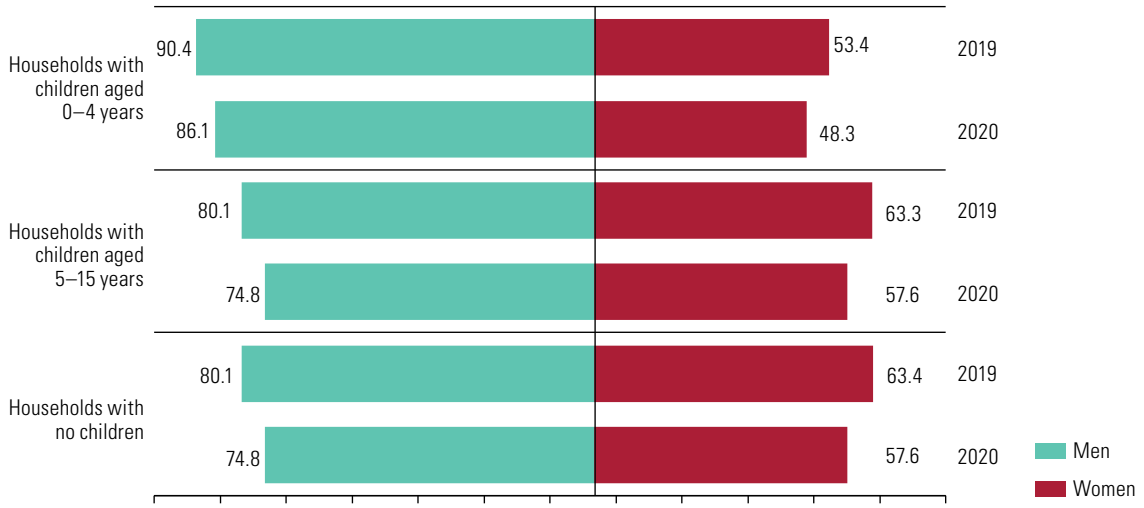


Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en.
Note: The years considered are: Argentina, 2013; Brazil, 2019; Chile, 2015; Colombia, 2017; Costa Rica, 2017; Ecuador, 2012; El Salvador, 2017; Guatemala, 2019; Honduras, 2009; Mexico, 2019; Paraguay, 2016 and Uruguay, 2013.

The COVID 19 pandemic highlighted the centrality of domestic and care work, which increased for both men and women. It also demonstrated the unsustainability of the current social organization of care as women had to assume the lion's share of care work in households. A study by the Americas and the Caribbean Regional Office of the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women, 2021) conducted in Chile, Colombia and Mexico in the second half of 2020 found that a higher percentage of women than men were performing a larger share of teaching and training for children, with an average gender gap of 12.3 percentage points in the three countries. In addition, time spent feeding, cleaning and playing with children increased more among women than men, with a difference of 8.4 percentage points (UN-Women, 2021; ECLAC, 2022c).

The closure of education and care facilities had a greater impact on women and households with children aged 0–4 years, where the employment rate fell by 11.8%. Women aged 20-59 in these households had the lowest employment rates before the pandemic (53.4%) (see figure III.17).

Figure III.17
Latin America (13 countries):[a] employment rate and change in employment rate of the population aged 20–59 years in households with and without children aged 0–15 years, by sex, 2019 and 2020
(Percentages)



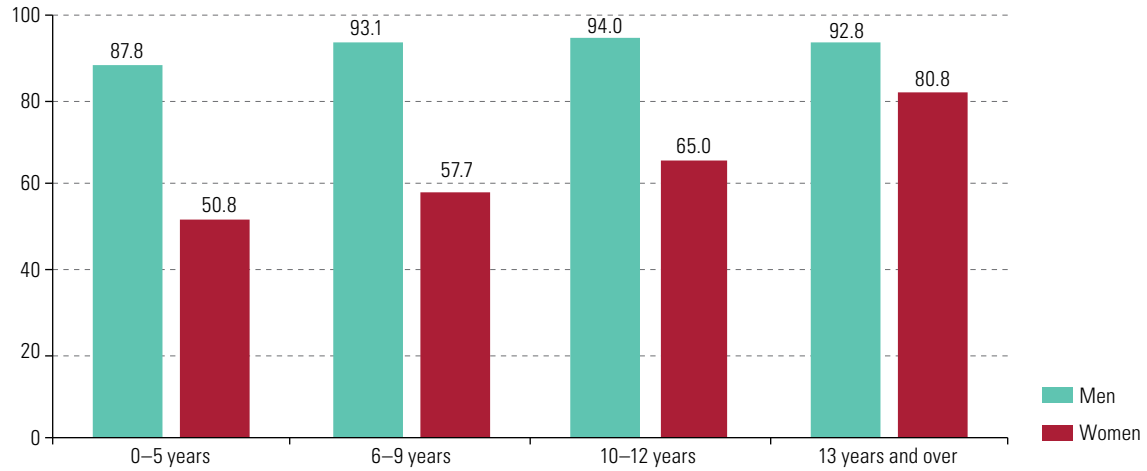
Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en
[a] Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Mexico, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay.

Education has a major impact on women's entry into the labour market in environments characterized by pronounced occupational gender segregation and segmentation. There is a gap of 37 percentage points in labour force participation between men and women with 5 years of education or less, but this gap narrows to 12 points for men and women with over 13 years of education (see figure III.18). Moreover, the gap between those with more years of education has diminished over time, from 15.3 percentage points in 2000 to a low of 11.5 percentage points in 2019, which coincides with women's higher levels of academic achievement. While educational attainment attracts higher incomes, it is not sufficient to ensure equality. In all cases, and when combined with other factors, gender proves to be a crosscutting factor in inequality, which deepens in an intersectional context. In all population groups, men's income is consistently higher than women's, and disaggregation of income distribution by sex and ethnic-racial status reveals that Indigenous women earn almost 40% less than their peers of African descent when they have both completed 13 or more years of education, and more than 50% less than non-Indigenous women or women of African descent with the same educational level (see figure III.19) (ECLAC, 2019a).

In this context, digital technologies will affect employment and produce profound transformations in many activities based on the growing cognitive capabilities of robots and machines (ECLAC, 2018; ECLAC, 2019b). New technologies, therefore, threaten employment prospects in manufacturing sectors and service activities, where the majority of women are employed. This scenario could lead to a widening of gender gaps in labour market insertion and working conditions in general (ECLAC, 2019b).

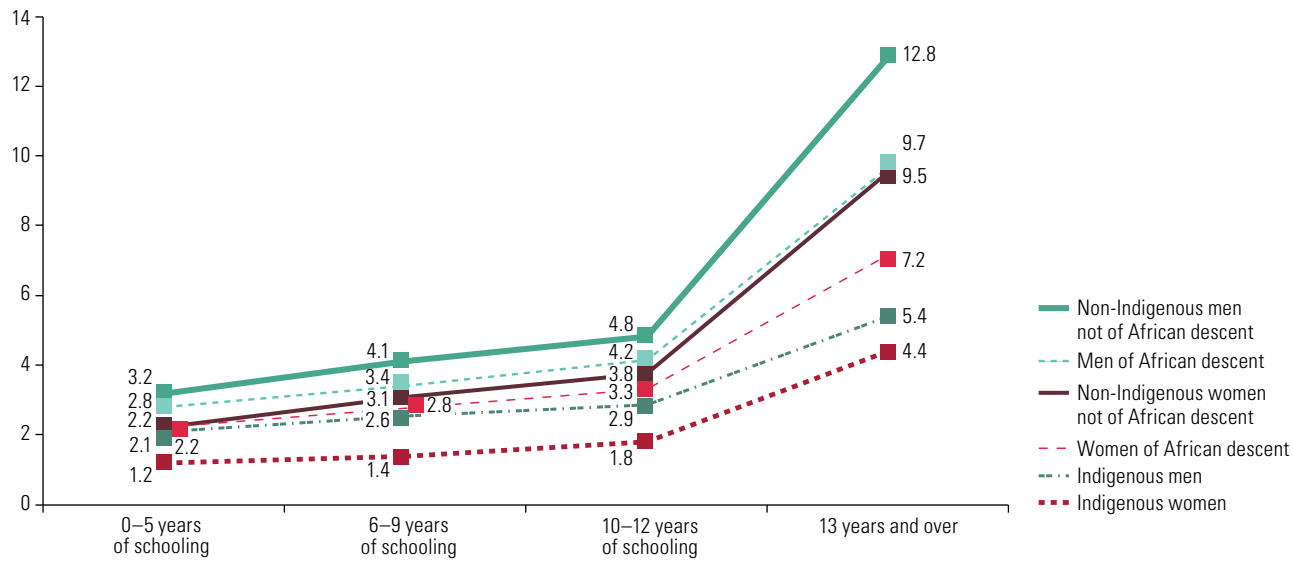
The digital transformation requires that workers acquire more skills and different capabilities to gain access to new occupations. In the various sectors, professionals with skills in science, technology (particularly ICT), engineering and mathematics are needed. These fields are linked to the occupations or professions of the future (ECLAC, 2022a), and the absence of people with the necessary skills is one of the main constraints hindering expansion (Bércovich and Muñoz, 2022). The low proportion of women trained in science, technology, engineering and mathematics, as well as the lack of digital skills, are the main obstacles to harnessing the potential of the digital economy and taking advantage of opportunities to enter the most dynamic sectors, which could translate into access to new and better jobs resulting from the transformation, diversification and creation of new economic activities (Vaca-Trigo and Valenzuela, 2022).

Figure III.18
Latin America and the Caribbean (18 countries):[a] labour participation rate of the population aged 25–59 years, by sex and years of education, around 2020
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en
[a] Argentina, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia and Uruguay.

Figure III.19
Latin America and the Caribbean (6 countries):[a] hourly income of the employed population aged 15 years or older, by sex, education level and ethnicity or race, around 2020
(International dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG); World Bank, "PPP conversion factor, GDP (LCU per international $)" [online] https://data.worldbank.org/indicator/PA.NUS.PPP.
Note: The calculations were made using the World Bank indicator, PPP conversion factor
[a] Weighted averages for the following countries: Brazil, Colombia, Ecuador, Panama, Peru and Uruguay. The data for Panama are for 2019.

Men currently occupy most of the management and communications jobs in ICT and in science, technology, engineering and mathematics, while women are more likely to work in routine occupations that are vulnerable to the threat posed by automation (Bustelo and others, 2022; Bércovich and Muñoz, 2022). It is worth noting that people working in science, technology, engineering and mathematics earn two thirds more than those employed in other fields (Bello, 2020).

The structural challenges of gender inequality limit women's ability to integrate into and remain in occupations in science, technology, engineering, and mathematics. Gender stereotypes produce educational environments that are hostile to women, which is manifested in their educational trajectories as well as in the transition to the initial stages of their careers and throughout advancement to higher-level positions (ECLAC, 2019a; López-Bassols and others, 2018). In countries such as Chile and Mexico, women's participation in occupations linked to science, technology, engineering and mathematics does not exceed 40%, including in health, where women are overrepresented (López-Bassols and others, 2018). Several gender gaps are clearly visible in women's employment in science and technology-related industries (including R&D-intensive industries as well as the ICT sector). In 2018, in Chile and Colombia, women held less than one third of jobs in these industries (López-Bassols and others, 2018). Globally, women occupy less than 25% of all jobs in the digital sector and in developing countries, men are 2.7 times more likely than women to work in the digital sector (Bércovich and Muñoz, 2022). Moreover, only 6% of software and mobile application designers are women (ITU, 2016).

Not only do women face obstacles in accessing jobs in STEM fields, but when they do gain access, there are significant differences in the level at which they are employed compared to men. In Mexico, women's representation in high- and mid-level positions in ICT occupations is similar to that of men (around 40% or 45% of the total), while in science and engineering, they hold only 17% of high-level positions and 6% of mid-level positions (López-Bassols and others, 2018).11 In the digital sector, women are less likely to occupy high-level positions and usually work in administrative or less skilled roles (Bércovich and Muñoz, 2022). When women do manage to participate in these sectors, they face significant wage gaps relative to men, which are even larger than the average gap for the rest of the workforce (UNESCO, 2019; UNESCO/EQUALS Skills Coalition, 2019). In Chile, the wage gap is even more pronounced in occupations in science, technology, engineering and mathematics, as men's average salaries are approximately 50% higher than women's; if all occupations are considered as a whole, the difference is 46% (López-Bassols and others, 2018).

Furthermore, women are absent or underrepresented in the design processes of the technologies that are shaping our future way of life, which is a key component given the multiplier effect of these resources. Women's absence or underrepresentation in designing digital technologies, in addition to representing considerable under-utilization of talent and potential for greater diversity (Bércovich and Muñoz, 2022), carries the risk of perpetuating gender biases considering the impact of digital processes on everyday life (particularly artificial intelligence, such as database use and operation)

E. Educational and employment measures to make progress towards women's economic autonomy

Public policy responses in Latin America and the Caribbean demonstrate increased recognition of the need to promote women's participation in educational and employment opportunities related to science, technology, engineering and mathematics. This recognition has been reflected in two complementary areas in particular: the promotion of this field in gender equality plans in several countries in the region and the development of plans specifically focused on the intersection between gender and science, technology, engineering and mathematics, as has been done in Chile, Costa Rica and Argentina. These policies highlight a number of key issues, such as the digital gender divide and the key role of the education sector in fostering vocations in science, technology, engineering and mathematics. They are also a crucial step in advancing at the national level the priorities in the field that have been identified in international policy frameworks, such as the 2030 Agenda for Sustainable Development and the Beijing Platform for Action.

11 While high-level occupations require knowledge and skills that are acquired in tertiary education (ISCED level 6 and above), mid-level jobs involve technical tasks that do not necessarily require more than short-cycle tertiary education (ISCED level 5).

In order to make progress towards women's economic autonomy and promote their entry into the dynamic sectors of the economy, it is imperative to address the obstacles and biases that exist in the areas of education and paid work in light of the structural challenges of gender inequality that shape women's educational and employment trajectories.[12] The public sector can play a key role in regulating the new forms of work brought about by technological change and in promoting multisectoral policies that enable these issues to be addressed in an integrated manner from a gender perspective.

In this vein, progress has been made both regionally and internationally in establishing agreements, regulatory frameworks and science and technology policies that aim to reduce gender gaps and biases in the production of scientific and technological knowledge.

At the international level, gender issues and their intersection with science, technology, engineering and mathematics have been addressed in several arenas, with some of the most important initial milestones occurring in 1995 at the United Nations Fourth World Conference on Women. At that time, a working group on gender was formed within the United Nations Conference on Science and Technology for Development, which produced a report on the subject and proposed recommendations that were incorporated into the Fourth Conference and the Beijing Declaration and Platform for Action. At this conference, strategic objective B.3 to "improve women's access to vocational training, science and technology, and continuing education" was established. Similarly, measures and initiatives aimed at implementing the Beijing Declaration and Platform for Action included promoting girls' education at the national level in science, mathematics, new technologies, including information technologies, and technical subjects, and promoting women's entry into high-growth, high-wage jobs (action item 82.i) (United Nations, 1995).

According to a review conducted by the United Nations, at the 25-year mark following the Beijing Platform for Action, 60% of States reported taking action to solve the underrepresentation of girls and women in STEM fields, such as developing digital skills programmes and initiatives aimed at promoting access to training opportunities and counteracting stereotypes, among other actions (United Nations, 2019, cited in Muñoz, 2021).

Another important milestone in this area was reached in 2015 with the adoption of the 2030 Agenda for Sustainable Development, in which Goal 4 on inclusive, equitable and quality education proposes targets 4.3 and 4.4, which respectively state: "by 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university" and "by 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship." Target 4.5 further emphasizes the intent to eliminate gender disparities in education and ensure equal access to all levels of education and vocational training. Complementing these targets, the targets under Goal 5, aimed specifically at achieving gender equality, highlight the need to recognize and respect the value of unpaid domestic and care work by expanding the provision of public services and promoting co-responsibility (target 5.4), and the importance of ensuring women's full and effective participation at all levels of decision-making in political, economic and public life (United Nations, 2015). Subsequently, in 2017, the Committee on the Elimination of Discrimination against Women issued general recommendation No. 36 (2017) on the right of girls and women to education. This recommendation merits particular attention because it expands on Goal 4 and offers concrete recommendations pertaining to the field of science, technology, engineering and mathematics, including the following: increase women's

[12] ECLAC has identified eight dynamic sectors of the economy in which investment is needed to advance the three pillars of sustainable development: sustainable mobility, digital transformation, the health-care manufacturing industry, the care economy, renewable energy, the bioeconomy, the circular economy and sustainable tourism (ECLAC, 2020b).

and girls' participation in STEM programmes, at all levels of education, by providing scholarships and other incentives, for example, by adopting affirmative measures;[13] adapting the options and content of the educational offerings, particularly at the higher levels, to increase their participation in scientific, technical and managerial disciplines and facilitate access to male-dominated professions and jobs;[14] and recognize the importance of promoting education in ICT and science as necessary tools to enable women and girls to contribute fully to all spheres of public life (Committee on the Elimination of Discrimination against Women, 2017; Muñoz, 2021).[15]

From a regional perspective, it is important to highlight how gender and science, technology, engineering and mathematics are addressed in the Regional Gender Agenda, and in particular the Brasilia Consensus (2010) and the Santo Domingo Consensus (2013), the Montevideo Strategy (2016) and, more recently, the Santiago Commitment (2020). The Santo Domingo Consensus discusses the link between gender and science, technology, engineering and mathematics in greater depth, albeit with greater emphasis on the technological sphere (Muñoz, 2021). This set of agreements establishes as a priority that public policies in countries in Latin America and the Caribbean should aim to cultivate the vocational interest of girls, young women and women in science, technology, engineering and mathematics; adopt affirmative measures to promote women's access to and retention in these fields; foster equal participation and the elimination of sexism and gender stereotypes in the education system and in teachers' perceptions of girls' and boys' performance in these fields; promote gender mainstreaming and confront the issue of women's employment in science, technology, engineering and mathematics (see table III.3).

Table III.3
Recommendations on gender and science, technology, engineering and mathematics in the Regional Gender Agenda

Access: Cultivate vocational interest	• Promote women's access to science, technology and innovation, fostering interest among girls and young women (Brasilia Consensus, 2010). • Develop a new technological, scientific and digital culture geared towards girls and women that brings them closer to new technologies: promote and strengthen scientific and technological vocations (Santo Domingo Consensus, 2013).
Access and retention: Affirmative measures	• Adopt public policies that include affirmative measures to promote the reduction of barriers to access and enhance understanding of the use of information and communication technologies (Santo Domingo Consensus, 2013). • Promote the inclusion of women and girls from diverse backgrounds, origins and environments in vocational training in science, technology, engineering and mathematics (Santo Domingo Consensus, 2013). • Foster equal participation (Montevideo Strategy, 2016). • Promote public policies that include affirmative measures to enable girls and young women to participate, remain and complete their education in the areas of science, engineering, mathematics and technology (Santiago Commitment, 2020).
Mainstreaming	Science and technology • Include the gender perspective as a cross-cutting pillar of public policies in information and communications technologies, ensuring full access to and use of these technologies by women and girls (Santo Domingo Consensus, 2013). • Design programmes specifically aimed at closing gender gaps in access, use and skills in science, technology and innovation (Montevideo Strategy, 2016). Education • Provide timely information from the educational system on science and technology training opportunities (Santo Domingo Consensus, 2013) • Adopt legislative and educational measures to eradicate sexist, stereotypical, discriminatory and racist content in media, software and electronic games (Santo Domingo Consensus, 2013).
Employment in science, technology, engineering and mathematics	• Encourage women's labour participation in the fields of science, technology, engineering and mathematics, eliminating occupational segregation and ensuring decent work and wage equality, in particular in emerging sectors, including the digital economy (Santiago Commitment, 2020)

Source: C. Muñoz, "Políticas públicas para la igualdad de género en ciencia, tecnología, ingeniería y matemáticas (CTIM): desafíos para la autonomía económica de las mujeres y la recuperación transformadora en América Latina", *Gender Affairs series*, No. 161 (LC/TS.2021/158), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2021; Economic Commission for Latin America and the Caribbean (ECLAC), 40 years of the Regional Gender Agenda (LC/G.2682/Rev.1), Santiago, 2017; *Montevideo Strategy for Implementation of the Regional Gender Agenda within the Sustainable Development Framework by 2030* (LC/CRM.13/5), Santiago, 2017; *Santiago Commitment*, Santiago, 2020.

13 See paragraph 63.d of Committee on the Elimination of Discrimination against Women (2017).
14 See paragraph 81.b of Committee on the Elimination of Discrimination against Women (2017).
15 See paragraphs 81.d and 81.f of Committee on the Elimination of Discrimination against Women (2017).

1. Public policies at the national level: equality plans and specific policies at the intersection of gender and science and technology

There has been growing recognition in the region of the need to promote women's participation in the areas of science, technology, engineering and mathematics. This recognition has been reflected in some areas of public policy, most notably in the inclusion of science, technology, engineering and mathematics in gender equality plans and in the development of specific policies at the intersection of gender and science, technology, engineering and mathematics. These policies have been implemented relatively recently and are evident in three countries in the region (Argentina, Chile and Costa Rica). This section illustrates some relevant aspects of each of these spheres of action.

(a) Equality plans

Equality plans are instruments used in most countries in Latin America and the Caribbean and driven by the machineries for the advancement of women, which aim to guide the action of the State and plan and carry out joint work between the different sectors, thus enhancing the institutionalization and mainstreaming of gender (ECLAC, 2017). In this way, equality plans are technical and political instruments that are intended to open up avenues for institutionalizing gender by identifying priority areas in this field to demonstrate the State's commitment to gender equality and establish a pillar around which other policies should function (Muñoz, 2021).

In recent years, several countries in Latin America and the Caribbean have renewed, approved and implemented equality plans that place greater emphasis on gender equality and in the field of science, technology, engineering and mathematics. The equality plans developed in Argentina, Chile, Costa Rica, the Dominican Republic, Mexico, Peru and Mexico are particularly noteworthy. The following are some key aspects of these equality plans in science, technology, engineering and mathematics:

- Argentina. The Plan Nacional de Igualdad en la Diversidad 2021-2023 identifies two aspects to science, technology and innovation that should be improved: the participation of women and LGBTI+ persons in the national scientific and technological system, and the digital gender divide, which results from gender-based disparities in access to and use of ICT. Therefore, the strategic objective to contribute to reducing this digital and technological divide has been proposed to ensure equal conditions and opportunities.
- Chile. The Cuarto Plan Nacional de Igualdad entre Mujeres y Hombres 2018-2030 acknowledges the progress made in science and technology represented by the updating of the institutional gender policy of the National Commission for Scientific and Technological Research (CONICYT), which establishes three lines of work: promoting and reinforcing gender equality in the development of scientific and technological activity; enhancing the visibility of scientific and technological development in the country from the perspective of gender equality and establishing a culture of gender equity and diversity in the management of CONICYT's human and financial resources.
- Costa Rica. The Política Nacional para la Igualdad Efectiva entre Mujeres y Hombres en Costa Rica 2018-2030 recognizes the development of the recently updated Plan Nacional de Ciencia, Tecnología e Innovación (2022-2027), which includes gender equity and equality as one of the guiding principles that delineate the parameters for activities aimed at meeting its objectives. This stems from

the recognition that statistics show significant gaps in the presence of women in scientific and technological careers, as well as employment gaps in terms of recruitment, appointment to managerial positions and salaries. The Policy reflects an awareness of women's participation in scientific and technological fields and in innovation as being of vital importance to disseminate the positive contributions of these fields and reach the critical mass needed in the country. To this end, there is a clear need to foster vocations in science, technology, engineering and mathematics in the aerospace sector and to update university curricula and promote vocations in electronic, electrical, mechanical and electromechanical engineering, materials engineering, computer engineering and computer sciences, and civil engineering and industrial design, to match the supply and demand of the skills and competences needed in the aerospace sector. It also affirms that there is a need to close the gender gaps in these areas. The goal is to increase the number of STEM graduates through public intervention aimed at closing the gender gap in science, technology, engineering and mathematics. It also aims to promote women's participation in research, development and innovation processes by providing incentives to support R&D projects led by women.

