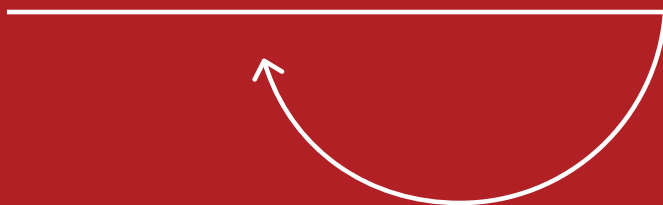




The **Inefficiency** of **Inequality**



2018

**THIRTY-SEVENTH
SESSION OF ECLAC**

*Havana
7-11 May*

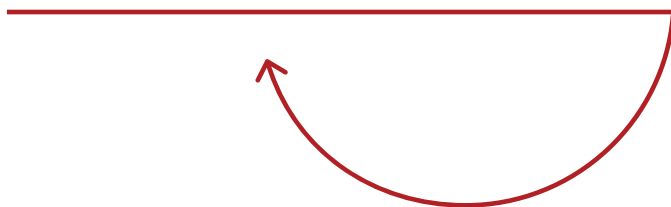


UNITED NATIONS





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ECLAC



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The authors are particularly grateful to the following