- Mexico. The National Programme for Equality between Women and Men (PROIGUALDAD) 2020-2024 highlights the promotion of women's economic autonomy to close historical inequality gaps as a priority objective. Priority strategies and specific actions have been established for this purpose, some of which are related to the fields of science, technology, engineering and mathematics. These include the need to promote actions that encourage the retention and promotion of women in the energy, technology, engineering, communications and transportation sectors, to facilitate women's entry into the labour market, against a backdrop of equality, non-discrimination, and decent and dignified work.
- Peru. The National Gender Equality Policy (PNIG), approved in 2019 under the Ministry of Women and Vulnerable Populations, identifies the problem of inequality in access to and control and use of ICTs and highlights the existence of a digital divide in their use as well as the persistence of structural gender inequalities impeding their access and utilization. In order to address this problem, the Policy establishes priority objective 4, which points to the need to increase women's participation in male-dominated careers and to make progress towards guaranteeing equal access, retention and completion in different areas of the education system for women and men (Ministry of Women and Vulnerable Populations, 2019; cited in Muñoz, 2021).
- The Dominican Republic. The National Gender Equality and Equity Plan 2020-2030 (PLANEG III) reflects recognition of the problem of women's underrepresentation in ICT-related fields, including careers in science, technology, engineering and mathematics, as well as in labour market insertion as a result of the absence of public policies in the education system and universities aimed at driving actions that promote the inclusion and integration of Dominican women in these careers. The Plan outlines commitments geared towards incorporating gender equality into the new policy to encourage more women to pursue careers in science and technology and increase their labour participation in the area of science and technology. Incorporating the gender equality perspective into the design, implementation and evaluation of plans, programmes and projects subsumed under the public policies targeting digital transformation, science and technology has been established as a priority to ensure the development of concrete objectives, actions and goals that can generate socially appropriate and safe technologies to eliminate gender inequalities in access to and use of ICTs.

(b) Policies focused specifically on gender, science and technology: Argentina, Chile and Costa Rica

In recent years, Argentina, Chile and Costa Rica have developed specific policies on gender and science and technology with an intersectoral focus (Muñoz, 2021). It is worth noting that in these countries, the multisectoral and intersectoral participation of different ministries and agencies contributes to the development of these policies. Although this is a recent practice, strengthening efforts in this area can prove promising.

In this regard, there are institutional forerunners in Costa Rica —the National Institute for Women (INAMU) and the National Policy on Gender Equality and Equity (PIEG) 2007-2017)— which laid the foundation for the formulation of the National Policy for Effective Equality between Women and Men in Costa Rica 2018–2030, in accordance with the agreements concluded under the Montevideo Strategy.[16] The Policy states that effort should be made to ensure that more women have access to ICTs and the skills required to use them and work with open data in order to perform educational, employment, political and productive activities in all regions and areas. Moreover, emphasis is placed on ensuring that more women have access to both public and private technical, technological and scientific education and to cutting-edge research for sustainable development (Muñoz, 2021).

Against this backdrop, the National Policy for Equality between Women and Men in Training, Employment and the Enjoyment of the Products of Science, Technology, Telecommunications and Innovation 2018-2027 was approved in 2018. This initiative, promoted by the Ministry of Science, Innovation, Technology and Telecommunications (MICITT), aims to promote equal participation of women and men in terms of attracting them to the different fields of science, technology and innovation and their retention, training, skills development, quality employment and research therein, so that all can benefit from scientific and technological progress (MICITT, 2018, p. 19).

The main intervention areas outlined in this Policy are: attracting women to science, technology and innovation; training and retaining women in careers in science, technology and innovation; promoting women's research and employment in science, technology and innovation; fostering social ownership of science with a gender perspective (through support for scientific and technological projects and research shaped by this perspective), and creating a monitoring and evaluation system coordinated by the bodies established to enable implementation of the Policy.

In the case of Chile, there is a strong precedent of gender mainstreaming in science, technology, engineering and mathematics. In addition to the above-mentioned Fourth National Plan for Equality between Women and Men 2018-2030, there are two specific plans in the education sector: the Education Plan for Equality between Men and Women and the Action Plan for Gender Equity and Equality in Technical Vocational Training and the Inclusion of Other Socially Vulnerable Groups. Three lines of action of the work plan for gender-equitable education are being implemented through the Inclusion and Participation Unit under the Ministry of Education:

(i) Quality without bias: a technical advisory council on gender and education, a working group for gender equity in technical and vocational secondary education, teacher training to eliminate gender bias and stereotypes in classroom practices and a system of gender indicators for Chile's higher education institutions.

[16] The segregation observed in careers at different education levels is among the challenges mentioned in the Policy. In technical colleges, there are 94.2 women for every 100 men, and these are mainly concentrated in the service areas, where there are 156 women for every 100 men. At the university level, in 2015 most of the women graduates were in areas such as education, health sciences and social sciences, while there was a lower percentage of women than men in areas such as basic sciences or engineering. In addition, of the total number of graduates in traditionally male-dominated careers, only 30.9% are women.

(ii) More opportunities: the STEM Women programme and scholarship for women pursuing scientific and technological vocations, support for secondary school students by female students in science, technology, engineering and mathematics careers to familiarize them with scientific and technological subjects, the UNESCO STEM and Gender Advancement (SAGA) project to survey gender indicators and coordinate networks that promote girls' and women's entry into the areas of science, technology, engineering and mathematics in the education system.

(iii) Non-violence: the eradication of gender-based violence in all its forms in kindergarten, secondary school and higher education, the signature of a commitment to gender equity in the governing bodies of higher education institutions (universities, professional institutes and technical training centres), a technical assistance plan for higher education institutions, and examination of strategies to combat discrimination, harassment and sexual abuse.

In this vein, the National Policy on Gender Equality in Science, Technology, Knowledge and Innovation was approved in 2021, and its action plan "50/50 by 2030" was also developed to establish that year as an inflection point and create true equality between men and women in the science, technology, knowledge and innovation.

A report published by the Ministry of Science, Technology, Knowledge and Innovation (2021) in 2020 noted lower participation of women as they progressed through higher education degree levels (from undergraduate to PhD), especially in the areas of science, technology, engineering and mathematics; in careers related to science and engineering, only 28% of those enrolled were women. According to the Asociación Chilena de Empresas de Tecnologías de Información (ACTI), female participation in ICT-related fields stands at only 5%.

The following four objectives are outlined in the afore-mentioned Policy: (i) inclusive, protected childhood experiences, empowered with future-ready skills; (ii) inclusive, transformative and accountable science, technology, knowledge and innovation systems;[17] (iii) a State committed to data, tools and policies to achieve gender equality in science, technology, knowledge and innovation; and (iv) science, technology, knowledge and innovation to address the impacts of the gender gap. The action plan calls for the creation of a scientific research programme for the youngest children, a budget to develop plans to close gender gaps in research in universities through a competitive fund and a leadership programme for women in academia.

In addition, initiatives such as the Plan+ Mujeres en Telecomunicaciones (involving local telecommunications companies) have been implemented to promote women's participation in the sector and to make progress towards closing the digital gender divide (in collaboration with the Ministry of Women and Gender Equity). The Regional Alliance for the Digitalization of Women in Latin America and the Caribbean has been launched, led by Chile in the framework of the Sixtieth Meeting of the Presiding Officers of the Regional Conference on Women in Latin America and the Caribbean. This Alliance aims to narrow gender gaps in access to and use of information and communications technologies and the acquisition of ICT skills to promote full participation by women in the digital economy.

In Argentina, the Ministry for Women, Genders and Diversity was created in 2019 and has a National Plan for Equality in Diversity 2021–2023 that seeks to transform the structural foundations of inequality to reduce gender gaps. In the field of education, the strategic goal is to help reduce gender gaps and segregation in the access, retention and promotion of women and LGBTI+ persons in their academic careers, governed by the principle of equality in diversity.

[17] According to Muñoz (2021), women's participation in research competitions for projects and grants (CONICYT) has risen to around 40%; in addition, approximately 45% of national PhD grants are awarded to women. However, gaps have been noted in the projects awarded by the National Fund for Scientific and Technological Development (FONDECYT): according to historical figures gathered between 2001 and 2015, 73% of project leaders were men, and 27% were women.

In 2020, the National Programme for Gender Equality in Science, Technology and Innovation was developed under the Ministry of Science, Technology and Innovation, in collaboration with the National Scientific and Technical Research Council (CONICET) under the Gender and Diversity pillar, the Ministry for Women, Genders and Diversity and a committee of experts and inter- and intra-institutional coordination panels. Among its objectives, the Programme seeks to guarantee the equal participation of women and LGBTI+ persons at all levels and in all areas of the scientific and technological system, and to amplify the gender perspective in research.

The following five actions are proposed in the Programme : (i) mainstream the gender perspective in policy instruments (e.g. prepare recommendations for assessing gender policy in science and technology agencies); (ii) produce gender-aware skills reports in the areas of science and technology; (iii) organize discussions to address the topic of science from a gender perspective and carry out awareness-raising activities for stakeholders in the management of science to be incorporated into science, technology and innovation policy instruments; (iv) promote actions for prevention, care and training related to gender violence, for example, mandatory training through the enactment of the Ley Micaela in 2018, the development of a guide to create work teams, and the design of a survey of actions and the organizational structures to implement them in the National Science, Technology and Innovation System (SNCTI) and (v) foster coordination with cross-cutting policies through participation in a national cabinet for the mainstreaming of gender policies (created by Decree No. 680/2020), the commitments outlined in the national plans to combat violence and ensure equality in diversity, and the development of guidelines for incorporating the gender perspective and diversity into university systems, among other actions.

In sum, the cases of Argentina, Chile and Costa Rica demonstrate considerable progress on specific policies associated with gender, science and technology.

F. Towards gender equality: a comprehensive approach to ensure opportunities and rights in science, technology, engineering and mathematics

It is important to move towards economic recovery that promotes women's participation in sectors that boost the economy, eliminating barriers to entry, guaranteeing labour rights and ensuring that the skills needed for the jobs of the future are acquired equally throughout the education system. Comprehensive, multidimensional and gender-sensitive public policies are needed that synergistically address the structural challenges of gender inequality.

The COVID-19 pandemic rattled the economies of Latin America and the Caribbean and paralyzed domestic productive activities, exacerbating the rising precariousness and, in some cases, the elimination of jobs. The sluggish progress on labour issues that had been made in recent decades was disrupted, and women were left in an even worse position than prior to the pandemic. These conditions triggered a social crisis and widened pre-existing gaps in the equal participation by men and women in the labour market and in unpaid care work.

Consequently, there is a pressing need in Latin America and the Caribbean to move towards progressive structural change by developing more knowledge-intensive sectors, particularly in science, technology, engineering and mathematics, while at the same time reducing the inequality gaps that have characterized the region. Progress in these fields and, in particular, the digital transformation, has been identified as a preferred instrument for fostering sustainable development as it offers new opportunities to mitigate the effects of the current crisis and overcome the long-term consequences by enabling the creation of more productive and better-paid jobs and the development of high-value production chains (ECLAC, 2020b).

Education will play a key role in tackling this challenge. Not only is the right to education a key element of sustainable development and a fundamental condition for full participation in economic, political and social life, in the context of technological change, education is one of the main strategies for responding to the potential negative effects of digitalization processes, particularly job automation (ECLAC, 2018). However, progress in women's access to education does not translate into equality owing to the persistence of the structural challenges of inequality evidenced by occupational segregation, the underrepresentation of women in sectors —such as those related to science, technology, engineering and mathematics— that drive the economy, wage gaps and, in general, lower labour market participation.

One of the most significant gaps in education, which influences entry into the labour market, is the underrepresentation of women in careers in STEM, where their entry and retention rates are lower. Indeed, while there are noteworthy achievements at the national level in terms of women's access to all levels of education systems, challenges remain in ensuring their full access to science, technology, engineering and mathematics, at university and in technical and vocational education. These gender gaps in participation and progress in these areas emerge early in women's academic careers, widen at the secondary level and compromise career choices and, consequently, employment trajectories and economic autonomy. The underrepresentation of women in science, technology, engineering and mathematics is most pronounced in ICT-related fields, in engineering, and in industry and construction. Gender gaps are also discernible in women's low participation in R&D, scientific output, publication of academic research, patenting and representation in academic leadership positions.

In line with the commitments of the Regional Gender Agenda, it is essential to ensure women's participation in science, technology, engineering and mathematics in order to bridge the gap in access to jobs in dynamic sectors of the economy, which would contribute to the sustainable development of the region and to gender equality. To achieve this, the structural challenges of gender inequality must be dismantled on multiple fronts, taking the following five aspects into account:

(i) Promoting gender equality in science, technology, engineering and mathematics requires comprehensive public policies that combine various strategies. To address gender inequalities in academic and career paths in the field of science, technology, engineering and mathematics, it is necessary to advocate for comprehensive, multidimensional and gender-sensitive public policies that do not focus solely on interventions in the education sector, but that enable the structural challenges of gender inequality to be addressed synergistically. In this vein, it is necessary to combine affirmative measures with legislative reform and actions that promote the equality of opportunity, as well as with gender mainstreaming processes in sectors associated with science, technology, engineering and mathematics. It is also important to strengthen the connections between policies and employment in these fields and to create spaces for

intersectoral work and coordination to promote gender mainstreaming in science and technology policies as well as in the approach to science, technology, engineering and mathematics in gender policies. Likewise, promoting girls' and young women's vocational aspirations in science, technology, engineering and mathematics from the earliest stages requires sustained effort and the establishment of public policies that ensure inclusion from basic education onwards. Skills training from an early age is critical; therefore, it is essential that regional governments strengthen gender equality plans through intersectoral actions that include measures in which the gender perspective is embedded in education, science and technology policies in line with the provisions of Goals 4 and 5. These actions are necessary to achieve equality and, as ECLAC states, this transformation must be accompanied by a fiscal covenant aimed at ensuring inclusion and equality that is sustainable and guarantees women's autonomy (ECLAC, 2021e).

(ii) The inclusion of technical and vocational education to promote participation in science, technology, engineering and mathematics offers significant potential to expand opportunities in these areas, especially for low-income women. Technical and vocational education is not often found in training programs in STEM fields and skills, nor in efforts to address gender inequalities (Muñoz, 2021). However, such training has considerable potential and represents an excellent opportunity to boost the employment and educational trajectories of the poorest women in the region, particularly in areas related to science, technology, engineering and mathematics. Yet, patriarchal cultural patterns that are manifested in problems such as teenage pregnancy, early marriage and the reproduction of the sexual division of labour hinder scientific and technological vocations and access to and retention in careers in this area.

(iii) Gender stereotypes in various aspects of the education sector must be eliminated to eradicate patriarchal cultural patterns, especially those related to science, technology, engineering and mathematics. The institutional culture and teaching and learning resources (equipment, study materials and school infrastructure) reveal forms of discrimination linked to gender stereotypes. Thus, it is important to review various aspects of education, such as linguistic and extra-linguistic practices. As cultural codes that are used specifically in the field of technical and vocational education, but not only in this area, they reinforce the barriers that hinder the entry and retention of women in careers related to science, technology, engineering and mathematics. It is also necessary to design strategies to address the gender representations of mothers and fathers regarding the activities that women can and cannot perform (Buquet and Moreno, 2017), as these representations can compromise men's and women's scientific and technological vocations and reinforce stereotypes. Furthermore, communication policy is a critical factor in guaranteeing women's access to and retention in careers in science, technology, engineering and mathematics. It is, therefore, essential to pay close attention to the visual language that communicates and promotes academic offerings in these areas, which —habitually and pointedly in the case of technical and vocational education— echoes the sexual division of labour of the past century. Lastly, it is necessary to identify hostile or harassing classroom environments, particularly in male-dominated careers where there is clear underrepresentation of women, and to design concrete policies in response to prevent women from dropping out of careers in science, technology, engineering and mathematics.

(iv) New education modalities offer an opportunity to leave no one behind, but they must be designed and implemented with a gender perspective, paying particular attention to the digital divide. The pandemic underscored the need to review and transform conventional educational practices, as it highlighted the transformative potential of new forms of teaching for education in general, and for higher education and technical and vocational education in particular. The implementation of hybrid pedagogical formats combining face-to-face and virtual sessions, new forms of teaching that include digital technologies and innovative educational resources, among other measures, represent an opportunity to leave no one behind. However, it will not be possible to take full advantage of this trend without considering the structural obstacles that must be addressed from a gender perspective. To this end, it is crucial to reduce the gender gap in digital skills, as well as to ensure effective connectivity, especially for low-income women in the region. In this vein, ECLAC has proposed that countries in Latin America and the Caribbean implement a basic digital basket that includes monthly connection plans, a laptop, a smartphone and a tablet (ECLAC, 2020a). In this way, the region can move towards universal access to digital goods and services and prioritize women who head households lacking connectivity and whose income does not allow them to afford Internet access and the necessary devices. Moreover, given that access to technology alone does not directly lead to more economic and social opportunities, it is also important that the basic digital basket encourages the use of digital skills and facilitates the acquisition of an adequate level of skills in this area (ECLAC, 2020b). The basic digital basket is a proposal for effective connectivity in the future development of intergovernmental agreements.

(v) Moving towards social co-responsibility for care and comprehensive care systems is a fundamental condition for dismantling the sexual division of labour and the unjust social organization of care. As discussed earlier, the overload of domestic and unpaid care work is one of the barriers obstructing women's academic and career paths in the areas of science, technology, engineering and mathematics. Surmounting this obstacle requires the promotion of social co-responsibility for care among all individuals and institutional actors, who must implement comprehensive policies in this area, as well as the reduction of the burden on households and a shift towards systems that establish care as a fundamental right. Furthermore, it requires investment in strengthening the care economy as a central element in moving towards transformative recovery with equality. The approach to care must transcend the notion of care as purely an expense and adopt the mindset that care represents an investment that builds present and future capacities and creates employment, particularly for women.

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CHAPTER IV

Institutional framework and social spending in the midst of a protracted crisis: educational investment at the centre

IV

Introduction

Sustainable financing is a key requirement for a social institutional framework that is commensurate to the challenges of moving towards inclusive social development, and steering the course towards achieving the Sustainable Development Goals (SDGs). The 2030 Agenda for Sustainable Development proposes to "promote peaceful and inclusive societies" (Goal 16) and to "develop effective and transparent accountable institutions at all levels" (target 16.6). Moreover, in terms of the means of implementation, Goal 17 highlights "Strengthen domestic resource mobilization" (target 17.1).

In line with these goals and targets, the Regional Agenda for Inclusive Social Development includes "A strengthened social institutional framework" as one of its four axes (ECLAC, 2020). It proposes the formulation of quality social policies and the gradual construction of a solid social institutional framework, with sufficient human, financial and technical resources, incorporating accountability mechanisms and enabling active participation by civil society and citizens at large, to make this social institutional framework a strategic axis to guide public action in the long term. To this end, the Regional Agenda for Inclusive Social Development identifies several lines of action, such as strengthening a solid legal framework in accordance with the main international agreements on social issues and human rights; establishing organizational models adapted to the respective mandates, with adequate technical and information capacities, as well as both horizontal and vertical interconnection models (between public policy sectors and between levels of government, respectively); and advancing in the formulation of adequate social policy management instruments (including disaggregated and administratively and statistically relevant information systems), together with participatory and transparent management processes. In addition, it is important to view the construction of social institutions as part of broad social and fiscal compacts (ECLAC, 2020).

The financial dimension is a key component of the social institutional framework and must be harmonized with the other dimensions to ensure that the financial resources required by public policy are available, and that they are executed, efficiently, transparently and sustainably.

The impacts of the coronavirus disease (COVID-19) pandemic have not ceased; and the multiple and successive crises that have accumulated in the environmental, economic and social domains have rekindled old social urgencies and given rise to new ones, especially in terms of inclusion, inequality and care. These pose serious challenges to the financing of public policy. The current complex economic situation, compounded by the growing challenges linked to sustainable development and the persistence of the COVID-19 pandemic have given impetus to debate on fiscal policy challenges and have confirmed it as a main public policy instrument (ECLAC, 2022c).

Trends in social spending illustrate the magnitude of the challenges facing the region as it moves toward inclusive social development, with a view to achieving sustainable development. In this context, fiscal revenues need to be bolstered through progressive tax policies, and mechanisms to reduce tax evasion and avoidance need to be put in place. This would help reduce income inequalities and finance public spending, to make social policies financially stable in times of a prolonged pandemic, and achieve more inclusive, egalitarian and resilient societies (ECLAC, 2021c). Educational transformation is at the heart of the change that the countries of Latin America and the Caribbean need to be able to confront contemporary challenges, including inequality, economic uncertainty, protracted social crisis and sustainable development. It is therefore necessary to secure the financing needed to recover and transform education.

Following the unprecedented figures recorded in 2020, in terms of both public expenditure and the contraction of economic activity, 2021 was characterized, largely, by a reduction in the fiscal deficit. On the one hand, public revenues increased thanks to the revival of economic activity (GDP in Latin America and the Caribbean grew by an average

of 6.5%), the end of tax relief measures, and, in some countries, favourable international commodity prices (ECLAC, 2022d). On the other hand, public expenditure decreased relative to GDP, owing to the expiry of the emergency measures implemented in 2020, among other factors. Expenditure, however, remained above the pre-crisis levels (ECLAC, 2022c).

In 2021, total central government revenues grew by 11.5 percentage points of GDP in Latin America and by 2.9 points of GDP in the Caribbean (ECLAC, 2022d). On the expenditure side, the slacker pace resulted in total central government expenditure decreasing by 1.2 percentage points of GDP in Latin America and by 0.5 percentage points in the Caribbean (ECLAC, 2022d).

The average overall deficit of Latin America's central governments was 4.2% of GDP in 2021, compared to 6.9% in 2020. In the Caribbean, fiscal deficits also contracted sharply to around 3.5% of GDP in 2021, compared to 6.8% in the previous year. Central government gross public debt in Latin America in 2021 averaged 53.4% of GDP, which, while lower than the 2020 average of 56.6%, remains historically high. A similar dynamic can be discerned in the Caribbean, although more stable and at a higher level, as public debt averaged 88.1% of GDP in 2021, compared to 89.3% in 2020 (ECLAC, 2022d).

After briefly describing the dimensions of the social institutional framework and the central and interdependent role of financing as an integral part of it, this chapter analyses the amount and distribution of public funding for social policies in the Latin American countries and in five English-speaking Caribbean countries. Section A sets out the structure for analysing the social institutional framework and its four dimensions (legal-regulatory, organizational, technical-operational and financial). It also describes the challenges facing the region, as highlighted by the countries in the context of the Regional Conference on Social Development in Latin America and the Caribbean and the Regional Agenda for Inclusive Social Development. Section B describes the evolution of public social spending between 2000 and 2021, at both the regional and the subregional levels, according to the classification of functions of government. Lastly, section C examines public and private expenditure in the education sector, drawing on complementary sources from the United Nations Educational, Scientific and Cultural Organization (UNESCO) and household income and expenditure surveys

A. The social institutional framework and the role of social spending

The social institutional framework needs to be organized effectively around norms adapted to the region's challenges and essential principles, such as a human rights and gender equality approach. It also requires a universalism that is sensitive to differences, which closes inequality gaps; coherent organizational frameworks with effective horizontal and vertical coordination mechanisms; and technical-operational tools that make the design, implementation and monitoring of quality social policies viable. All of this must be supported by sufficient, efficient and transparent financial sustainability. For effective social investment to be able to achieve its objectives in a sustainable manner, the quality of social spending is inseparable from the quantity of resources and the capacity to manage them through quality policies, generating trust and certainty among the public. Although the countries of the region have taken positive steps in this area in recent years, new challenges constantly arise in meeting the ever-increasing requirements derived from successive crises, not to mention the medium- and long-term targets that still need to be met to achieve sustainable development.

The social institutional framework is the foundation for the development of public policies in the social domain; it comprises the set of rules and the organizational structure on which (and with which) social policy is managed, spanning the diagnosis and prioritization of objectives, to the implementation and evaluation of its results (ECLAC, 2016; Martínez, 2019).

The social institutional framework can be expressed in four interconnected and interdependent dimensions: (i) legal-regulatory, (ii) organizational, (iii) technical-operational and (iv) financial (Martínez and Maldonado, 2019).[1]

The legal-regulatory dimension forms the legal substrate on which the policies governing the participation of the various actors are designed and implemented. It consists of hierarchically ordered and complementary norms, starting with international regulations, in other words the set of international treaties and agreements signed or ratified by States, which have domestic legal validity or serve as a reference for the social commitments assumed at the national and international levels. Such instruments range from broad-scope treaties, such as the International Covenant on Economic, Social and Cultural Rights, to treaties and conventions on specific subjects, such as the Convention on the Rights of the Child, the Convention on the Elimination of All Forms of Discrimination against Women, or the Convention on the Rights of Persons with Disabilities. They also include various regional or subregional agreements and commitments, such as the American Convention on Human Rights and the Protocol of San Salvador or the Inter-American Convention on the Protection of the Human Rights of Older Persons, as well as the Regional Agreement on Access to Information, Public Participation and Access to Justice in Environmental Matters in Latin America and the Caribbean (the Escazú Agreement), among many others. At the regional level, other instruments emanate from the subsidiary bodies of the Economic Commission for Latin America and the Caribbean (ECLAC), such as the Regional Agenda for Inclusive Social Development, the Montevideo Consensus on Population and Development and the Santiago Commitment on the Regional Gender Agenda. In addition to political commitments, international laws serve as guidance for the formulation of national laws, starting with the constitutional frameworks that give rise to each country's laws, regulations and protocols, related to social rights and services or to the protection, rights and welfare of specific population groups. Subnational regulations at the level of states, regions and municipalities complete the legal-normative dimension in each locality and territory. Although indispensable, even adequate legislation, well adapted and consistent with desirable principles and orientations (a rights and gender approach, universalism sensitive to differences, cultural relevance), is just one component; and its translation into policies depends on the set of dimensions.

The organizational dimension concerns the division of labour within the State for compliance with formal norms and laws, and its interaction with other actors. It stems largely from the legal-normative dimension and reflects the distribution of social functions (who does what?), from the international and regional levels (international, regional and subregional organizations), and above all at the national level (central, subnational and local), where a formal structure and models are defined for decision-making, communication and coordination for the implementation of policies by various public actors and civil society organizations, the private sector and the public at large. This makes it possible to identify the entities that hold authority, in other words those tasked with social coordination and governance functions in the governmental structure and within the scope of the mandates of the different bodies as formally defined by the law. The organizational

[1] These interdependent dimensions and their simultaneous consolidation are necessary for progress towards a strengthened social institutional framework, but they are not sufficient in all contexts. Although they constitute the platform that makes proper implementation of the social institutional framework viable, other elements (such as sociocultural practices and values, political economy dynamics and the historical inertias of each context) may also have a considerable effect on the resulting effectiveness of that institutional framework.

structure thus defines the hierarchy of social authority in general (whether individual or collective —such as a social affairs cabinet, for example) and sectoral or thematic (education, social development, poverty and social protection, among others), as well as in terms of policies targeted at specific population groups, according to a life-cycle logic (childhood, adolescence, youth, older adulthood), or a cross-cutting rationale (women, migrants, persons of African descent, Indigenous Peoples, persons with disabilities). The organizational dimension also includes personnel policy and, with it, human resource planning. This includes job profiling and the size of the work teams responsible for implementation, which must be commensurate with the volume and specifics of public policy implementation. A key element to consider in this dimension concerns modalities of communication and coordination, whether horizontal (intersectoral) or vertical (between levels of government), which later enable public policy to be harmonized.

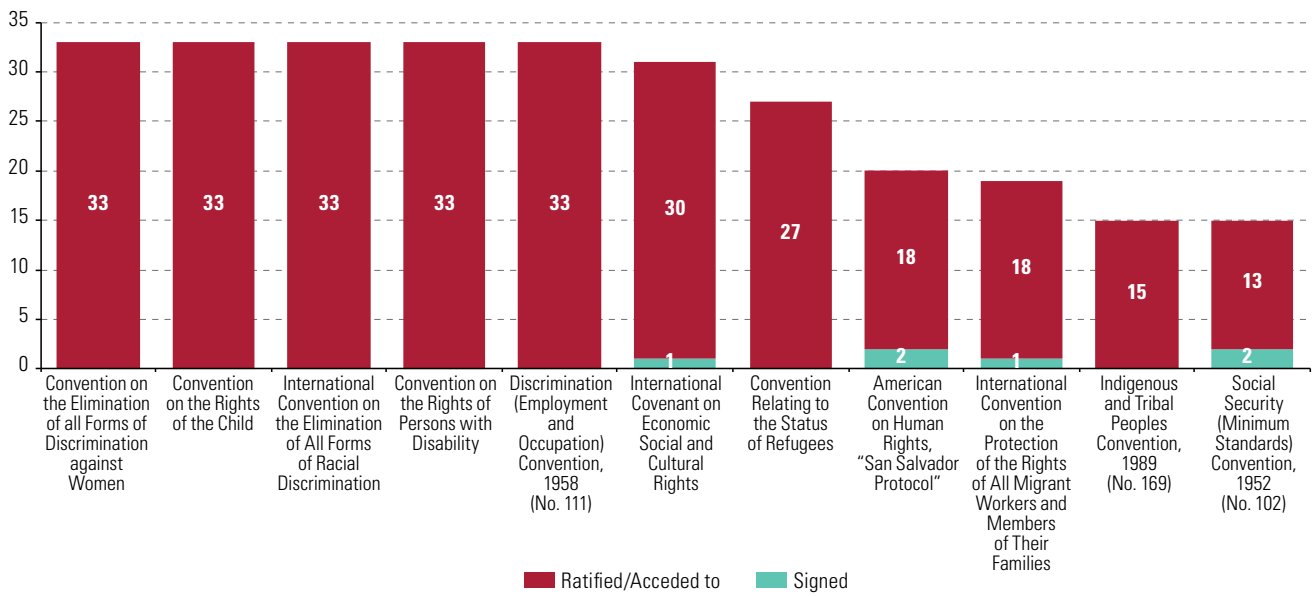
The technical-operational dimension refers to the set of instruments, tools and technologies needed to implement social policies in an effective, efficient and transparent manner. It encompasses the procedures, physical resources and technical capacities available for the implementation of public policies. There are four key elements in this dimension, the first of which corresponds to the planning and programming systems, in other words formal procedures for strategic planning for implementation. These range from work plans that guide results-based management, together with the availability of tools, with goals, process maps, deadlines and clear budgets, as well as the necessary technical resources, among others. Secondly, there are information, diagnostic, monitoring and evaluation systems, which provide useful information for decision-making at the different stages of implementation and management (diagnosis, formulation, monitoring and evaluation of processes and impacts). Here it is important to know not only whether systems exist and what their characteristics are, but also the degree to which they are mutually integrated, and their scope and quality. Third are accountability and transparency mechanisms, that is the set of auditing and supervision arrangements, with formal procedures for dissemination and horizontal (intra-State) accountability to public agencies and vertical (social) oversight by citizens or the target population. Without harmonization of these elements, it is difficult to ensure that the social policies implemented achieve their objectives and contribute to generating well-being and effectively guaranteeing people's rights. Fourth, information and communication technologies (ICTs) facilitate efficient and timely management and implementation of: (i) planning and programming systems; (ii) information, monitoring and evaluation systems; and (iii) accountability and transparency mechanisms.

The financial dimension, which is the focus of this chapter, includes the set of financial resources that are available for social investment and social policies. In addition to the volume and composition by functions and levels of government, as well as their evolution and sustainability, this dimension includes identification of the various sources of financing (such as permanent national revenues defined by a specific law or a national budget, foreign aid, or contributions from the private sector or the target population). Regulatory support facilitates or limits autonomy and discretion in the use of resources for sustainable financing, while reliance on external resources or voluntary private contributions generates greater vulnerability. Together with the analysis of the availability, sufficiency and stability of funds over time (through indicators such as per capita amount, growth rate, proportion of total spending, GDP and historical trends, which are presented in section IV.B), it is also important to ensure the implementation capacity of the agencies responsible for social policy. Management of the financial dimension also allows the social authority to forge a direct relationship with the financial or economic authority and, for example, to be closer to budgetary and public resource allocation decisions and, in some cases, participate in them.

1. Progress and challenges of the social institutional framework

In terms of the four dimensions described above, recent progress has been made in the region, but considerable challenges remain.[2] At the regulatory level, Latin America and the Caribbean has generally acceded to the main international social treaties and instruments (see figure IV.1). Some instruments, such as the International Covenant on Economic, Social and Cultural Rights, have been ratified by all or most of the region's countries. In contrast, the Social Security (Minimum Standards) Convention, 1952 (No. 102) has yet to be ratified by several of them. Other important instruments include the Inter-American Convention against Racism, Racial Discrimination and Related Forms of Intolerance (2013), signed by seven countries and ratified by six; and the Inter-American Convention on the Protection of the Human Rights of Older Persons (2015), signed by one country and ratified by eight others. In addition, the Escazú Agreement entered into force in April 2021, as the first regional environmental agreement in Latin America and the Caribbean. It was also the first in the world to contain specific provisions on access to information and protection of environmental human rights defenders. In a short space of time, this instrument has been signed by 12 countries and ratified by 13. These normative advances have led to greater sophistication and specialization in national laws with a view to harmonization between countries, while at the same time helping to diversify the social agenda in response to increasingly demanding requirements.

Figure IV.1
Latin America and the Caribbean (33 countries): accession, signature and ratification of covenants, conventions and agreements related to economic, social and cultural rights, 2022
(Number of countries)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Institutional Framework Database for Social Policy in Latin America and the Caribbean [online] https://dds.cepal.org/bdips/en/.

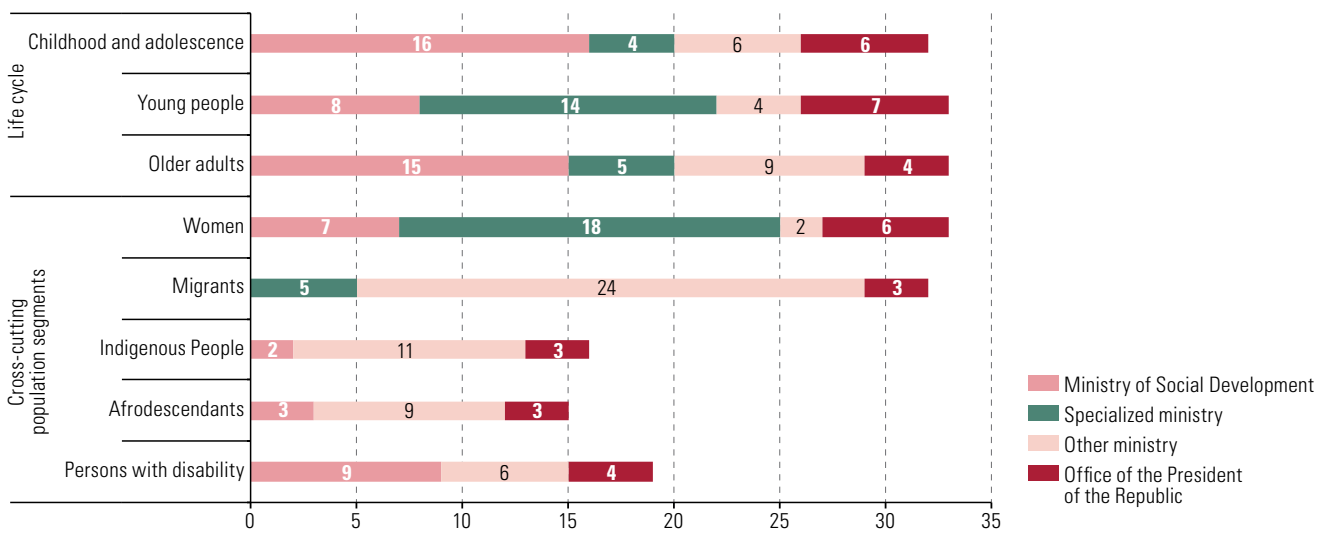
2 For detailed information at the regional level and for Latin American and Caribbean countries, see Economic Commission for Latin America and the Caribbean (ECLAC), Institutional Framework Database for Social Policy in Latin America and the Caribbean [online] https://dds.cepal.org/bdips/en/.

The many institutional challenges of social policy include consolidation of the legal-regulatory bases for moving towards the incorporation of a rights-based approach and a universalism sensitive to differences, in which a model centred on the notion of beneficiaries gives way to one centred on citizens. From the organizational standpoint, the interaction between entities linked to social development, and other areas of public policies in general, needs greater vertical harmonization (with the strengthening of territorial management and participation), and horizontal harmonization (for example, between the contributory and non-contributory components of social protection); and also between social entities with thematic-sectoral mandates and those relating to cross-cutting population segments or stages of the life cycle.

In organizational terms, the countries have made progress in defining and finessing the mandates and areas of jurisdiction of state actors, in order to adapt to regulatory progress and enhance levels of horizontal and vertical coordination. The authority has a major presence in social policy collectively, with social affairs councils or offices; and, in several cases, it has assigned the coordination function to ministries or secretariats of social development, albeit not always with sufficient capacities or resources. In late 2021, in 15 of the Latin American and Caribbean countries for which information was available, these social sector coordination bodies reported directly to the Office of the President or Vice-President; and in 6 countries such coordination was entrusted to the ministries of development or social inclusion (or equivalent entities). Regardless of their existence and the authority responsible for coordinating them, it is important that these bodies gradually build better patterns of coordination and division of labour in each context, to enhance the consistency of public action in the social domain.

As shown in figure IV.2, authority for welfare and rights policies for the various population groups is exercised by a variety of agencies. Rather than advocating a specific model, it is essential that the coordination mechanisms allow for comprehensive public action to address needs in each context.

Figure IV.2
Latin America and the Caribbean (33 countries): main government agencies formally tasked with coordinating care for various population segments, 2021
(Number of institutions)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Institutional Framework Database for Social Policy in Latin America and the Caribbean [online] https://dds.cepal.org/bdips/en/.

The COVID-19 pandemic and the emerging challenges, such as increasingly frequent natural disasters, have magnified the coordination challenges (ECLAC, 2021a). The pandemic demanded a major effort from all components of the social institutional framework —both at the sectoral level, between the health, social protection and education systems, and at the local level for channelling actions to the population as a whole. For their part, disasters, and the increasing frequency and devastation of those related to climate change, have underscored the need for greater coordination among the actors involved in social protection, civil protection and risk prevention and management. As highlighted at the fourth session of the Regional Conference on Social Development in Latin America and the Caribbean, it is necessary to expand capacities and improve processes that strengthen institutional resilience, and thus meet the short-term demands generated by this type of event in harmony with long-term policies (ECLAC, 2021a).

In technical-operational terms, the models developed, and their scope, vary between countries; but they share objectives, priorities and management tools, with benchmark progress and experiences in monitoring and evaluation, information systems and social registers. These processes have been strengthened in the last two decades through the implementation of conditional transfer programmes. For example, 30 countries have sector-level social development plans, and 26 maintain some kind of register of social programme participants.

Management capacity also faces constraints in developing quality social policies, sometimes due to instability in the instruments available, or the programmatic or administrative information required. Compounding this are new challenges related to digitalization and the gaps that can be created by the uneven adoption of new technologies by the various social actors. In particular, the introduction and effectiveness of citizen and accountability, transparency and participation mechanisms continue to be a challenge, despite growing recognition of their importance in ensuring the trust and legitimacy of public policies and improving their performance.

As will be discussed in detail in this chapter, social spending in the region has tended to consolidate in terms of volume and fiscal priority, albeit with differences between countries. Section IV.A.2 highlights some of the challenges of the financial dimension of the social institutional framework.

2. Financial sustainability challenges: the adequacy and quality of social spending

The interdependence between the financial and other dimensions of social institutions has crucial implications for the impact and quality of social spending. The financial dimension is decisive for the effective scope and impact of social policies and programmes and, ultimately, for the fulfilment of public commitments and the realization of the rights defined in legal frameworks. Without sufficient financial resources, among other factors, there will be no access to effective rights; no entities capable of implementing the mandates received, and no management instruments capable of functioning properly.

A low social investment scenario usually results in resources being dispersed across multiple objectives, territories and groups, with only weak effects. It can also lead to resources being concentrated in a few objectives, to the detriment of the multiple needs of the population and public commitments on social issues. The relatively low levels of social investment that characterize the region often lead to one of these two scenarios.

Aside from the sufficiency of financial resources, however, other features associated with the financing effort are essential for the comprehensiveness of social institutions and government actions. The source of the funds, their destination and redistributive

nature; the continuity, progressiveness and predictability of the amounts in question; the level of priority in the context of pressures related to possible adjustments or cuts in the wake of various shocks; and their financial sustainability —all are key elements needed for social investment to have positive and cumulative effects on the well-being of the population, as well as effective enjoyment of rights, and productivity and economic growth in the medium term.

At the same time, if social investment lacks an adequate institutional framework and consistency with the public policy for which it is intended, there is a risk that it will be ineffective, inefficient and discretionary, with the potential for arbitrary funnelling to other purposes, or use based on cronyism in connection with electoral cycles. Without adequate regulations, organization and management, the available resources may have serious shortcomings in terms of execution within the amounts and deadlines set. Thus, together with a substantive design and an adequate organizational and management model, the impact of policies financed through public social spending depends not only on quantity, but also, and concomitantly, on the quality with which it is executed.

Accountability mechanisms are essential for ensuring expenditure quality according to formally defined parameters and objectives. To improve efficiency and avoid the diversion or misuse of resources, it is crucial to have transparency and accountability mechanisms available to the general public or the target population. These technical-operational mechanisms, which frame the execution and quality of social spending, not only need to be in place at the central level, but there must also be equivalent standards and capacities at the different levels of government. In this sense, education spending is a key example of the interdependence that exists between financing (amounts, evolution, stability, fiscal priority) and the legal-regulatory, organizational and technical-operational elements that contribute to the adequate exercise and final impact of resources in terms of their coverage, quality, redistribution and effective access to rights, among other key objectives of this area of public policy. Alongside health, education is one of the oldest sectors of social policy; and it began to carry out specific actions (and thus to build an institutional framework) when the governments of the region started to include public education among their priorities and commitments to the citizenry. In addition, as detailed below, the resources allocated to education are a major part of the countries' social investment. The COVID-19 pandemic, and its profound and inequitable impacts on access to education, have renewed the need to underpin its financing and curb household out-of-pocket spending, with a view to ensuring universal access to quality education, without leaving anyone behind.

In general, as a key component of social institutions, the financial dimension faces several common challenges in the region. The unpredictability of crises and their potentially widespread impacts mean that emergency social protection measures generally require additional resources over and above those provided by the regular sources of financing for social protection (ECLAC, 2021a, p. 74). At the same time, the socioeconomic impact of the pandemic has further widened the gap between needs and the availability of resources in the countries. This is particularly the case in the Caribbean, where the systemic nature of disaster risk and the high levels of debt in the economies mean that the potential for sustaining such high levels of social protection has reached its limits.

Beyond the pressures associated with current crises and emergencies, the progress that needs to be made over time to build universal, comprehensive, sustainable and resilient social protection systems, as well as quality social policies, requires social protection to be financially sustainable. For this, it must balance a combination of sources: tax and other revenue, contributions from employees and employers, private savings and development assistance (ECLAC, 2021a, p. 76). In short, financial sustainability must be consolidated with considerations of sufficiency and transparency, which are fundamental requirements for a solid social institutional framework that renders quality public policies viable.

B. Trends of public social spending in 2000–2021

In 2021, the second year in which the world has had to wrestle with the social and economic impacts of the COVID-19 pandemic, Latin American countries recorded central government social spending equivalent on average to 13% of GDP, compared to the record level of 13.8% attained in 2020. However, this 2021 figure is well above the pre-pandemic GDP share of public social spending and reveals real growth of 1.3% (in dollars at constant 2018 prices). In the Caribbean, the five countries studied reported social public spending at 14.1% of GDP in 2021, compared to the previous year's 13.7%, with average real growth of 10.3%. The distribution of resources among the different functions maintains the profile of the last two decades led by social protection, education and health. The heterogeneity of central government social spending remains a characteristic of the region, with three countries exceeding 17% of GDP and five below 10.5%. Similarly, while four countries spend between US$ 2,730 and US$ 4,045 per capita per year, another six spend less than US$ 600 per person per year.

Given its importance for the effectiveness of the social institutional framework and the policies and programmes it implements, this section presents information on public social spending in the countries of the region by government function, as set out in the International Monetary Fund's *Government Finance Statistics Manual 2001* and *Government Finance Statistics Manual 2014* (IMF, 2001 and 2014). The analysis compares data of central government coverage for 2000–2021. In cases where the necessary information is available, the analysis is complemented with broader institutional coverages (general government, non-financial public sector and public sector). Along with information for the 20 Latin American countries, data are also included for 5 countries in the English-speaking Caribbean (see box IV.1).

Box IV.1
Statistical information on public social spending

The data used to analyse public social spending in Latin America and the Caribbean represent official information on public expenditure provided by each of the countries in the region. They are compiled annually by the Economic Commission for Latin America and the Caribbean (ECLAC) and are available in the CEPALSTAT database and the ECLAC Database on Social Investment in Latin America and the Caribbean. Three indicators are presented: in national currency at current prices, in percentages of GDP and in dollars at constant 2018 prices (the latter prepared by ECLAC, based on official information from the countries). In this edition of *Social Panorama of Latin America*, the base year has been updated from 2010 to 2018, as also, therefore, has the implicit GDP deflator series. As a result, the estimates of per capita social spending in constant dollars differ from those reported in previous versions of the *Social Panorama of Latin America.*

The following table displays the available data series for each of the countries by level of institutional coverage. A country's public sector is analysed by subsectors or institutional coverage: (i) central government, which encompasses ministries, secretariats and public institutions that have national jurisdiction (regardless of whether some departments have their own legal authority and autonomy); (ii) general government, which consists of central government and subnational governments (first territorial subdivision and local governments), as along with social security institutions; (iii) the non-financial public sector, which is composed of general government and non-financial public corporations; and (iv) the public sector, which encompasses the non-financial public sector and financial public corporations. The comparative analysis is more complete in the case of general government coverage, since there are federal countries or countries in which intermediate governments have high levels of revenue collection and management autonomy, and a large proportion of social spending is also the responsibility of subnational governments. However, information at this level of institutional coverage is not available for all of the region's countries, so it is appropriate to use central government data for the comparative analysis, since these are widely available and linked to national budgetary processes.

Latin America and the Caribbean (25 countries): availability of information on public social spending, by functional classifier, institutional coverage and available years

Country	Central government	Other existing coverage		
		General government	Non-financial public sector	Public sector
Latin America				
Argentina	1993–2021			1990–2020
Bolivia (Plurinational State of)	1990–2020[a]	1997–2018		
Brazil	1995–2021	2000–2021		
Chile	1990–2021			
Colombia	1990–2021	2009–2021		
Costa Rica	1993–2021	1990–2016 2019–2021		
Cuba	2002–2020	1996–2020		
Dominican Republic	1990–2021	2017–2019		
Ecuador	2000–2021			
El Salvador	1990–2021			2002–2021[b]
Guatemala	1995–2021	2014–2021		
Haiti	2012–2014			
Honduras	2000–2021			
Mexico	1999–2021		2013–2021[b]	
Nicaragua	1998–2021			
Panama	2000–2020			
Paraguay	2000–2021	2003–2021		
Peru		1999–2021		
Uruguay	1990–2021			
Venezuela (Bolivarian Republic of)	1997–2014			
The Caribbean				
Bahamas	1990–2021			
Barbados	2006–2021			
Guyana	2004–2021			
Jamaica	1992–2021			
Trinidad and Tobago	2008–2021			

Source: Economic Commission for Latin America and the Caribbean (ECLAC), CEPALSTAT [online database] https://statistics.cepal.org/portal/cepalstat/index.html?lang=en; Database on Social Investment in Latin America and the Caribbean [online] https://observatoriosocial.cepal.org/inversion/en; *Social Panorama of Latin America, 2016* (LC/PUB.2017/12-P), Santiago, 2017; International Monetary Fund (IMF), *Government Finance Statistics Manual 2014*, Washington, D.C., 2014.

[a] Central administration.

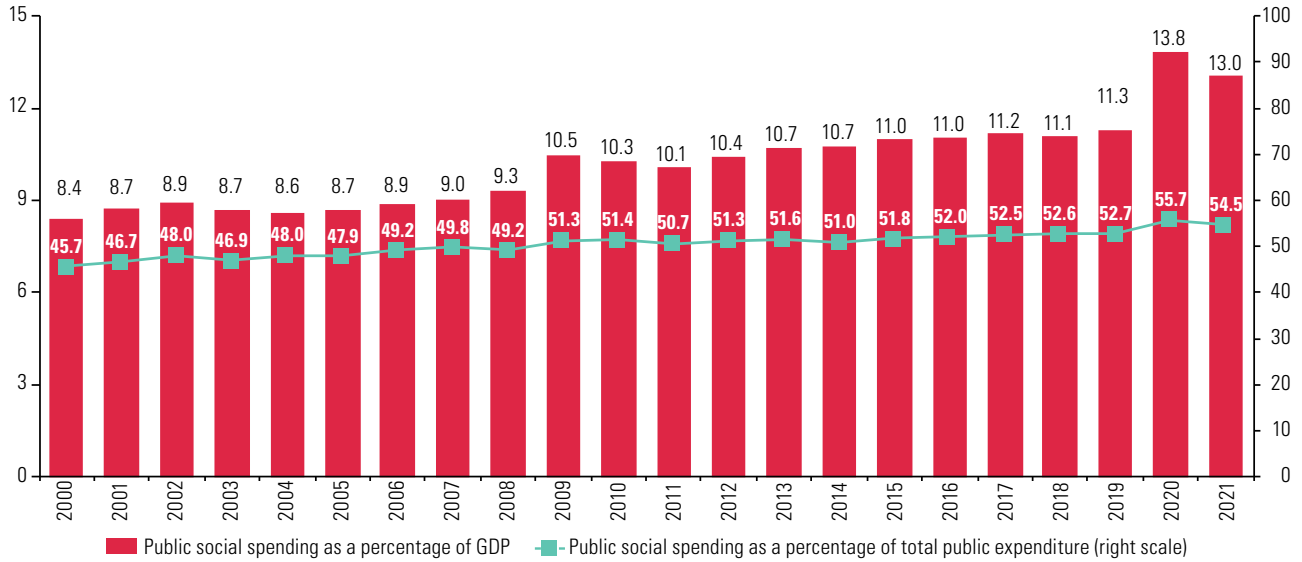
[b] Subnational governments are not consolidated.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on CEPALSTAT [online database] http://estadisticas.cepal.org; Database on Social Investment in Latin America and the Caribbean [online] https://observatoriosocial.cepal.org/inversion/en; *Social Panorama of Latin America, 2016* (LC/PUB.2017/12-P), Santiago, 2017; International Monetary Fund (IMF), *Government Finance Statistics Manual 2014*, Washington, D.C., 2014.

1. Trends in central government social spending in the region

As described in *Social Panorama of Latin America, 2021* (ECLAC, 2022a), during the first two decades of this century, average social spending by central government in 17 Latin American countries was broadly stable relative to GDP. This series is marked by two sharp increases in response to economic crises, followed by three years in which the trend was partially reversed. Thus, the updated figures in the series show that central government social spending increased by 0.5 percentage points of GDP following the dot-com crisis in 2000, and then fell by 0.3 percentage points between 2002 and 2004. Following the 2008 global financial crisis, social spending rose again by an average of 1.2 percentage points, before retreating by 0.4 points in the following two years (see figure IV.3).

Figure IV.3
Latin America (17 countries): central government social spending, 2000–2021
(Percentages of GDP and total public expenditure)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The averages represent the arithmetic mean of the values for 17 Latin American countries: Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Plurinational State of Bolivia and Uruguay. The coverage in the Plurinational State of Bolivia corresponds to central administration, and that of Peru corresponds to general government. Data for Panama and the Plurinational State of Bolivia refer 2020.

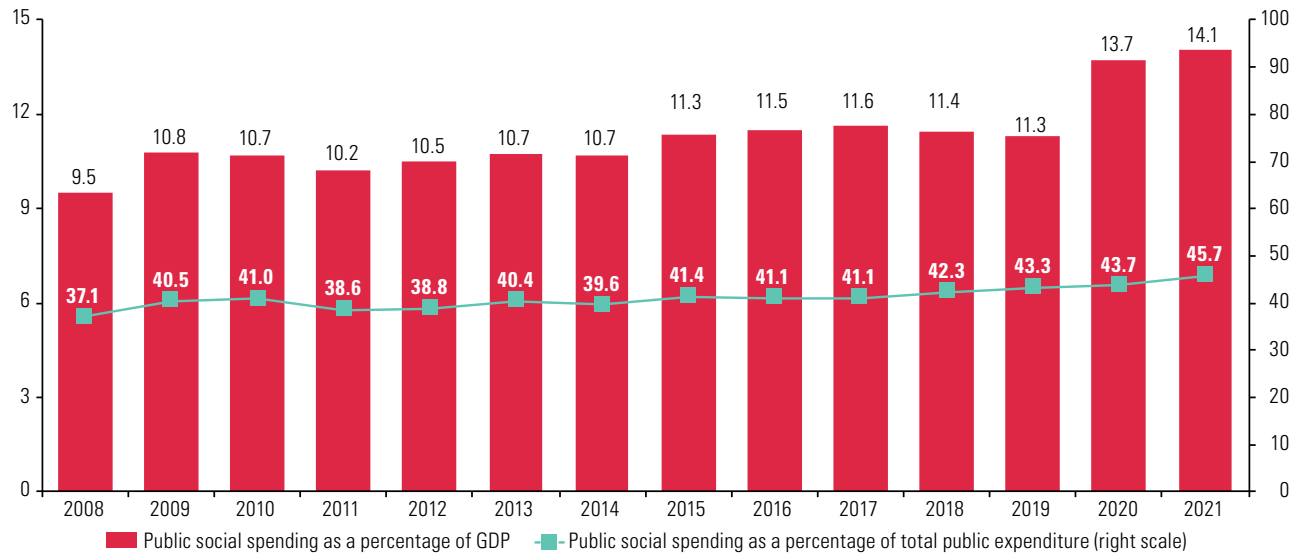
In 2020, the first year of the crisis caused by the COVID-19 pandemic, public spending as a share of GDP was at its highest since statistics have been available. On average, it rose by 2.5 percentage points to 13.8% of GDP in 2020, as a result of both real growth in social spending and the sharp drop in GDP in Latin American countries in the same year. As happened in previous crises, the level of social spending dropped in 2021, but remained at much higher levels than in the years prior to the pandemic, averaging 13% of GDP —this time in a year of positive economic growth rates and with heterogeneous trends across countries.[3]

Similarly, the share of social spending in total central government expenditure declined on average by 1.2 percentage points, to reach 54.5% in 2021; and it remained the main component of total public spending.

Among the five English-speaking Caribbean countries for which comparable central government social spending data are available between 2008 and 2021 (Bahamas, Barbados, Guyana, Jamaica, and Trinidad and Tobago), the historical trend has been broadly similar to that of the Latin American countries. The updated series reveals a significant increase of 1.3 percentage points of GDP in 2009, followed by a three-year decline of 0.6 percentage points. This was followed by six years of spending growth, then a slight drop in the two subsequent years. In 2020, during the first year of the COVID-19 pandemic, the level of public social spending rose sharply, by 2.4 percentage points of GDP over the 2019 level. In 2021, unlike the Latin American average, the upward trend continued, lifting public social spending to 14.1% of GDP (see figure IV.4).

[3] According to figures for 2021 published in *Economic Survey of Latin America and the Caribbean, 2022* (ECLAC, 2022d), all countries, except Haiti, recorded positive annual growth rates, which, in 19 Latin American countries, averaged 6.5%.

Figure IV.4
The Caribbean (5 countries): central government social spending, 2008–2021
(Percentages of GDP and total public expenditure)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The averages correspond to the arithmetic mean of the values for five Caribbean countries: Bahamas, Barbados, Guyana, Jamaica, and Trinidad and Tobago.

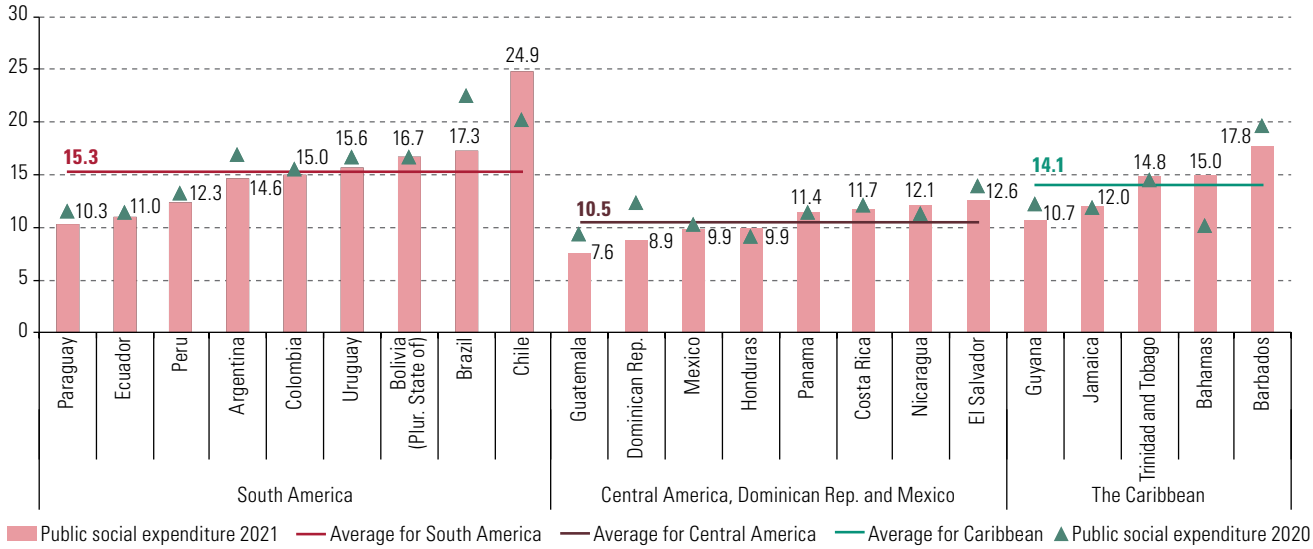
The share of social spending in total central government expenditure in the five Caribbean countries also increased by 2 percentage points between 2020 and 2021, to 45.7%. This is approaching, albeit still at some distance, the average share of Latin American countries: the difference in the share of social spending in total public expenditure between the Latin American countries and the five Caribbean countries narrowed from 12 percentage points to 8.8 points.[4] Relative to GDP, however, average total public social spending in the five Caribbean countries is 1.1 percentage points higher than the average for Latin American countries in 2021.[5]

In 2021, the comparative analysis of central government social spending relative to GDP among the subregions of Latin America and the Caribbean reveals an aggregate situation relatively similar to that of the previous year. The average among South American countries is 15.3% of GDP, which is 0.8 percentage points less than in 2020. South America remains the subregion with the highest average level of social spending. It is also very heterogenous, with a range of 14.6 percentage points between the countries with the highest and lowest levels: in Paraguay public social spending was equivalent to 10.3% of GDP, whereas in Chile it was 24.9% (see figure IV.5).

In the group comprising the six Central American countries, plus the Dominican Republic and Mexico, central government social spending averaged 10.5% of GDP in 2021, 0.8 percentage points less than in the previous year. Half of the countries recorded levels below 10% of GDP. Heterogeneity in this case is considerably less, with a range of 5 percentage points between El Salvador, the country with the highest level of spending (12.6% of GDP), and Guatemala, with the lowest level in the entire region (7.6% of GDP).

4 In some countries, this situation is explained by the heavy burden of interest payments —particularly in the case of Jamaica.
5 This figure refers to five Caribbean countries for which information on functional spending is available. In contrast, total central government spending published in *Fiscal Panorama of Latin America and the Caribbean, 2022* (ECLAC, 2022c) considers 12 Caribbean countries.

Figure IV.5
Latin America and the Caribbean (22 countries): central government social spending, by country and subregion, 2020 and 2021
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: Coverage in the Plurinational State of Bolivia corresponds to central administration, and that of Peru refers to general government. Data for Uruguay do not include the Social Security Bank (BPS). Data for Panama and the Plurinational State of Bolivia refer to 2020. The 2020 levels of public social spending are included for comparison purposes.

For the five Caribbean countries that have comparable information on central government expenditure, average public social spending, equivalent to 14.1% of GDP in 2021 (0.4 percentage points higher than in the previous year), includes a gap of 7.1 percentage points between the countries with the highest and lowest levels (1.2 points lower than in 2020 and similar to the 2019 level), with extremes of 10.7% of GDP in Guyana and 17.8% in Barbados.

A detailed analysis of the changes in the different countries of the region reveals a quite heterogeneous picture.[6] Although most display a contraction in spending relative to GDP, the trends are varied. Thus, eight countries show variations of up to 1 percentage point, with one half falling and the other half rising. Another six countries report reductions of between 1 and 2 points, while five countries show significantly larger changes, with three falling by between 2.3 and 5.2 percentage points and two others rising by more than 4.6 points.

In the Latin American countries, the steepest fall occurred in Brazil, equivalent to 5.2 percentage points of GDP in central government social spending between 2020 and 2021. The changes occurring in social policy in the latter year included the end of the emergency support programme in October of that year, with a reduction in the amounts paid between 2020 and 2021.[7] The Dominican Republic lowered social spending by 3.5 percentage points of GDP, as at least three cash transfer programmes implemented in response to the impacts of the pandemic expired between January and April 2021: the "*Quédate en casa*" (Stay at home) programme, the employment assistance solidarity fund (phase I, extended phase I and phase II) and the *Bono Estudio Contigo* home study subsidy programme. These were in addition to the *Pa' Ti* self-employment assistance programme, which ended in late 2020. For its part, Argentina recorded a reduction of 2.3 percentage points of GDP in central government social spending. The country concluded

6 Three countries (Colombia, Panama and the Plurinational State of Bolivia) are not analysed in this case, since data updated to 2021 are not available.

7 New programme payments were made between April and October 2021. Relative to 2020, in that period the amount was reduced from R$ 600 to R$ 250 (US$ 47) per person, and the payment was limited to one person per family, while maintaining the differential for female providers in single-parent households (R$ 375 per month) (ECLAC, 2022a).

the emergency family income (IFE) programme, which accounted for about a third of the transfers announced as part of the responses to COVID-19 between 2020 and 2021, but was only implemented during 2020.[8]

Another country in which central government social spending was cut back sharply is Guatemala (-1.8 percentage points of GDP), which although less in absolute terms than the countries referred to above, represents a 19% decrease in social spending relative to GDP in 2020.

In contrast, Chile saw public social spending rise by 4.6 percentage points of GDP, owing to the implementation of a series of social protection measures in response to the pandemic, including the COVID-19 emergency voucher and the expansion of the emergency family income (IFE) programme. Based on information through November 2021, a total of 18 IFE payments transferred an estimated US$ 25.644 billion, equivalent to 28 times the expenditure on permanent benefits granted in 2019.[9]

Following a year (2020) marked by the COVID-19 pandemic, with unprecedented economic contractions and average growth in public social spending (in dollars at constant 2018 prices)[10] of 14.9% in Latin America, well above the previous years' growth rates (4.5% on average between 2011 and 2019), in 2021 the countries maintained positive social spending growth, but at significantly lower rates. As shown in figure IV.6, central government social spending in Latin American countries grew by an average of 1.3% in 2021 (1.4% in South America and 1.3% in Central America). This is the lowest rate in the series analysed and, when combined with higher rates of economic growth than in the previous year (+6.5%, on average), it produces the aforementioned drop in public social spending relative to GDP. The situation in the five Caribbean countries analysed is similar, with average growth rates of 2% between 2010 and 2019, and 10.3% in 2021.

Figure IV.6
Latin America and the Caribbean (22 countries): average annual growth rates of central government social spending, by subregion, 2010–2021
(Percentages)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The averages for Latin America correspond to the arithmetic mean of the values for 17 countries, which are divided into two groups: 9 from South America (Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Plurinational State of Bolivia and Uruguay), and 8 from the group comprising Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), the Dominican Republic and Mexico. The Caribbean includes five countries (Bahamas, Barbados, Guyana, Jamaica and Trinidad and Tobago). Coverage in the case of the Plurinational State of Bolivia refers to central administration and that of Peru refers to general government.

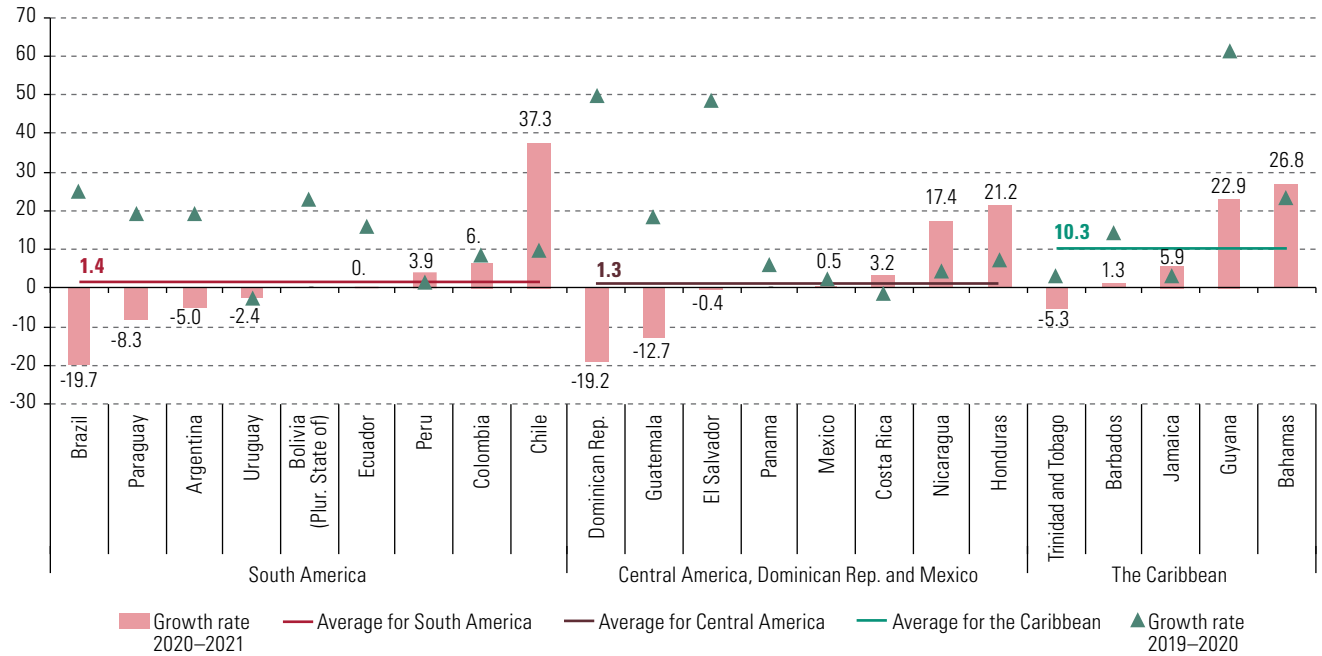
8 For further information, see Economic Commission for Latin America and the Caribbean (ECLAC), COVID-19 Observatory in Latin America and the Caribbean [online] https://www.cepal.org/en/subtopics/covid-19; "Medidas de protección social para enfrentar el COVID-19" [online] https://dds.cepal.org/observatorio/socialcovid19/listamedidas.php. [online] https://dds.cepal.org/observatorio/socialcovid19/listamedidas.php.

9 The measures in question include the following: single family subsidy (SUF), family allowance, mental disability subsidy, permanent family support, golden wedding bonus, youth employment subsidy, and women's work bonus (Ministry of Social Development and Family, 2021).

10 The data compare spending in dollars at constant 2018 prices. This differs from previous years when a 2010-based series was used, which may mean adjustments to the series.

When analysing the particular situation of the different countries, the variations in real spending growth in 2021 coincide with the corresponding GDP trends. In South America, there was robust growth in Chile (+37.3%, almost four times the previous year's rate) and negative growth rates in Brazil (-19.7%), Paraguay (-8.3%) and Argentina (-5.0%). In the case of the Central American countries, the Dominican Republic (-19.2%) and Guatemala (-12.7%) are the two countries in which public social spending declined, while the highest growth rates are recorded in Honduras (+21.2%) and Nicaragua (+17.4%) even though both countries remain below the regional average for spending relative to GDP. Among the five Caribbean countries, the growth rates recorded by the Bahamas (+26.8%) and Guyana (+22.9%) are the highest after Chile in the whole region, while Trinidad and Tobago is the only Caribbean country to post negative growth (-5.3%) (see figure IV.7).

Figure IV.7
Latin America and the Caribbean (22 countries): annual growth of central government social spending, by country and subregion, 2020 and 2021
(Percentages)



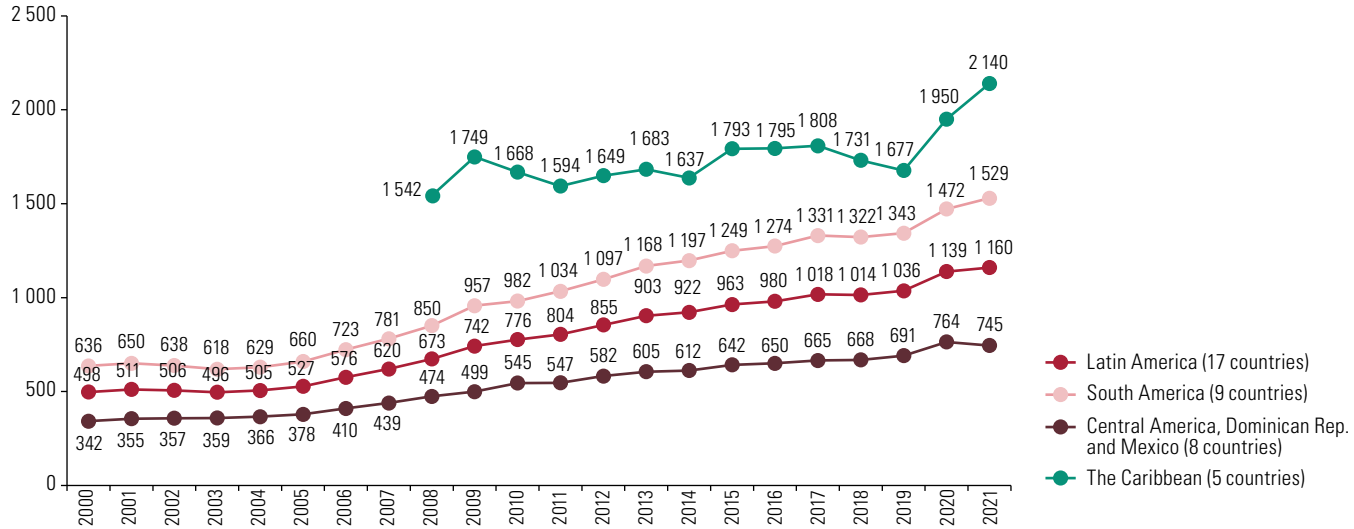
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The bars represent growth rates between 2020 and 2021 calculated as the variation in spending, measured in dollars at constant prices. The Latin American averages correspond to the arithmetic mean of the values for 17 countries, which are divided into two groups: 9 from South America (Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Plurinational State of Bolivia and Uruguay), and 8 from the group comprising Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), the Dominican Republic and Mexico. The Caribbean includes five countries (Bahamas, Barbados, Guyana, Jamaica and Trinidad and Tobago). Coverage in the Plurinational State of Bolivia refers to central administration and that of Peru refers to general government. The data for Uruguay do not include the Social Security Bank (BPS).

2. Trends in per capita social spending

Measured in dollars at constant 2018 prices, the simple average of per capita central government social spending in 2021 was US$ 1,383 among the 22 countries in the region, up US$ 60 from the previous year. This represents an average increase of 4.5% over the 2020 level.

In the case of the 17 Latin American countries, per capita central government social spending in 2021 averaged US$ 1,160, which was US$ 21 more than in the previous year with a wider dispersion among the subregions. While the average for the countries of South America increased by US$ 57, in the group comprising the countries of Central America, the Dominican Republic and Mexico it decreased by an average of US$ 19 (see figure IV.8).

Figure IV.8
Latin America and the Caribbean (22 countries): per capita central government social spending, by subregion, 2000–2021
(Dollars at constant 2018 prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The Latin American averages correspond to the arithmetic mean of the values for 17 countries, which are divided into two groups: 9 from South America (Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Plurinational State of Bolivia and Uruguay), and 8 from the group comprising Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), the Dominican Republic and Mexico. The Caribbean includes five countries (Bahamas, Barbados, Guyana, Jamaica and Trinidad and Tobago). Coverage in the Plurinational State of Bolivia refers to central administration and that of Peru refers to general government. The data for Uruguay do not include the Social Security Bank (BPS).

The five English-speaking Caribbean countries recorded the largest per capita increase in central government social spending, which rose by an average of US$ 190 (9.7% more than in the previous year). Compared with the average for the Latin American countries, this amount grew significantly (85% higher than in previous years).

The analysis by country shows that, in the last two years, the central government that allocated the most resources per capita to social spending was that of Chile, with US$ 4,044, followed by the Bahamas, with US$ 3,758. Both countries reached levels never previously recorded in the region. A second group of countries consisted of Trinidad and Tobago, Barbados and Uruguay, ranging between US$ 2,227 and US$ 2,848, followed by Argentina, Brazil, Costa Rica and Guyana (between US$ 1,375 and US$ 1,651). Another group of eight countries, including Colombia, the Dominican Republic, Ecuador, El Salvador, Jamaica, Mexico, Paraguay, Peru and the Plurinational State of Bolivia, spent per capita amounts of between US$ 522 and US$ 1,035. Lastly, three Latin American countries (Guatemala, Honduras and Nicaragua) spent between US$ 246 and US$ 338 per person (see annex IV.A1).

Complementing the above, the main year-on-year variations observed in this indicator include those of Chile with an increase of 36.6%, followed by the Bahamas (+25.6%), Guyana (+22.3%), Honduras (+19.3%) and Nicaragua (+16.1%). Although the latter two countries remain at the bottom of the list in absolute terms, they made relatively significant gains during this period. In contrast, the steepest reductions in the per capita average were recorded in Brazil (-20.3%), the Dominican Republic (-20.0%) and Guatemala (-14.3%).

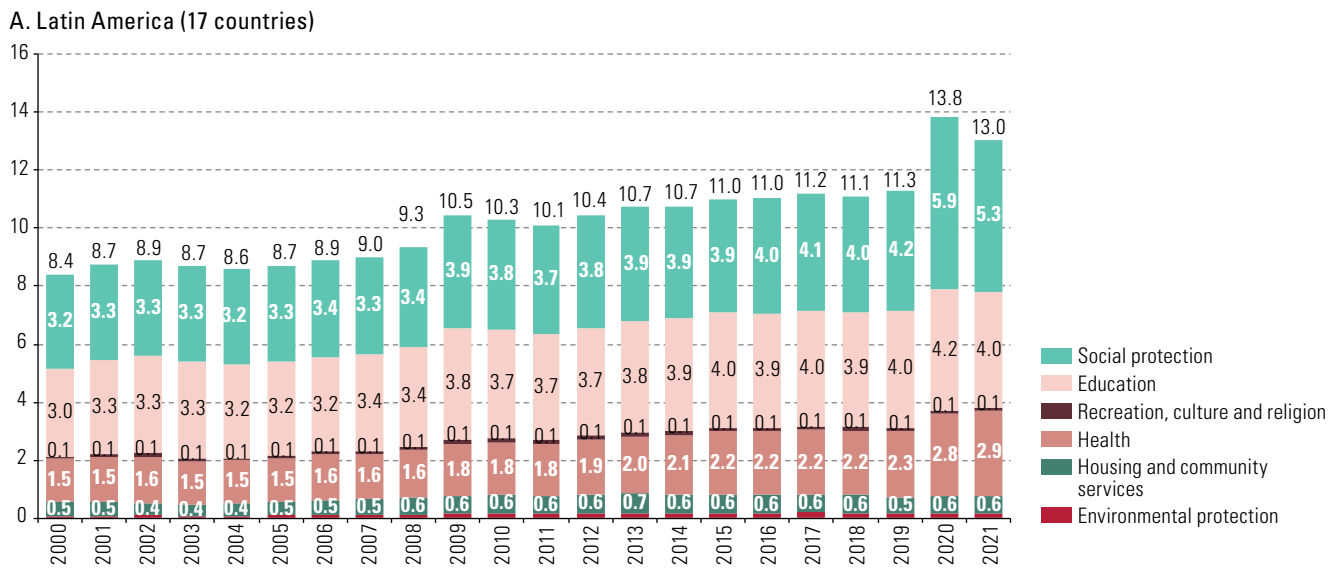
As indicated in previous editions of *Social Panorama of Latin America,* the data analysed here show that there are two characteristics in Latin American countries. Firstly, the countries facing the greatest challenges in achieving the social goals of the 2030 Agenda for Sustainable Development —for example, in relation to poverty,

health, education, social protection and access to drinking water, electricity and sanitation— are those with the lowest levels of social spending, whether in absolute terms, or relative to the size of their population, or as a proportion of GDP. Secondly, the availability of public funds for social spending in the countries of the region remains substantially less than in the countries of the Organisation for Economic Co-operation and Development (OECD) and the European Union.[11] This confirms, among other things, the need to move towards a new fiscal covenant in the region, to strengthen the financial sustainability of social policies and thus consolidate the creation of welfare states that prioritize equality and sustainability.

3. Social spending by function of government

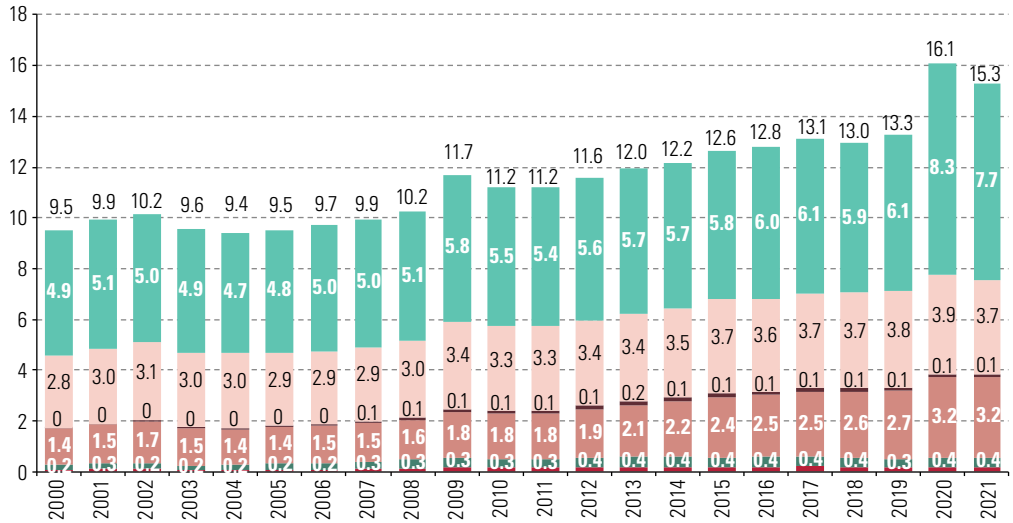
An analysis of the composition of central government social spending between the six social functions of government reveals a stable distribution between 2000 and 2021. As has been the trend, in Latin America social protection and education remain the functions receiving the highest levels of social spending, both in dollar amounts and as percentages of GDP, with average expenditure equivalent to 5.3% and 4.0% of GDP, respectively (see figure IV.9). These two functions also suffered the deepest cuts in funding in 2021: -0.2 points of GDP in education and -0.6 points in social protection, which, nonetheless, remains well above its historical trend. Meanwhile, health, a function that has historically been the third priority, continued to trend up in the context of the COVID-19 pandemic, rising from 2.8% to 2.9% of GDP between 2020 and 2021.

Figure IV.9
Latin America and the Caribbean (22 countries): central government social spending, by function, 2000–2021
(Percentages of GDP)

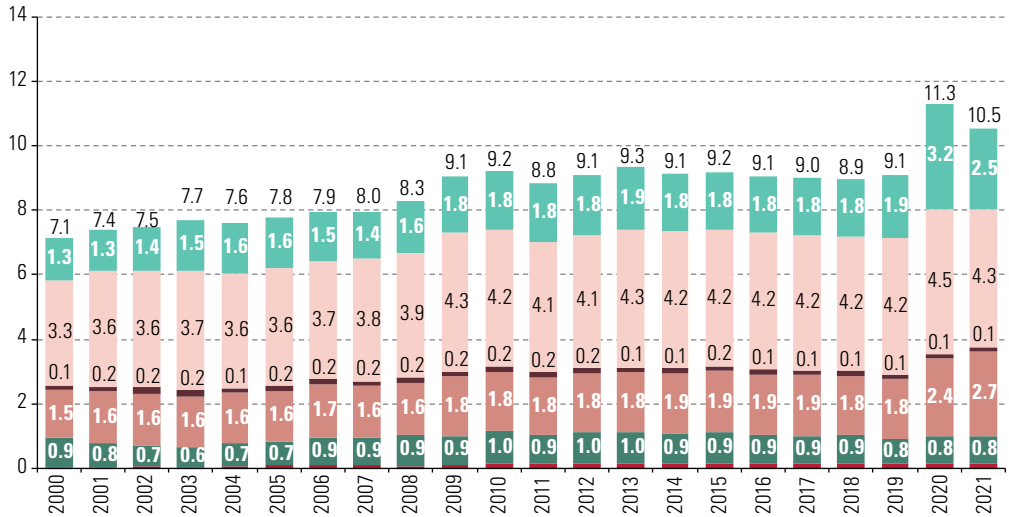


[11] Section IV.B.4 discusses the magnitude of social public spending in OECD countries. For further information, see Organisation for Economic Co-operation and Development (OECD), OECD. Stat [online database] https://stats.oecd.org/.

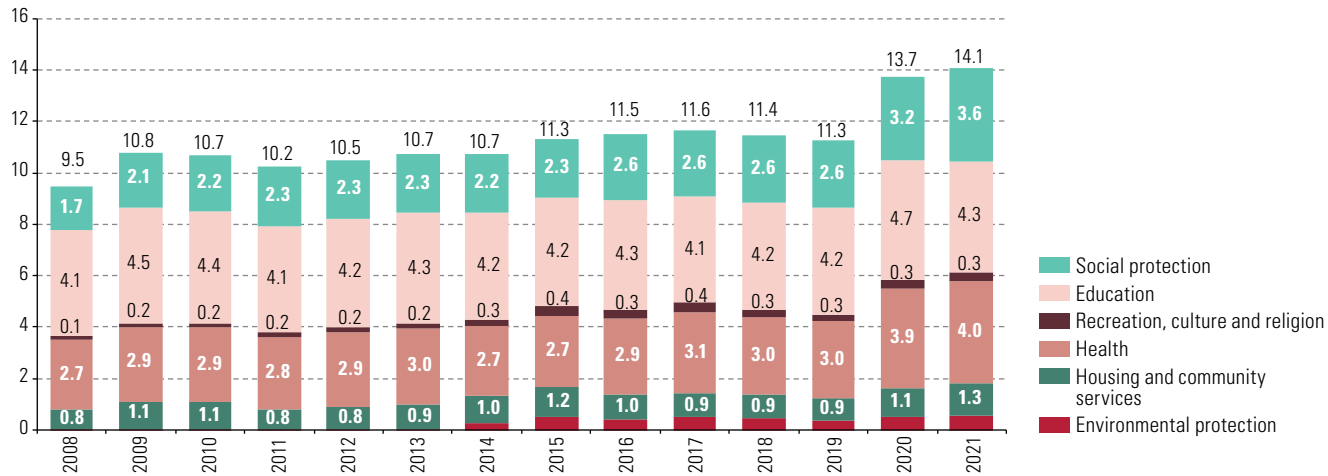
B. South America (9 countries)



C. Central America, the Dominican Republic and Mexico



D. The Caribbean (5 countries)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.

Note: The Latin American averages correspond to the arithmetic mean of the values for 17 countries, which are divided into two groups: 9 from South America (Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Plurinational State of Bolivia and Uruguay), and 8 from the group comprising Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama), the Dominican Republic and Mexico. The Caribbean includes five countries (Bahamas, Barbados, Guyana, Jamaica and Trinidad and Tobago). Coverage in the Plurinational State of Bolivia refers to central administration and that of Peru refers to general government.

Among the South American countries, the trend is equivalent to that described for Latin America, with similar levels of contraction in the social protection and education functions, and a stable level in health. In general, a similar situation obtains in the countries of Central America, the Dominican Republic and Mexico, but with an increase in the share of the health function.

As has been the case in previous years, the weight of the social protection function marks the difference between the two Latin American subregions. In 2021, average central government spending on social protection relative to GDP in the countries of Central America, the Dominican Republic and Mexico (2.5% of GDP) is less than a third of that in the countries of South America (7.7%), a difference of 5.2 percentage points. This is complemented by the education and health functions, where the South American countries spend 0.6 percentage points of GDP less in the former and 0.5 percentage points more in the latter.

Education absorbs the second largest share of central government social spending among Latin American countries, but has historically ranked first in the subregion consisting of Central America, the Dominican Republic and Mexico, with an average of 4.3% of GDP in 2021, compared to 3.7% in South America.

As noted above, the health function remained stable at an average of 3.2% of GDP in South America in 2021, while increasing by 0.3 percentage points to 2.7% of GDP among the countries of Central America, the Dominican Republic and Mexico.

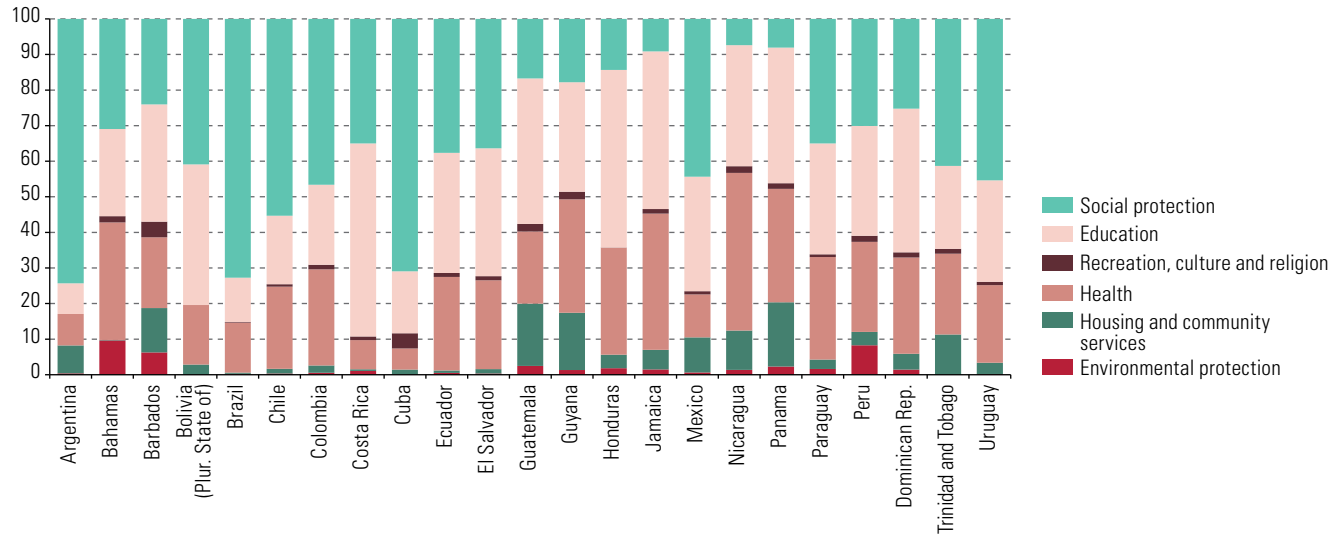
Expenditure on housing and community services remained stable around 0.6% of GDP and, as in previous years, the countries of Central America, plus the Dominican Republic and Mexico spent on average twice as much on this function as their South American counterparts (0.8% and 0.4% of GDP, respectively).

Data for the five English-speaking Caribbean countries analysed reveals a number of changes in the share of each of the social functions in 2021, but their ranking was unchanged. Central government social spending rose by 0.4 percentage points of GDP in social protection, but fell by the same amount in the education function, and grew by 0.1 percentage points of GDP in health and by 0.2 points in the housing and community services function.

On average, in the different subregions, the environmental protection and the recreation, culture and religion functions maintained their 2021 GDP shares. In the former function, the Caribbean countries spend, on average, three times as much relative to GDP as those of Latin America (0.6% and 0.2% of GDP, respectively).

The review of the distribution of central government social spending among the various social functions of government complements the previous analysis by indicating each country's priorities, as revealed in their allocation of public funds. As mentioned in previous editions of *Social Panorama of Latin America* (ECLAC, 2017, 2019a, 2019b, 2021b and 2022a), and as occurs in the regional and subregional averages, the distribution of social spending by function of government shows that the largest share of resources disbursed in 2021 went to the social protection, education and health functions in most countries. However, there are also significant differences in the distribution (see figure IV.10 and annex IV.A1).

Figure IV.10
Latin America and the Caribbean (23 countries): distribution of central government social spending, by function, 2021
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: Coverage in the Plurinational State of Bolivia refers to central administration and that of Peru refers to general government. Data for Cuba, Panama and the Plurinational State of Bolivia correspond to 2020.

The following paragraphs briefly describe the situation of central government spending on each social function in the countries of Latin America and the Caribbean for which information is available.[12] It is important to remember that the analysis presented focuses on official data of central government coverage in 2021. As noted in previous editions of *Social Panorama of Latin America*, spending levels can change significantly across countries when broader coverage, such as that of general government or the non-financial public sector, is considered. This is particularly true of countries that have a federative structure or subnational governments with high levels of autonomy, such as Argentina, Brazil, Colombia and Mexico; or countries in which some, if not all, of the social security funds are administered independently, as in Costa Rica, Ecuador and Uruguay, among others. Public social spending data of broader coverage are only available for 12 countries (see box VI.1), 8 of which have data for 2021 (Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Mexico, Paraguay and Peru), for which complementary elements are included in section IV.B.4.

(a) Social protection

The analysis of spending on social protection policies includes disbursements representing services and transfers to individuals and families, related to illness and disability, old age, survivors,[13] family and children, unemployment, housing[14] and social exclusion, considering both the contributory and non-contributory segments of

12 The Bolivarian Republic of Venezuela and Haiti are not included, owing to a lack of information.
13 Expenditure in respect of survivor pensions represents social protection in the form of cash and in-kind benefits paid to the survivors of a deceased person (such as a spouse, former spouse, children, grandchildren, parents and other relatives).
14 Housing-related expenditure under this function refers to support to facilitate access to housing and includes the following: "Provision of social protection in the form of benefits in kind to help households meet the cost of housing (recipients of these benefits are means-tested); Administration, operation, or support of such social protection schemes; Benefits in kind, such as payments made on a temporary or long-term basis to help tenants with rental costs, payments to alleviate the current housing costs of owner-occupiers (i.e., to help with paying mortgages or interest), and provision of low-cost or social housing."(IMF, 2014, p. 188).

social protection. This function includes policies and programmes aimed at covering the risks of income loss or increased expenses that may affect part or all of the population (related to illness, old age, care, disasters, economic and social crises[15] and unemployment), as well as those intended to facilitate inclusion and protect the population from the consequences of poverty and inequality (such as cash or in-kind transfer programmes and non-contributory pensions).

In 2021, the Latin American countries in which central government allocated the largest share of GDP to the social protection function were Chile (13.8%), Brazil (12.6%) and Argentina (10.9%), followed by Cuba (9%), Uruguay (7.1%) and Colombia (7.0%). In contrast, Nicaragua allocated less than 1% of GDP.

Unlike in 2020, when all countries sharply increased social protection spending relative to GDP, in 2021 the pattern was mixed. Chile reported the largest increase, of 5.6 percentage points of GDP, followed by the Bahamas (+3 percentage points) and Cuba (+2.8 points). In contrast, the largest reductions occurred in Brazil (-4.9 percentage points), Argentina (-3.2 points) and the Dominican Republic (-2.5 points). These variations reflect both real increases in spending and large changes in GDP growth in the different countries between the two years.

When comparing resources channelled into social protection with total central government social spending, the number of countries that allocated the largest share of their resources to this function in 2021 rose from 12 to 13. As in 2020, Argentina and Brazil are the countries with the largest shares allocated to this function (74% and 73%, respectively), followed by Cuba (71%)[16] and Chile (55%). Four other countries spent between 40% and 48% on social protection: Colombia, Uruguay, Mexico, and Trinidad and Tobago. In contrast, Jamaica and Nicaragua targeted less than 10% of their central government social spending on social protection.

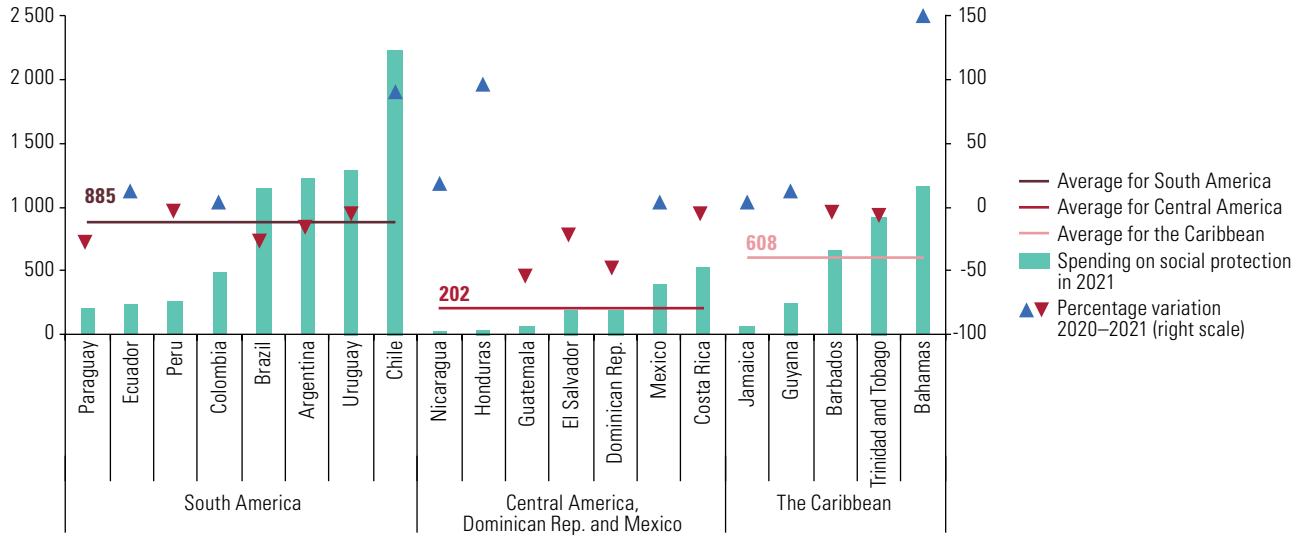
An analysis of the per capita amounts allocated to financing social protection shows that in five countries these amounts exceeded US$ 1,000 in 2021. Chile recorded amounts in excess of US$ 2,200, followed by Uruguay, Argentina, the Bahamas and Brazil (with figures of between US$ 1,292 and US$ 1,144). In contrast, Guatemala, Honduras, Jamaica and Nicaragua each spent less than US$ 60 per capita on this function. In relative terms, the year-on-year variations reveal significant increases in the Bahamas, with a rise of 150%, followed by Honduras and Chile, with increases of between 95% and 88%. Conversely, several countries reported significant reductions: Guatemala (-54%) and the Dominican Republic (-48%), followed by Paraguay, Brazil and El Salvador (between -28% and -23%) (see figure IV.11).

In several countries, data from the social security institutes may increase the indicated social protection expenditure and, in some cases, modify the trends described above. This is due to different institutional models and modes of resource administration, since some countries have management and accounting autonomy, while others prefer private administration. Examples of this situation are Costa Rica, Ecuador, El Salvador, Honduras, Nicaragua, Panama and Uruguay. Some of these effects can be seen in the analysis of broader institutional coverage presented in section IV.C. By way of example, El Salvador's central government coverage shows a real drop of 23.1% (in dollars per capita) in this function, while the analysis at public sector coverage shows an increase of 12.1%.

[15] Such as the economic and social crisis resulting from the COVID-19 pandemic. For a detailed analysis, see ECLAC (2022a), chapter III, section B.

[16] Information for 2020.

Figure IV.11
Latin America and the Caribbean (20 countries): per capita central government spending on social protection, by country and subregion, 2021
(Dollars at constant 2018 prices and percentage year-on-year variation)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The bars represent spending in dollars at constant 2018 prices. Increases are identified by blue upward-pointing triangles and reductions by red downward-pointing triangles. Coverage for Peru refers to the general government. Data for Uruguay do not include the Social Security Bank (BPS).

(b) Education

The analysis of spending on education considers all resources used to finance education policies at the at the different levels of schooling, from preschool to tertiary, in addition to auxiliary services and research and development. To this end, the Education 2030 Framework for Action urges governments to allocate at least 4% to 6% of GDP or at least 15% to 20% of public expenditure to education (UNESCO and others, 2016).

The countries that allocated the most central government resources to education relative to GDP in 2021, were Costa Rica (6.3%) and Barbados (5.9%). A second group consists of Jamaica, Honduras and Chile, with amounts ranging between 4.8% and 5.3% of GDP, followed by a group comprising El Salvador, Uruguay and Nicaragua, which spend between 4.1% and 4.5% of GDP on education.

Four countries increased their spending on this function relative to GDP: Cuba and El Salvador (both with increases of 0.52 percentage points), the Bahamas (+0.4 points) and Argentina (+0.1 points). The other 16 countries reported reductions of up to 1.04 percentage points of GDP. These figures represent variations in 2021 relative to the previous year ranging from +31% to -22%.

Although the volume of resources allocated in each country does not necessarily cover education needs, if only central government spending is considered, 13 of the region's countries allocate a share of GDP that is equal to or greater than the recommendation proposed by UNESCO. As shown in section IV.C, the number of countries increases when broader institutional coverage is considered. In nine countries, education is the function that absorbs the largest share of central government social spending.

The countries that devoted the most resources to education relative to total central government social spending in 2021 were Costa Rica and Honduras, at 54% and 50%, respectively; followed by Jamaica (44%), Guatemala (41%) and the Dominican Republic (40%).

Section IV.C presents a detailed analysis of education spending, complemented by broader government coverage and different data sources.

(c) Health

Expenditure related to the health function considers all spending on services provided to individuals and groups at different levels of care, in both preventive and curative programmes. To move towards universal health care, target 4.1 of the Sustainable Health Agenda for the Americas 2018–2030 calls for at least 6% of GDP to be devoted to health (PAHO/WHO, 2017, p. 35).[17] This amount is considered a minimum benchmark for the actions of the countries in terms of the health system's financial sustainability.

In 2021, when the COVID-19 pandemic was still having an impact on the health system, and there were higher levels of demand for services affected by the previous year's restrictions, in which the provision of services in various areas of health was postponed, central government spending was not sufficient to meet this target in any of the countries. The country with the highest level of central government spending on health was Chile, which allocated 5.7% of GDP to this function, followed by Nicaragua (5.4%), the Bahamas (5.0%) and Jamaica (4.6%). However, when broader institutional coverage is considered for countries that have the corresponding information available, the target is also met by Argentina (7% of GDP),[18] Brazil (6.1%), Colombia (6.2%) and Cuba (12.2%).[19] The countries with the largest increases in central government spending on health relative to GDP in 2021 were the Bahamas (+1.33 percentage points), Nicaragua (+1.30 points), Paraguay (+0.51 points) and Trinidad and Tobago (+0.47 points).

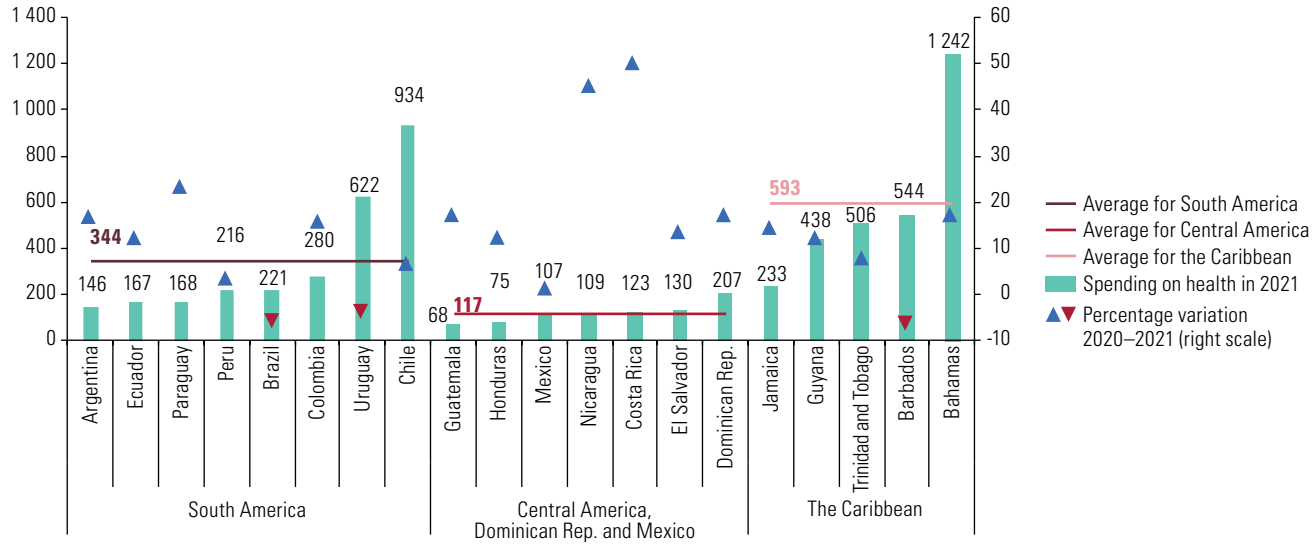
When analysing these figures in relation to the set of social functions, five countries allocated 30% or more of central government social spending to the health function, with Nicaragua (44%) leading the way, followed by Jamaica (38%), the Bahamas (33%), Guyana (32%) and Honduras (30%). Six other countries allocated a quarter or more of their social spending to this function: Paraguay (29%), the Dominican Republic and Colombia (both with 27%), Ecuador (26%), Peru and El Salvador (25% each). At the bottom of this distribution are Argentina, Costa Rica and Cuba, which allocated less than 10% of central government social spending.

In per capita terms, measured in dollars at constant 2018 prices, the region's central governments spent an average of US$ 327 on health in 2021 —US$ 344 in South America; US$ 117 in Central America, the Dominican Republic and Mexico; and US$ 593 in the Caribbean. Thus, in 2021, central government health spending represented, on average, 20% of per capita social spending in Latin America (21% in South America and 16% in Central America, the Dominican Republic and Mexico) and 28% among the five Caribbean countries.

In the region as a whole, the countries with the highest per capita health expenditure were the Bahamas (US$ 1,242), Chile (US$ 934), Uruguay (US$ 622), Barbados (US$ 544), Trinidad and Tobago (US$ 506) and Guyana (US$ 438) (see figure IV.12).

[17] See Goal 4 of the Sustainable Health Agenda for the Americas 2018–2030 (PAHO/WHO, 2017).
[18] Data corresponding to 2020.
[19] Data corresponding to 2020.

Figure IV.12
Latin America and the Caribbean (20 countries): central government per capita spending on health, by country and subregion, 2021
(Dollars at constant 2018 prices and percentage year-on-year variation)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The bars represent spending in dollars at constant 2018 prices. Increases are identified by blue upward-pointing triangles and reductions by red downward-pointing triangles. Coverage for Peru refers to general government. Data for Uruguay do not include the Social Security Bank (BPS).

The amounts cited above represent average growth in per capita social spending on health of 13.1% relative to the 2020 levels in the 20 countries analysed, well above the growth of total per capita central government social spending. This shows that this item continued to be prioritized during the second year of the pandemic. The countries reporting the greatest increases in per capita central government spending on health in 2021 were Costa Rica (49%), Nicaragua (44%), Paraguay (23%), the Bahamas (17%), the Dominican Republic, Guatemala and Argentina (all three with 16%).

These estimates may vary when they include broader institutional coverage, such as social security funds and institutes and social security banks, which play an important role in health spending in the contributory system in some countries. For example, while per capita health spending by central government in Brazil shows a 5.5% decline, at the general government level there is growth of 0.2%.

(d) Housing and community services

Public expenditure on housing and community services includes government funding for urban development (including both the administration of urbanization and slum clearance related to housing construction and redevelopment, in addition to acquisition of the land needed for such construction), along with community development, water supply and street lighting.

In 2021, the countries in the region with the highest level of central government social spending on the housing and community services function were Barbados (2.2% of GDP), followed by Guyana and Trinidad and Tobago (both with 1.7% of GDP), and Nicaragua and Guatemala (both with 1.3%). Guyana and Argentina report the greatest increase in central government spending on this function, at +0.78 and +0.72 percentage

points of GDP, respectively. In relative terms, Honduras increased its spending by 2.6 times, while remaining below the regional average in absolute terms.

Panama continues to be the country that allocates the largest share of central government social spending to housing and community services (18%),[20] followed by Guatemala (17%) and Guyana (16%). As observed in previous years, 15 of the 23 countries analysed allocate less than 5% of total central government social spending to housing and community services (ECLAC, 2022a and 2021b).

(e) Recreational activities, culture and religion

Spending on this function consists of funding for recreational, cultural and religious activities, including sports and cultural activities, radio and television, and religious services.

At the tenth Ibero-American Conference of Ministers of Culture, held in Valparaíso, Chile in July 2007, the ministers and high authorities of culture proposed to allocate a minimum of 1% of the general budget of each State, progressively, to the promotion of culture (ECLAC/OEI, 2014, p. 311).

In 2020, Barbados was the country with the highest level of spending on recreational, cultural and religious activities, at 0.8% of GDP, followed by Cuba (0.5%) and the Bahamas (0.3%). Barbados and Cuba are also the countries that allocate the largest share of total central government spending to this function, with amounts in excess of the indicative target (2.4% and 1.4%, respectively). Guatemala, Guyana and Nicaragua, in contrast, allocated 1% or more of total central government spending (1% each).[21]

Analysis of the share of recreational, cultural and religious activities in central government social spending shows that Barbados and Cuba allocated the largest share to this function (4.4% and 4.3%, respectively), followed by Guatemala and Guyana (2.1% each). As in previous years, Argentina and the Plurinational State of Bolivia did not report central government spending on this function.

(f) Environmental protection

Included in the social functions, spending on environmental protection includes waste and wastewater management, pollution abatement, biodiversity and landscape protection, as well as research related to environmental protection.

The Bahamas is the country that spends most on this function relative to GDP (1.4%), followed by Barbados and Peru (1.1% and 1.0% of GDP, respectively). The other countries with data for 2021 do not attain 0.3% of GDP.

Here again the figures vary significantly when broader institutional coverage is considered, including subnational levels of government (given their role in waste management) and public enterprises engaged in wastewater treatment. More detailed information in this area can be obtained by analysing the data consolidation papers included in the respective satellite accounts. In addition to offering a more complete view of the resources allocated, this type of account includes actions undertaken by different actors in the framework of environmental protection policies in the different countries.[22]

[20] The figure for Panama refers to the latest available year.

[21] The countries mentioned meet the target at the level of central government social spending. This does not exclude other countries that may meet the target when considering the distribution of social spending at the general government level.

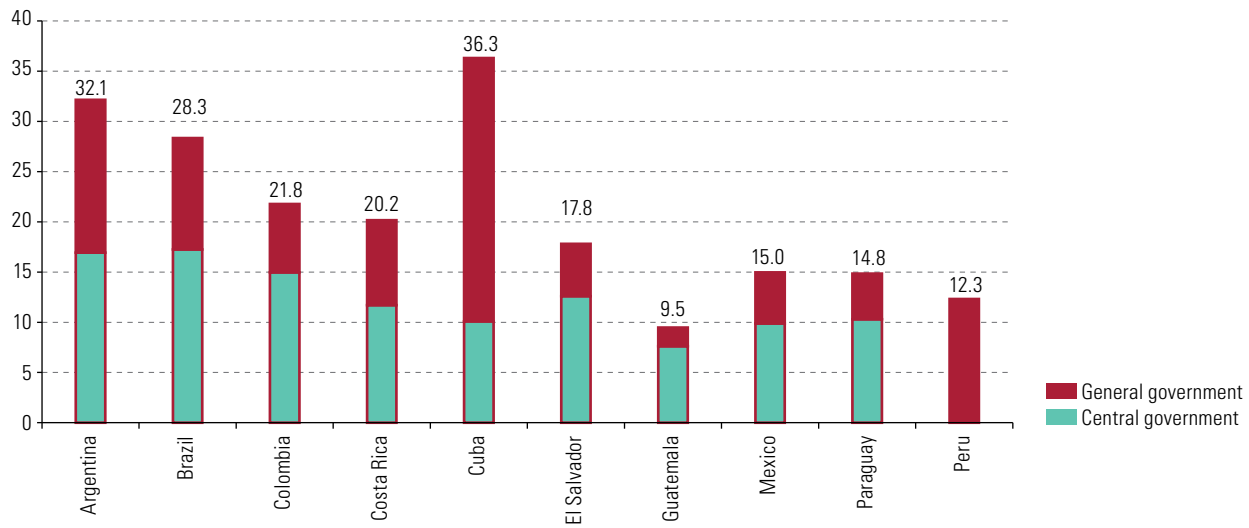
[22] For further details on this topic, see Economic Commission for Latin America and the Caribbean (ECLAC), "Regional Network of Environment and Climate Change Statistics" [online] https://comunidades.cepal.org/estadisticas-ambientales/en.

4. Public social spending with broader institutional coverage than central government: selected countries

As noted, the data analysed are restricted to central government, since this is the only institutional coverage for which the available information allows for comparisons between all countries in the region. However, some countries also report on expenditures executed outside central government, a sphere of management and resources that have a significant impact on public policy implementation. As noted in box IV.1, 12 Latin American countries produce aggregate reports on public social spending with broader institutional coverage than central government (general government, non-financial public sector or public sector). This section complements the analysis with information available for eight countries that have reports corresponding to 2021 (Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Mexico, Paraguay and Peru) and two others that have reports updated to 2020 (Argentina and Cuba) (see annex IV.A1).[23]

As shown in figure IV.13, in some countries, public social spending is considerably higher when measured at institutional coverage broader than central government.[24] Among the nine countries that reported data for both coverages in the last two years, the average difference amounts to 9.3 points of GDP. In relative terms, the difference amounts to between 24% and 260% of the amount spent at the central government level.

Figure IV.13
Latin America (10 countries): public social spending by institutional coverage, 2021
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: Broader coverage in the cases of Argentina and El Salvador corresponds to the public sector, while in Mexico it corresponds to the (federal) non-financial public sector. In the case of Mexico, institutional coverage includes central government, social security institutions and state enterprises, but not incremental expenditures incurred by subnational governments. For Peru, data are available for general government only. Data for Argentina and Cuba refer to 2020.

[23] Two other countries (the Dominican Republic and the Plurinational State of Bolivia) publish information of broader institutional coverage, but data are only available up to 2019. In order to have data series of broader coverage than central government, substantial work is needed to consolidate public finance data between different levels of government. For this reason, information is not available for all countries and, in some cases, the year of analysis differs. In the case of Peru, the series is as mentioned above, since data are only available for general government.

[24] Central government data may include transfers made to subnational entities for execution by them in public policies. So, by consolidating total spending in the broader coverage, these items do not imply higher spending. Accordingly, the differences in amounts between the two levels of coverage do not necessarily reflect all spending executed by subnational governments, public enterprises or other entities, but only indicate the aggregate amount.

In 2020, general government spending on the social functions by the 30 non-Latin American OECD countries averaged 33.9% of GDP and represented 68.2% of total public expenditure.25 This reveals large gaps in average spending levels between the countries of the region and the more developed economies.

When considering broader institutional coverage, the distribution of public social spending by function changes significantly in some countries relative to that of the central government.[26]

- In Argentina, although this report does not include data for 2021, the information on spending in the consolidated public sector in 2020 shows that total public social spending represents 32.1% of GDP, 15.2 percentage points more than the amount reported for central government in that year. Thus, the real growth of social spending in Argentina in 2020 was +19.3% at the central government level but +6% in the non-financial public sector.

  This difference is due mainly to higher expenditures on health (5.8 percentage points of GDP), education (+4.1 points) and social protection (+3.4 points) in the broader institutional coverage.

  These data show that, in 2020, Argentina was one of the countries with the highest social spending on the three functions of highest expenditure in the region; and it attained the regional targets proposed for education and health, with spending of 5.2% and 7% of GDP, respectively.

- In the case of Brazil, data for 2021 show that consolidated general government social spending was equivalent to 28.3% of GDP, down by 5.6 points with respect to 2020. This means that the country as a whole spent 11.1 percentage points of GDP more than the amount recorded in the central government report.

  Both levels of institutional coverage display a similar structure of spending, with the social protection, health and education functions absorbing the largest volume of resources. However, the proportions vary: in social protection, the expenditure reported by the general government in that year (55%) was proportionally lower than that indicated in the central government report (72.7%). Expenditures on education and health, meanwhile, reported shares of about 21% and 18%, respectively, compared to the 14% and 12% reported for central government coverage.

  As in the case of Argentina, when considering this broader institutional coverage, the volume of resources allocated to financing education and health also places Brazil among the countries that attain the targets proposed for the region, with spending of 6.1% and 5.1% of GDP, respectively.

- In Colombia, the consolidated general government report indicates total social spending equivalent to 21.8% of GDP, 46% of which corresponds to the financing of social protection, 28% to health, 18% to education and about 3% each, to housing and community services, recreational activities, and environmental protection.

  Similar to the pattern in most of the region's countries, the foregoing data represent an aggregate reduction of 2 percentage points of GDP relative to the previous year. Of this, 1.24 percentage points correspond to less funding for social protection, 0.56 percentage points less for education and 0.32 points

25 For comparative purposes, the region's countries were not considered. For further details on expenditure data according to different functions, see Organisation for Economic Co-operation and Development (OECD), OECD.Stat [online database] https://stats.oecd.org/.

26 Peru only provides information at the general government level; and, as this has already been considered in previous analyses, no new description is included in this section.

less for health. However, these reductions did not prevent the country from attaining the targets proposed for the latter two functions, with 4% and 6.2% of GDP, respectively.

- In Costa Rica, consolidated general government social spending in 2021 represented 20.2% of GDP, down 1.7 percentage points from 2020 and 8.4 percentage points more than reported for the central government in that year. Most of the reduction corresponded to social protection policies, which declined by 0.9 percentage points of GDP, followed by education (-0.45 points) and health (-0.25 points).

  At the general government level, social protection and health absorbed a larger share of funding than reported for central government, accounting for 40% and 27% of social spending, compared to 35% and 8%, respectively. In the expanded coverage, the share of the health function grew by most, to the detriment of education (both represent around 27% of total expenditure). Thus, as in 2020, the share of the latter is equivalent to half of what it represents at the central government level.

- Data for Cuba show that consolidated general government social spending represented 36.3% of GDP in 2020, 6.5 percentage points higher than in 2019, and the highest proportion in the region. The distribution of this expenditure displays a unique feature among the region's countries, with health as the top spending priority (12.2% of GDP), followed by education (11.5%) and social protection (9%).

  The levels of expenditure reported for health and education, plus the 2.4% of GDP allocated to recreational activities, culture and religion, show that in 2020 Cuba attained the three internationally targets proposed for expenditure on these functions relative to GDP.

- In El Salvador, public social spending in the consolidated public sector totalled 17.8% of GDP in 2021, 5.2 percentage points more than at the central government level. In contrast to this institutional level, where social spending declined by 1.3 percentage points of GDP, the data of broader coverage reports an increase of 0.6 points GDP over the previous year.

  The composition of expenditure shows that the housing and community services function is mainly financed through institutions outside of the central level. This presents the largest difference between the two levels of coverage: 3.5% of GDP in the consolidated public sector and 0.15% of GDP in central government. The second largest difference is in social protection, which in the broader coverage spent 1.26 times as much as in central government for an aggregate total of 4.8% of GDP. In per capita terms in dollars, this represents a 12.1% increase, while at the central government level it indicates a reduction of 23.1%.

  The functional distribution of consolidated public sector social spending shows that 33% of the total was allocated to social protection, 26% to education, 21% to health and 20% to housing and community services.

- In 2021, social spending in Guatemala was equivalent to 9.5% of GDP at the general government level, which is 1.85 percentage points higher than at central government coverage. This amount is 1.3% of GDP less than in 2020, mainly owing to contractions of 1.55 percentage points of GDP in spending on social protection and 0.14 points on education, accompanied by increases of 0.23 percentage points on health and 0.13 percentage points on housing and community services.

Of total expenditure in 2021, 35% was allocated to education, followed by 26% to social protection and the same percentage to health. With respect to the functional distribution in central government, these proportions differ by -6% in the first case and +9% and +6% in the following two.

- In the case of Mexico, in 2021, public social spending by the (federal) non-financial public sector[27] was equivalent to 15% of GDP, 5.1 percentage points higher than in central government coverage.

  The functional distribution of expenditure is similar between both levels of institutional coverage. Thus, 53% of non-financial public sector spending was allocated to social protection policy, which represented 43% at the central government level. In health, the proportions are 18% in the broader coverage and 12% in central government. In contrast, the education function absorbs 21% of total spending in the broadest coverage, but 32% in the case of central government.

  Compared to 2020, total aggregate social spending in 2021 is down by 0.55 percentage points of GDP, with reductions of 0.22 points in education, 0.16 points in health and 0.1 points in housing and community services.

- In Paraguay, consolidated general government social spending represented 14.8% of GDP in 2021, 4.5 percentage points more than central government expenditure.

  The distribution between functions is similar in both institutional coverage levels, with some differences in the proportions. Social protection has the highest priority, accounting for 38% of total spending, two percentage points more than in central government coverage. It is followed by health and education, the former with equal proportions (30%) and the latter four percentage points less (28% in general government versus 32% at the central government level).

  Similarly to the situation reported for central government, general government social spending decreased by 1.5 percentage points relative to the 2020 level. This results from a reduction of 1.6 percentage points in spending on social protection and 0.4 points less on education. In contrast, expenditure on health is up by 0.5 percentage points, continuing the trend that began in the previous year to address the pandemic, with smaller increases in the other social functions.

C. Education: public investment and household expenditure

Public social spending on education has historically been a central government priority in the region, absorbing close to 4% or 4.5% of GDP on average in the last decade. These expenditure levels rose sharply in some of the countries that publish data on broader institutional coverage. Most resources are invested at the primary and secondary levels, even though tertiary education receives the most funding per student. Heterogeneity is one of characteristics of education spending, particularly the distribution at the preschool and tertiary levels. There is also a wide gap between the countries of the region and the developed countries of OECD. The region's households also spend significant amounts to finance education, although this varies greatly both within and between countries, especially in terms of the education levels to which they allocate funding and the amounts spent by the different socioeconomic strata —associations that weaken when these expenditures are analysed as a proportion of total household expenditure.

[27] Mexico's institutional coverage includes central government, social security institutions and state-owned enterprises. It does not include incremental expenses incurred by subnational governments.

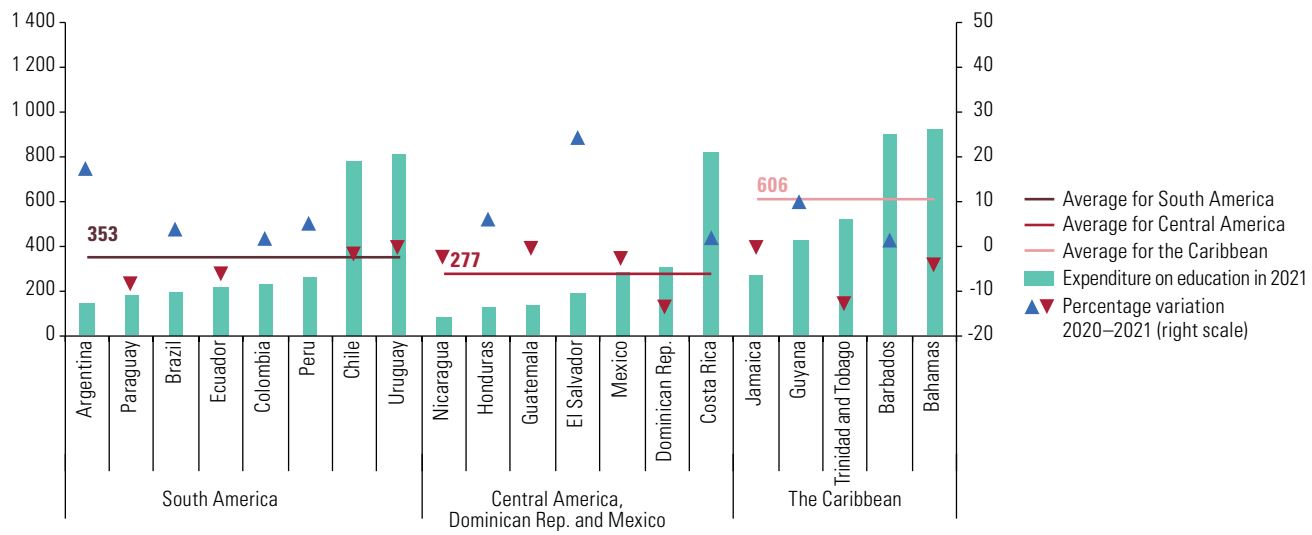
This section makes a detailed analysis of the information available on education expenditure in the region's countries. The analysis is based on public finance statistics compiled in CEPALSTAT, together with the database of the UNESCO Institute for Statistics (UIS), where public spending on education is collected for 12 Latin American countries as of 2018. The analysis of public investment at the central government level, and at broader institutional coverages, is supplemented by a description of the profiles of household spending on education contained in household income and expenditure surveys, which is available for ten Latin American countries in the Household Survey Data Bank (BADEHOG). These are analysed according to the education level to which expenditures are allocated and household socioeconomic strata.

1. Education spending at different levels of institutional coverage

As noted above, central government social spending on education has historically been a priority in the region, averaging around 4% or 4.5% of GDP in the last decade. Thus, education has been the top priority among government functions in the countries that make up the subregion of Central America, the Dominican Republic and Mexico, as well as in the Caribbean countries; and it has been the second priority in South America.

In 2021, the volume of public funding allocated to education averaged US$ 318 per person in Latin American countries (US$ 353 in South American countries and US$ 277 in Central America, the Dominican Republic and Mexico); and it rises to US$ 606 in the five Caribbean countries considered. At the individual country level, the Bahamas and Barbados spend the most per capita (between US$ 920 and US$ 900), followed by Uruguay, Costa Rica and Chile (around US$ 800). These five countries also display relatively low year-on-year variations (see figure IV.14). They are joined by Argentina, Brazil and Cuba, which also report high levels of spending on education per person, at the general government level.

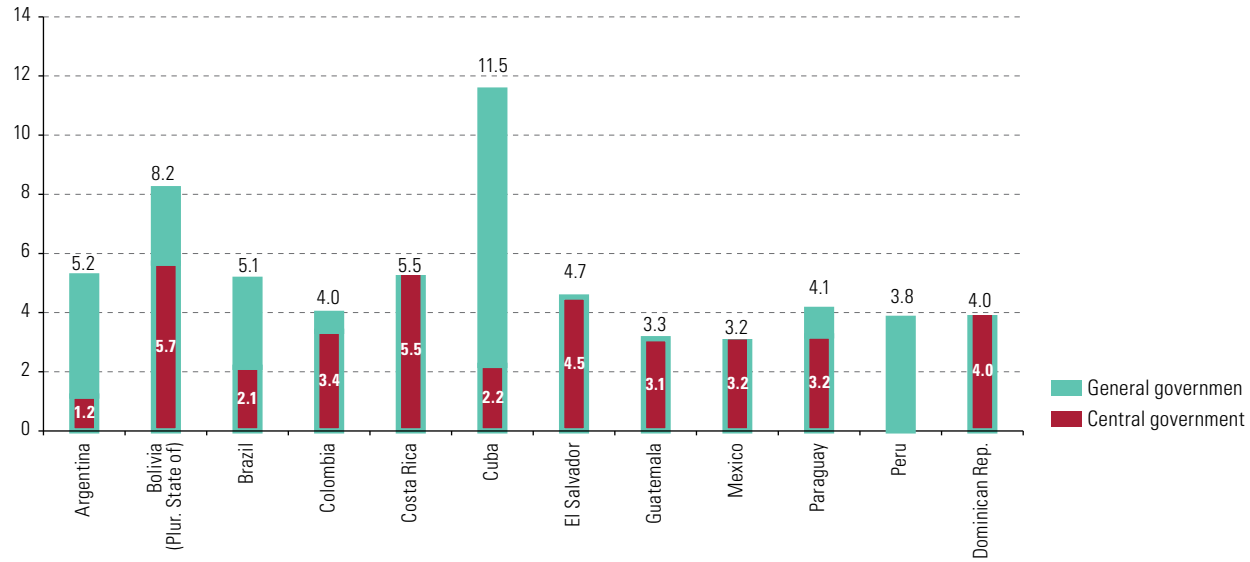
Figure IV.14
Latin America and the Caribbean (20 countries): central government per capita expenditure on education, by country and subregion, 2021
(Dollars at constant 2018 prices and percentage year-on-year variation)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: The bars represent spending in dollars at constant 2018 prices. Increases are identified by blue upward-pointing triangles and reductions by red downward-pointing triangles. In the case of Peru, coverage corresponds to general government.

In addition to the above, in some of the 12 countries with information available in recent years at broader institutional coverage (general government), spending on education has reached much higher levels. In Cuba, the total is equivalent to 5.2 times the amount reported for central government, and the equivalent ratio is 4.5 times in Argentina and 2.4 times in Brazil. Meanwhile, in the Plurinational State of Bolivia and in Paraguay, the data show that investment in education analysed with broader coverage were, respectively, 44% and 28% more than reported at the central government level (see figure IV.15).

Figure IV.15
Latin America (12 countries): education spending by institutional coverage, 2021 or latest year with information available
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
Note: Central government coverage in the Plurinational State of Bolivia corresponds to central administration and in Peru to general government. General government coverage corresponds to the public sector in Argentina and El Salvador, and the non-financial public sector in the case of Mexico. Data for Argentina and Cuba refer to 2020, those for the Dominican Republic to 2019; those for the Plurinational State of Bolivia refer to 2018. For 2021, Costa Rica's general government coverage reports lower spending than the central government, which may result from a change in structure that consolidates decentralized bodies and trusts, such as the National Scholarship Fund and the Higher Education Council.

To supplement the funding allocated to the education function directly, this sector has participated in important measures to mitigate the direct impacts of the COVID-19 pandemic on education, while also supporting students and families through school meals. As shown in box IV.2, cash and in-kind transfers have been used widely by countries for this purpose: at least 29 countries implemented a total of 69 measures between March 2020 and October 2021. Of these, the 38 measures for which data are available totalled US$ 5.445 billion in funds committed in the first 10 months of the pandemic and US$ 6.598 billion in the following ten months. These amounts are equivalent to 6.3% and 14.6% of total emergency spending for the period, respectively (ECLAC, 2022a and 2021b). In both cases, most of the funds were allocated to school feeding (nearly US$ 4 billion each year), and the rest went on educational resources, training and other items. These actions and resources are a small example of the interaction between different government functions, particularly between education, social protection and health, in emergency situations such as the pandemic.

Box IV.2
Latin America and the Caribbean: cash and in-kind transfers in education during the COVID-19 pandemic

Since March 2020, the countries of Latin America and the Caribbean have deployed various measures to address the fall in household income and the distance education of children and adolescents during periods of social distancing during the COVID-19 pandemic. Non-contributory social protection measures, specifically targeting individuals and households in situations of poverty and vulnerability, were described in detail in the 2020 and 2021 versions of *Social Panorama of Latin America* (ECLAC, 2021b and 2022a). Of the 329 non-contributory cash and in-kind transfer measures announced by governments in the region between March 2020 and October 2021, 69 were implemented in 29 countries in the education sector. In particular, 35 measures were implemented in 23 countries to contribute to food and nutrition security for children and young people. Examples include the distribution of school meals in Brazil or the *Bono Família* family allowance programme in the Plurinational State of Bolivia. The remaining 34 measures, announced in 17 countries, were designed to support the provision of school supplies and equipment for online education, training, and labour and productive inclusion programmes for young people, and also cash transfers to families with school-age children and adolescents. These measures included: equipping public school students with computers in El Salvador; the one laptop or tablet per child programme in Jamaica; and the special payments of the families in action and youth in action programmes in Colombia.

Of the total of 69 measures, there is sufficient official data on 38 of them, implemented in 20 countries, to estimate regional expenditure. Of these 38 measures, 21 target food and nutritional security, while 17 provide other support for education and assistance for families with students. The estimate for spending on cash and in-kind transfer measures in the education sector increased from over US$ 5.4 billion in 2020 to nearly US$ 6.6 billion in 2021. This expenditure growth was driven by an increase from US$ 1.446 billion to US$ 2.64 billion between 2020 and 2021 to finance measures to support students and their families through the supply of educational materials, training, and direct transfers, as nutritional support measures kept spending close to US$ 4 billion over the two years.

Latin America and the Caribbean (29 countries):[a] emergency non-contributory cash and in-kind transfers during the coronavirus disease (COVID-19) pandemic implemented in the education sector, 1 March 2020–31 October 2021

	Number of countries		Number of measures		Expenditure *(US$ million)*	
	Total	With expenditure data	Total	With expenditure data	March – December 2020	January – October 2021
Total	29	20	69	38	5 444.6	6 598.3
Food and nutritional security measures	23	15	35	21	3 998.8	3 958.4
Other measures	17	11	34	17	1 445.8	2 639.8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), COVID-19 Observatory in Latin America and the Caribbean [online] https://www.cepal.org/en/subtopics/covid-19; "Social Development and COVID-19 in Latin America and the Caribbean" [online] https://dds.cepal.org/observatorio/socialcovid19/en/listamedidas.php/; *Social Panorama of Latin America, 2020* (LC/PUB.2021/2-P/Rev.1), Santiago, 2021; *Social Panorama of Latin America, 2021* (LC/PUB.2021/17-P), Santiago, 2022; International Monetary Fund (IMF), Central Bank of Venezuela, and official information from the countries.

[a] Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, the Plurinational State of Bolivia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Trinidad and Tobago, and Uruguay.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), based on COVID-19 Observatory in Latin America and the Caribbean [online] https://www.cepal.org/en/subtopics/covid-19; "Desarrollo Social y COVID-19 en América Latina y el Caribe" [online] https://dds.cepal.org/observatorio/socialcovid19/listamedidas.php.

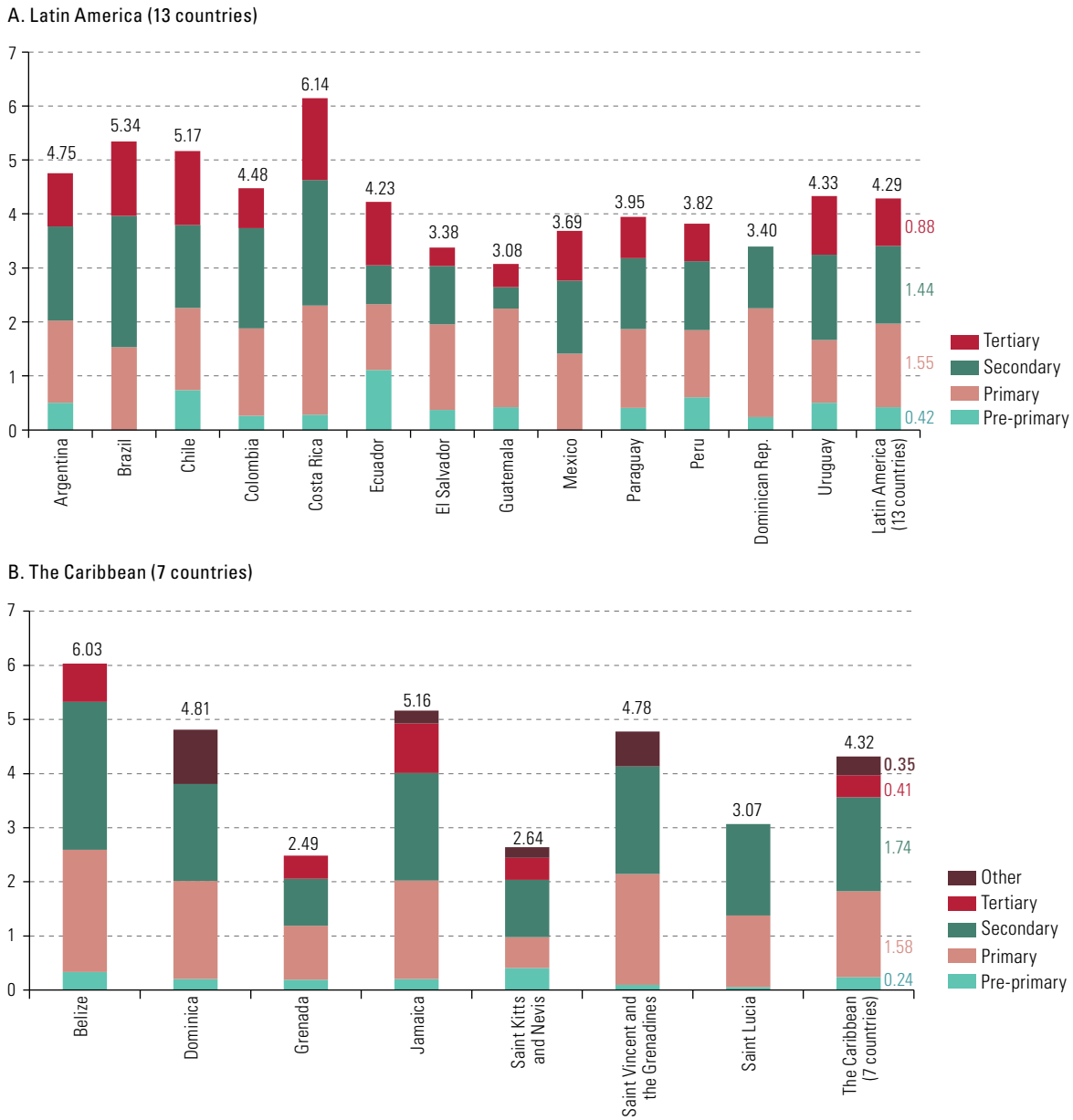
2. Public expenditure by education level

The structure of public spending on the different levels of education it possible to identify the countries' priorities of in the allocation of resources. For these purposes, the official data compiled by UNESCO provide information on the level of public funding allocated to education services at the preschool, primary, secondary and higher education levels, both for investment in infrastructure and equipment and to finance operations.[28]

[28] Public education expenditure data from the UNESCO Institute for Statistics (UIS) refer to official country information collected via the completion of UIS questionnaires. Also used are budgets and financial reports prepared by ministries of finance or ministries of education, in conjunction with financial reports issued by public education institutions. Baseline data refer to expenditure on basic educational goods and services, such as teaching staff, school buildings or textbooks and teaching materials; along with peripheral educational goods and services, such as ancillary services, general administration and other activities, primary and secondary schools and institutions of higher education, and certain administrative documents (such as teachers' pay slips) (UNESCO, 2009). Given the methodological differences that exist, it is inappropriate to make direct comparisons with the data presented in section IV. B

As indicated in section IV.B, around 2019, the 13 Latin American countries with data available reported public expenditure on education averaging 4.3% of GDP, led by Costa Rica, Brazil and Chile. The average for the seven Caribbean countries was similar, with Belize, Jamaica, and Saint Vincent and the Grenadines recording the highest level of public funding for education (see figure IV.16).

Figure IV.16
Latin America and the Caribbean (20 countries): general government expenditure on education, by level, 2019 or latest year for which information is available
(Percentages of GDP)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of UNESCO Institute for Statistics (UIS).

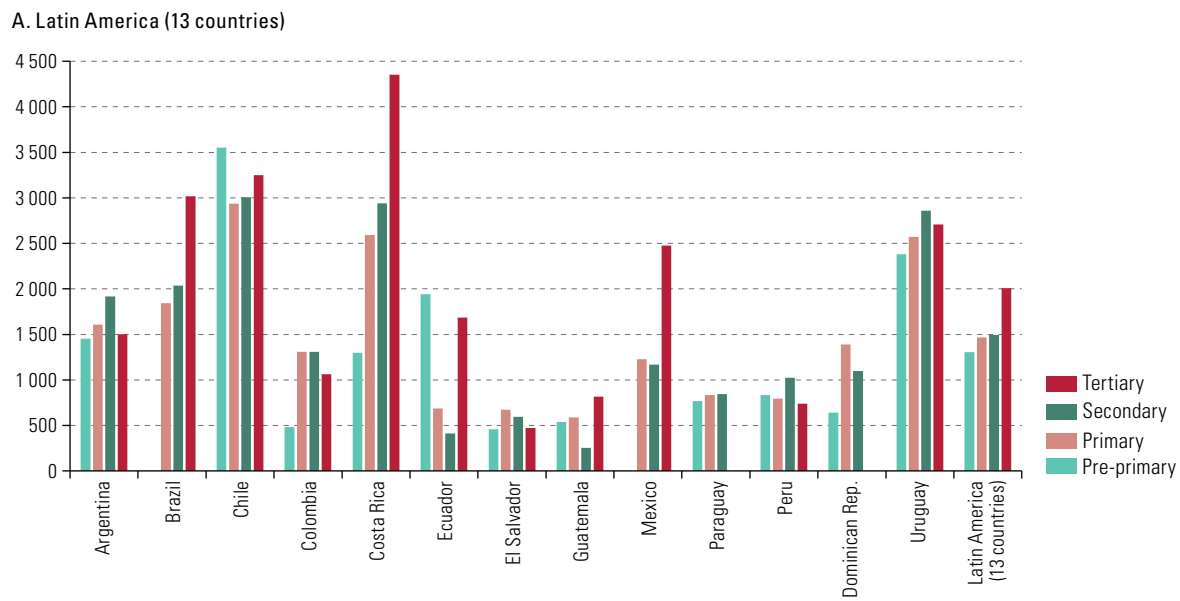
Note: Data for Paraguay refer to 2020, those for Brazil, Chile and Mexico refer to 2018, those for Grenada refer to 2017, and those for Saint Kitts and Nevis, Saint Vincent and the Grenadines, and Saint Lucia refer to 2015. The "Other" category is estimated on the basis of data availability (that is, by subtracting the expenditure reported for the pre-primary to tertiary levels from total education expenditure). In general, this category represents expenditures on non-tertiary post-secondary education (whether or not vocational) and other expenditures not specified by level. In the case of the Caribbean, the "Other" category may include expenditure on tertiary education (since no expenditure is reported for this level in the seven countries included in the figure).

As noted in Huepe, Palma and Trucco (2022), most of the funds that the countries of the region allocate to education are spent at the primary and secondary levels. In 2019, the 13 Latin American countries channelled between 32% and 34% of total education expenditure to these levels, and 21% to tertiary. In the seven Caribbean countries these levels absorbed 34%, 38% and 24% of the total, respectively. Spending on pre-primary education has the smallest share, averaging less than 10% and 6% of the total in each subregion, respectively.

Another salient feature of the available data is the heterogeneity that exists between countries. For example, Brazil and Mexico do not report expenditure[29] at the pre-primary level. Saint Vincent and the Grenadines and Saint Lucia report small amounts of spending, while Ecuador allocates more than 25% of the total to this level. The Dominican Republic did not report expenditures on tertiary education, while Dominica, Saint Vincent and the Grenadines and Saint Lucia reported very low levels. In contrast, Brazil, Chile, Costa Rica, Ecuador and Uruguay spent more than 1 percentage point of GDP on tertiary education.

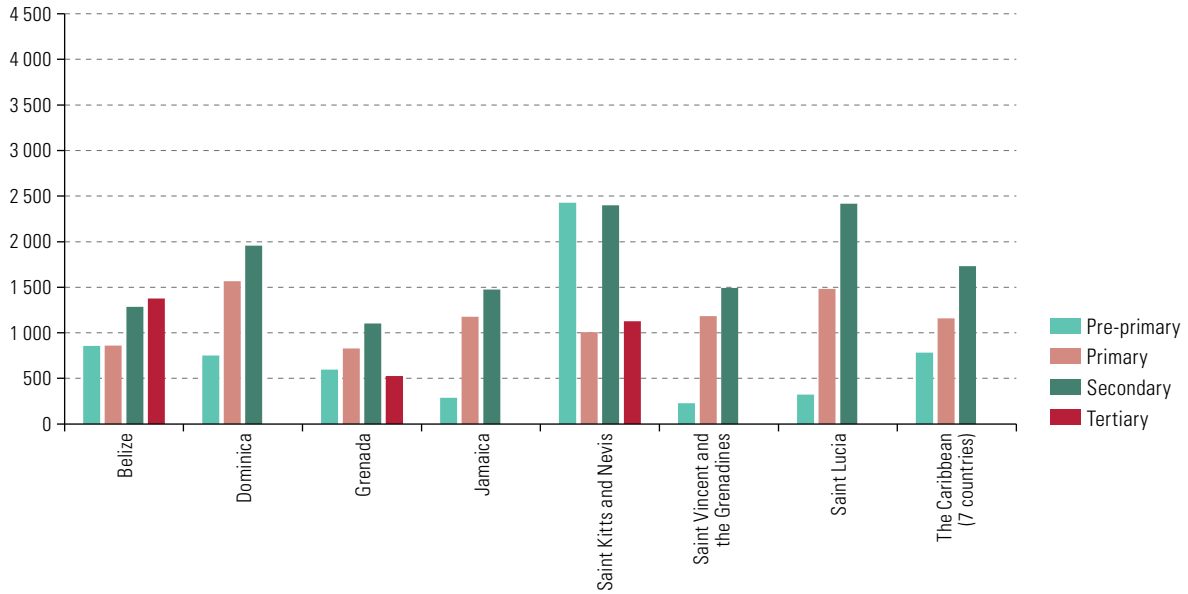
Analysis of the average amount of public expenditure per student at each education level shows that, in Latin America, the largest volume of public funds is assigned to the tertiary level (US$ 2,008). Costa Rica, Brazil and Mexico (with US$ 4,354, US$ 3,018 and US$ 2,477, respectively) were the countries that spent the most on tertiary education relative to the other countries and levels of education in 2019. In general, the countries of this subregion spent broadly similar amounts per student in primary and secondary education (US$ 1,766 and US$ 1,497, respectively), although most of them allocated more to secondary than to primary. In the Caribbean, on the other hand, all the countries reported higher spending per student at the secondary level (on average, 50% more than on primary) (see figure IV.17).

Figure IV.17
Latin America and the Caribbean (20 countries): average general government expenditure on education per student, by level and by country, 2019
(Dollars at constant 2018 prices per student enrolled)



[29] The fact that some countries report do not report expenditure in certain categories does not necessarily mean that there is none.

B. The Caribbean (7 countries)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of UNESCO Institute for Statistics (UIS).
Note: The data for Paraguay refer to 2020, those for Brazil, Chile and Mexico refer to 2018, those for Grenada and Peru refer to 2017, and those for Saint Kitts and Nevis, Saint Vincent and the Grenadines and Saint Lucia correspond to 2015.

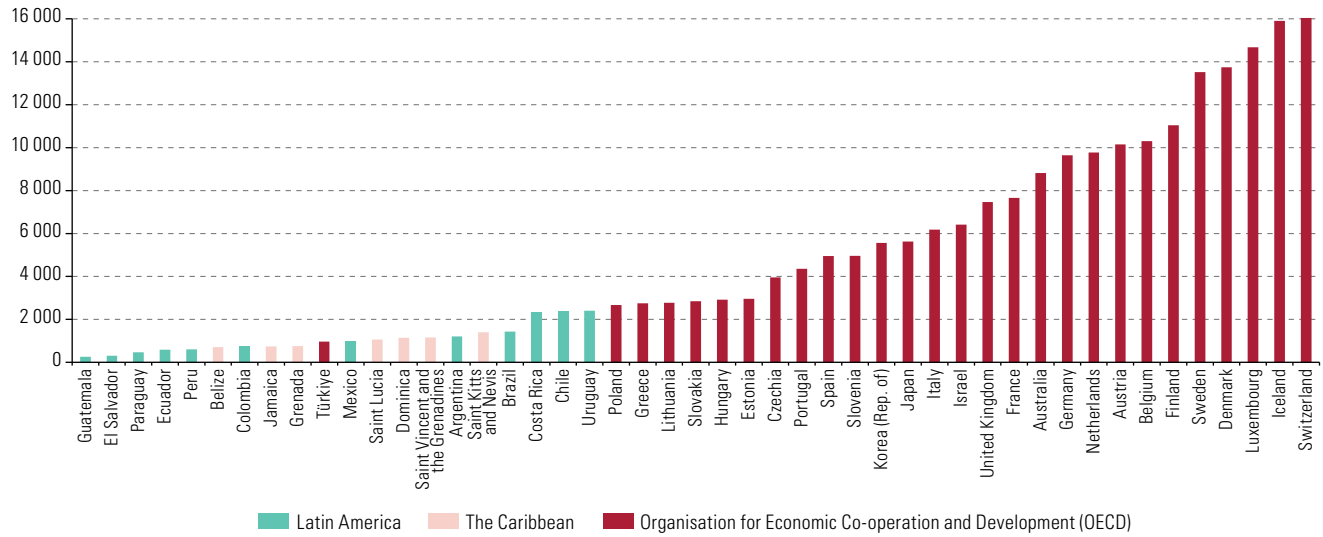
At the pre-primary level, countries differ significantly in the amounts spent per student. Those that allocated public funds for this level of education in 2019 are led by Chile, with US$ 3,550 per student, followed by Saint Kitts and Nevis (US$ 2,429), Uruguay (US$ 2,380) and Ecuador (US$ 1,943). In contrast, Colombia, El Salvador, Jamaica, Saint Lucia and Saint Vincent and the Grenadines spent less than US$ 500 per child enrolled.

As noted by Huepe, Palma and Trucco (2022), the heterogeneity displayed by the structure of public expenditure at the different levels of education could be associated with the share of enrolment in private schools and the coverage of each level —variables that are undoubtedly more volatile at the pre-primary and tertiary levels (ECLAC, 2017; UNESCO/ECLAC/UNICEF, 2022). Although there is no consensus on how resources should be distributed across the different levels, evidence suggests that investment in early childhood education may be more cost-effective, since prioritizing funding at an early age has effects that last into adult life and may increase the return on educational investments made later (Berlinski and Schady, 2015; Cunha and Heckman, 2007). Preschool investment would also help alleviate the overload of care and domestic work borne by women, and would thus have an impact on the distribution of tasks in households and in the education role during the pandemic (ECLAC, 2022a). Nonetheless, the return on such investments could be diminished if in the absence of school systems that provide quality and relevant education throughout the life cycle, to prepare children, adolescents and young people adequately to face the demands and challenges of the contemporary world. Investment at the preschool level is therefore fundamental and complementary to investment at higher levels; and it is particularly important in countries with structural problems and deficits in their education systems, such as those of the region (Izquierdo, Pessino and Vuletin, 2018).

To supplement the foregoing, a comparison of the data discussed above with OECD countries reveals significant gaps in educational investment. While Costa Rica and Chile, along with Uruguay, register the highest levels of public spending in the region, both are at the lowest level among OECD countries. While public spending on education in the latter in 2019 averaged 4.9% of GDP, a figure similar to that of the region, spending per student in OECD is six times the equivalent in Latin America and the Caribbean in pre-primary, 5.7 times in primary, 5.3 times in secondary and 6.1 times in tertiary.

An indicator summarizing this situation can be obtained by considering public expenditure on education relative to the population from birth to 24 years of age, the main target of education policies at the four levels analysed. Analysis of this indicator shows, coincidentally, that two of the three countries with the highest levels of spending in the region are OECD members (Chile and Costa Rica). Nonetheless, these countries, along with Colombia, Mexico and Türkiye, are at the bottom of the list when OECD countries are ranked by level of spending (see figure IV.18).

Figure IV.18
Latin America (12 countries), the Caribbean (7 countries) and the Organisation for Economic Co-operation and Development (OECD) (32 countries): general government spending on education, by country, latest year for which information is available
(Dollars at constant 2018 prices per capita of population aged 0-24 years)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of UNESCO Institute for Statistics (UIS).
Note: Data for the OECD countries refer to 2018, data for the Latin American and Caribbean countries refer to 2019, except for Paraguay (2020); Brazil, Chile, Mexico, and Saint Vincent and the Grenadines (2018); Grenada (2017); and Saint Kitts and Nevis (2015).

An analysis of the data by type of public spending reveals that the distribution between capital investment and current spending is similar in the region to the pattern among OECD countries. In 2019, in both cases, average current expenditures on teaching and non-teaching staff[30] absorbed between 69% and 72% of total education spending, while other current expenditures represented between 22% and 23%. In the case of capital expenditure, the average for the region was around 6.8% of total educational spending, compared to 8.2% in OECD countries. The large average share of personnel expenditure is related directly to the characteristics of the education function, since teachers play a central role in providing the service. Nonetheless, as the results of the PISA tests in recent years have shown, educational outcomes vary widely. This is related partly to the amount of funding provided to each country's education policy, but also to differences in coverage, management and institutional models, as well as investment in technology and training, among other factors.

The region needs to invest more in developing the knowledge and capacities of children, adolescents and young people, as the education of the new generations is at the heart of the reforms needed to give a genuine boost to sustainable development with equality.

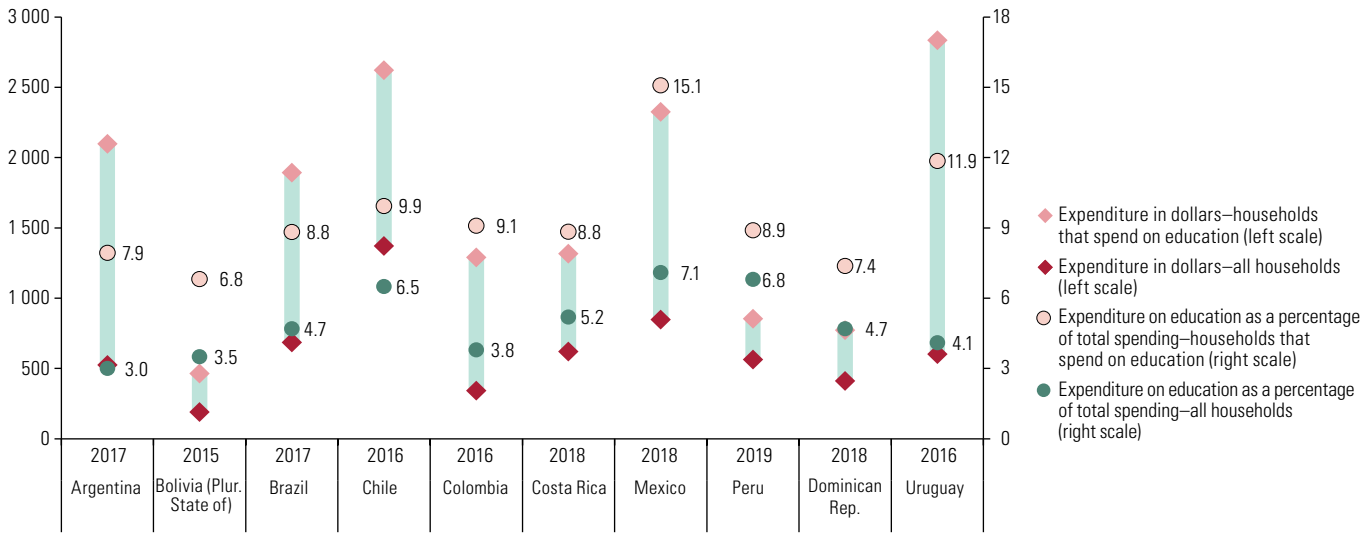
[30] Includes wages, employer contributions to staff retirement programmes, and other benefits and allowances (UNESCO Institute for Statistics (UIS)).

3. Spending on education in Latin American households

In keeping with the characteristics of the education systems that exist in the countries of the region, private-sector participation in the provision of services alongside public funding is compounded by the fact that out-of-pocket spending plays a major role in the financing of education. In addition to the detailed analysis of public spending on education made above, a more exhaustive analysis must also include household spending, both for tuition and for educational supplies and student meals.

The information contained in household income and expenditure surveys,[31] which are available for 10 countries in the region (Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Mexico, Peru, the Plurinational State of Bolivia and Uruguay), shows that urban households allocate an average of 4.9% of their consumption expenditure to education-related services and inputs.[32] The proportion varies between 3% and 3.5% in countries with lower levels of out-of-pocket spending for this purpose, such as Argentina and the Plurinational State of Bolivia, and between 6.5% and 7.1% in countries with higher shares (Chile, Mexico and Peru). When only households that spend money on education are considered, the share rises to an average of 9.9% in the 10 countries analysed, ranging from 6.8% in the Plurinational State of Bolivia and 7.4% in the Dominican Republic, to 15.1% in Mexico, followed by 11.9% in Uruguay. The average annual amount of this out-of-pocket spending across all households in the various countries is US$ 670,[33] ranging from US$ 190 in the Plurinational State of Bolivia to US$ 1,372 in Chile. Considering only households with this type of expenditure, the average amount rises to US$ 1,823 with a maximum of US$ 2,836 in Uruguay (see figure IV.19).

Figure IV.19
Latin America (10 countries): average spending on education by urban households, by country, latest year for which information is available
(Percentages of total expenditure and dollars at constant 2010 prices)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG).
Note: Annual estimate based on average monthly household expenses.

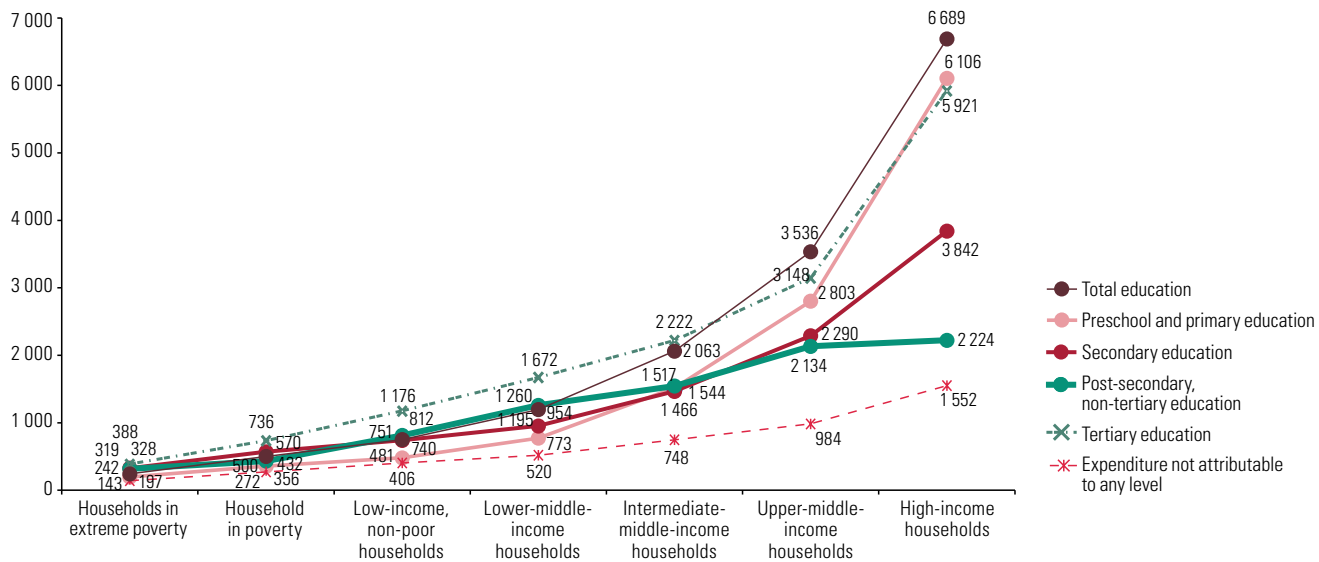
31 Household income and expenditure surveys record the way in which household members distribute their monetary and in-kind income to purchase goods and services. In the region, these surveys are applied approximately every ten years and cover various expenditure areas or items. This makes it possible to identify household expenditure profiles according to the amount and proportion allocated to different consumption items.

32 The Classification of Individual Consumption According to Purpose (COICOP) categorizes the different expenditure items into 12 divisions and organizes these profiles according to the characteristics of the households that comprise them. For further information on the methodology and analysis, see (Martínez and others, 2022).

33 For the cross-country comparison, expenditure data from household income and expenditure surveys is reported in dollars at constant 2010 prices. However, these data are not comparable with the levels of public spending described above, for which 2018 is the base year.

As is the case with public education expenditure, the distribution of out-of-pocket spending varies according to education level. In the 10 countries analysed, urban households spend an average of US$ 1,249 per year on pre-primary and primary education, US$ 1,273 on secondary and US$ 2,441 on tertiary. However, these averages conceal the differential spending capacity of households at different income levels. While urban households in the lower strata[34] spend, on average, between US$ 242 (those in extreme poverty) and US$ 751 (those in the non-poor lower-income bracket), the level of spending rises progressively in the middle and upper strata at all levels of education, peaking at around US$ 6,000 on average per household at the preschool, primary and tertiary levels (see figure IV.20). These differences in out-of-pocket spending reflect both differential spending capacity among the different income strata and the amount of private and public funding available to schools and students, and hence the differential quality of education to which they have access. Analysis of average total expenditure on education shows that spending by upper-middle and high-income households exceeds the averages for each level, which shows that a significant number of households spend on more than one level of education. Thus, with a higher proportion of upper-middle and high-income households spending on more than one level of education, the total average expenditure outstrips the expenditure average on each education level.

Figure IV.20
Latin America (9 countries):[a] average spending on education by urban households, by socioeconomic strata and educational level, latest year for which information is available
(Dollars at constant 2010 prices)



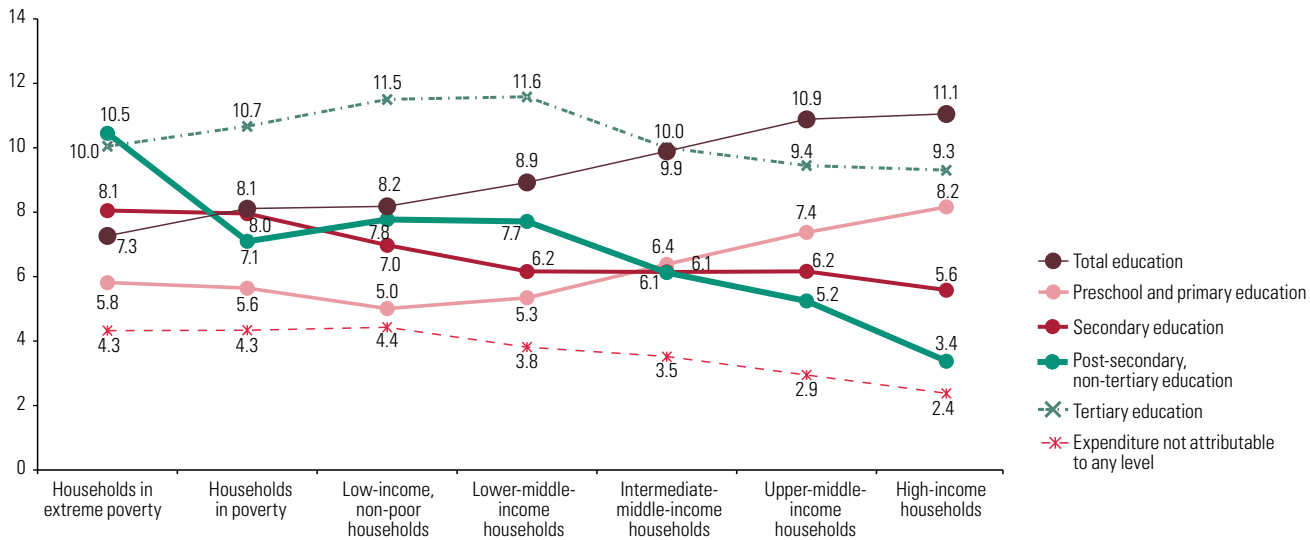
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG).
Note: Annual estimate based on monthly data. The classification contained in income and expenditure surveys does not distinguish between preschool and primary education.
[a] Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Mexico, the Plurinational State of Bolivia and Uruguay.

The upward trend in amounts spent on education by the different strata is also reflected in the total spending of the respective households. As spending by households in the higher strata rises, so does the amount spent on education. Although there is still some association with the incidence of total education spending, the dispersion of this indicator is much smaller, ranging, on average, from 7.3% to 11.1% of total expenditure,

[34] The strata considered here are defined by level of expenditure, with proportions that match the distribution of households by income level. The low strata represent households that spend the least on education relative to their total household expenditure, the proportions of which align with the number of households living in poverty or extreme poverty, plus those belonging to the non-poor low-income bracket mentioned in chapter I.

and its distribution varies according to education level. As shown in figure IV.21, tertiary education absorbs the largest share irrespective of strata, averaging 10%, except in households living in extreme poverty, where spending on non-tertiary post-secondary education also absorbs a large share (10.5%). The share of this category decreases through the other income groups to reach a minimum of 3.4% in the high strata. Although with less intensity, this negative relation between income group and share of spending is also present in secondary education and in spending that is not attributable to any specific level. Conversely, the lowest strata spend the least on preschool and primary education (5% in the non-poor low-income bracket) and peaks at 8.2% in the high income bracket.

Figure IV.21
Latin America (9 countries):[a] average share of education in total household expenditure in urban areas, by income group and education level, latest year for which information is available
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Household Survey Data Bank (BADEHOG).
Note: The classification contained in income and expenditure surveys does not distinguish between preschool and primary education.
[a] Argentina, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Mexico, the Plurinational State of Bolivia and Uruguay.

In view of the information discussed above, household spending on education plays an important role, and although it increases with the different education levels and income groups, there are certain nuances in the shares of educational spending in total household expenditure. The higher the household income bracket, the greater the amounts spent, especially at the preschool and tertiary levels. This is not the case for non-tertiary post-secondary education, which is mainly focused on vocational programmes or certifications to advance to tertiary education (UNESCO, 2013) and is prioritized much more in lower income households. As noted in section IV.C.4, although private contributions are not the main source of financing for the education system, the size of these contributions per student make a significant difference in terms of opportunities to obtain a quality education and, in many cases, to enter higher-education vocational courses.

4. The financing challenges

As indicated by Huepe, Palma and Trucco (2022), education systems in the region are mostly funded publicly. Globally, before the pandemic, governments financed an estimated 79% of total education spending, while households contributed 20% and the remaining

1% came from donors. The latter accounted for 12% of total education expenditure in low-income countries and 2% in lower middle-income ones (UNESCO, 2018).[35]

In recent decades, the countries of the region have prioritized education expenditure, targeted towards achieving the Sustainable Development Goals. However, even before the pandemic they were facing difficulties in achieving the targets defined in Goal 4 "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030 (Gajardo, 2020; UNESCO, 2017); and the difficulties have intensified in the last two years. Huepe, Palma and Trucco (2022) identify three key issues that need to be considered. Firstly, given the impacts of the COVID-19 pandemic, additional educational investment is needed to finance learning recovery measures, strategies to mitigate the increase in school dropout rates, with educational alternatives for those who have definitively left school, and new funding to upgrade infrastructure and equipment in schools and other educational centres, in order to comply with health protocols (UNESCO, 2020).

Secondly, the combination of the economic crisis and the protracted social crisis, which results in lower household incomes, will likely increase demand in the public sector as students migrate from private education. This will require greater investment in infrastructure and equipment.[36] This is occurring in a context of weaker economic growth and, therefore, greater financing constraints, given the fiscal tightening and new requirements and demands in other sectors of public policy.

A third issue in the current situation is the impact of the technological revolution and the investment needed to adapt education systems to enhance effectiveness and inclusion and close gaps. As noted by the countries in the Rewired World Declaration on Connectivity for Education (UNESCO, 2021), one of the major challenges confronting the region is to provide the funding needed for the digital transformation of education systems. This endeavour goes beyond the education sector and requires enablers in each country's digital ecosystem. In other words, financing for the digital transformation of education requires an intersectoral policy involving various stakeholders, from both the government and the private sector, to deliver effective connectivity for the entire population. Alongside this intersectoral financing effort, two other elements enabling the digital transformation of education are the strengthening of vocational teacher training and the development of digital skills throughout the education community. These actions are necessary for the implementation and monitoring of this transformation process (Schleicher, 2022; Broadband Commission for Sustainable Development, 2021).

The pandemic brought to the fore the gaps that exist in access to and the use of digital technology. Aware of these challenges, ECLAC has developed various proposals to move towards an inclusive digital society and ensure universal access to digital technologies. Connectivity, which must undoubtedly be of high quality, must go hand in hand with access to appropriate devices and the digital skills needed to engage in various online activities. In addition, the United Nations Children's Fund (UNICEF), through the Reimagine Education initiative, and the Broadband Commission for Sustainable Development (2021) have made a detailed study of the investment needs for digital education, identifying three main areas in which to invest: (i) physical infrastructure; (ii) educational resources; and (iii) digital skills development. Physical infrastructure encompasses everything that involves investment in materials, public works, equipment and devices that make it possible to universalize effective connectivity. This ranges from

[35] In 2012–2014, Haiti was the only country in the region classified as low-income, while El Salvador, Guatemala, Honduras, Nicaragua, Paraguay and the Plurinational State of Bolivia were considered lower-middle-income countries. In the same period, the upper-middle-income bracket contained Belize, the Bolivarian Republic of Venezuela, Brazil, Colombia, Ecuador, Mexico, Panama and Peru; and the high-income group consisted of Argentina, Chile, Costa Rica and Uruguay (Rivas, 2021).

[36] A potential increase in enrolment in the public education sector is a hypothesis that will have to be tested in the medium term, taking the different national and subnational contexts into account. An opposing hypothesis envisages increased privatization of education owing to the effects of the pandemic, with new privatization processes arising because, in many countries of Latin America and the Caribbean, privately run schools have had greater autonomy to resume face-to-face classes (UNESCO/ECLAC/UNICEF, 2022).

electricity requirements in all territories to the selection and delivery of equipment to students and teachers. In addition, digital education also involves adapting educational systems through the creation of new resources, the use of platforms and the generation of digital content. An alternative promoted by UNESCO is the use of open educational resources (OER), which would reduce the implementation cost and take advantage of economies of scale (Broadband Commission for Sustainable Development, 2021).[37] Lastly, UNICEF and the Broadband Commission for Sustainable Development (2021) also stress that the digital transformation of education requires investment in the development of digital skills among the entire population and, in particular, in teachers, school administrators, and parents and caregivers (Huepe, Palma and Trucco, 2022).

5. Concluding remarks

As indicated in this section, education is one of the social functions that absorbs the largest volume of public funds and is a human right to be protected by States. In this area, not only are resources at central level important, but also those of broader institutional coverage, which in some countries make a significant contribution.

The analysis shows that public funds allocation is proportionally higher for the primary and secondary levels, with a substantial tertiary level share in several countries. Pre-primary education absorbs the smallest share. However, the situation is different in terms of funding per student, since the pre-primary and tertiary levels become more important. This reflects both the lower coverage of these levels in some countries and the greater investment requirements they may have.

In the case of household spending on education, although it is not the main source of funding, it makes a fundamental contribution in the region, and plays an important role in the configuration of education systems that are highly segmented in their provision and outcomes (Acosta, 2022). In light of the data analysed in this chapter, the association between resources allocated and social strata displays two interesting features: firstly, the highly differentiated average volumes between the income groups, which reveal incremental growth; and, secondly, the more homogeneous share of total household spending. This would indicate a fairly uniform priority between income groups, where the differences in household spending seem to be associated more with resource constraints, which condition the type of education accessed, with financing that is highly differentiated by each household's capacity to pay.

When these data are compared with the reality of OECD countries, the differences in investment amounts and quality of outcomes highlight very different realities that prompt a continued search for management and financing alternatives, with a view to advancing towards more inclusive, effective and efficient educational systems in the region.

In the current decade, the countries of the region are facing major financial challenges in progressing towards Goal 4. The pandemic added further complexities to an already complicated pathway, both through its direct impact on educational processes and their outcomes, and in terms of new requirements for adapting to the recovery. Compounding this further are the constraints imposed by the current global economic situation, which adds new demands and uncertainties, as well as a potential reduction in available resources.

In this context, integrating technologies into educational processes brings opportunities, but it also poses challenges. Although during the pandemic it has enabled progress to be made in new educational models and facilitated distance education processes, it has also generated new divides, deepening social and gender inequalities. The challenge is to find sufficient resources to invest in more inclusive systems.

[37] The costs associated with the use of digital educational resources relate, among other things, to the amount and extent of digital content and the number of specialized professionals needed in the schools, along with licenses and subscriptions, and servers.

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Annex IV.A1

Table IV.A1.1

Latin America and the Caribbean (24 countries): central government social spending, by function, 2020–2021

Country	Social spending (Percentages of GDP)		Social spending (Dollars at constant 2018 prices per capita)		Distribution of social spending by function, 2021 (Percentages)						
	2020	2021	2020	2021	Social protection	Education	Health	Housing and community services	Recreation, culture and religion	Environmental protection[a]	Total
Argentina	16.9	14.6	1 753	1 651	74.3	8.6	8.9	7.8	0.0	0.4	100
Bahamas	10.2	15.0	2 992	3 758	30.9	24.5	33.1	0.1	1.8	9.6	100
Barbados	19.7	17.8	2 698	2 730	24.0	33.0	19.9	12.5	4.4	6.3	100
Bolivia (Plurinational State of)[b]	16.7	...	537	...	40.9	39.5	16.7	2.9	0.0	0.0	100
Brazil	22.5	17.3	1 973	1 573	72.7	12.5	14.1	0.3	0.2	0.3	100
Chile	20.2	24.9	2 960	4 044	55.3	19.3	23.1	1.3	0.7	0.4	100
Colombia	15.5	15.0	979	1 035	46.6	22.5	27.0	2.1	1.3	0.5	100
Costa Rica	12.2	11.7	1 468	1 501	35.0	54.3	8.2	0.5	1.0	1.1	100
Cuba	10.1	...	997	...	70.9	17.4	5.9	1.4	4.3	0.0	100
Dominican Republic	12.3	8.9	953	762	25.2	40.4	27.1	4.4	1.4	1.5	100
Ecuador	11.4	11.0	643	636	37.6	33.7	26.3	0.7	1.1	0.5	100
El Salvador	14.0	12.6	526	522	36.4	35.9	24.9	1.2	1.2	0.4	100
Guatemala	9.4	7.6	394	338	16.7	40.9	20.3	17.5	2.1	2.5	100
Guyana	12.2	10.7	1 124	1 375	17.8	30.8	31.9	16.1	2.1	1.3	100
Haiti[c]	3.0	...	42	...	11.0	56.8	16.1	0.9	8.7	6.4	100
Honduras	9.2	9.9	209		14.4	49.9	30.1	3.8	0.0	1.8	100
Jamaica	11.9	12.0	578	609	9.1	44.3	38.3	5.5	1.3	1.5	100
Mexico	10.3	9.9	894	889	44.3	32.2	12.1	9.9	0.9	0.6	100
Nicaragua	11.4	12.1	212	246	7.4	34.0	44.3	11.0	1.9	1.4	100
Panama	11.4	...	1 454	...	8.1	38.1	31.9	18.0	1.6	2.3	100
Paraguay	11.5	10.3	643	582	35.0	31.2	28.8	2.7	0.8	1.6	100
Peru[d]	13.3	12.3	831	854	30.1	30.9	25.3	3.8	1.7	8.3	100
Trinidad and Tobago	14.6	14.8	2 359	2 227	41.3	23.3	22.7	11.3	1.4	0.0	100
Uruguay[e]	16.7	15.6	2 929	2 848	45.4	28.5	21.8	3.1	0.9	0.2	100

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.

[a] Environmental protection data may not coincide with estimates from environmental satellite accounts.

[b] Coverage corresponds to central administration.

[c] The data refer to 2014.

[d] Coverage refers to general government.

[e] The data do not include disbursements by the Social Security Bank (BPS).

Table IV.A1.2
Latin America (12 countries): social spending by institutional coverage and function, 2021

Country	Coverage	Public social spending		Distribution of public social spending by function, 2021 (Percentages)						
		(Percentages of GDP)	(Dollars at constant 2018 prices per capita)	Social protection	Education	Health	Housing and community services	Recreation, culture and religion	Environmental protection[a]	Total
Argentina[b]	Public sector	32.1	3 328	54.2	16.3	21.9	7.1	0.6	0.0	100
Bolivia (Plurinational State of)[c]	General government	19.6	697	22.8	41.7	25.7	3.9	1.8	4.1	100
Brazil	General government	28.3	2 583	54.5	18.1	21.4	3.8	0.6	1.6	100
Colombia	General government	21.8	1 507	45.5	18.2	28.3	2.6	2.8	2.5	100
Costa Rica	General government	20.2	2 588	39.8	27.1	27.3	1.9	0.8	3.1	100
Cuba[b]	General government	36.3	2 850	24.8	31.8	33.5	3.2	6.7	0.0	100
Dominican Republic[d]	General government	7.8	654	20.8	51.7	19.4	2.8	2.3	3.0	100
El Salvador	Public sector	17.8	738	32.5	26.1	20.5	19.7	0.9	0.3	100
Guatemala	General government	9.5	420	26.5	34.7	25.9	6.2	2.9	3.8	
Mexico	Non-financial public sector (federal)	15.0	1 347	53.5	21.3	17.7	6.5	0.6	0.4	100
Paraguay	General government	14.8	839	38.2	27.7	30.4	1.9	0.6	1.3	100
Peru	General government	12.3	854	30.1	30.9	25.3	3.8	1.7	8.3	100

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official information from the countries.
[a] Environmental protection data may not coincide with estimates from environmental satellite accounts.
[b] The data refer to 2020.
[c] The data refer to 2018.
[d] The data refer to 2019.

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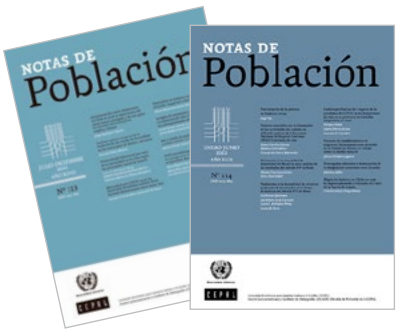

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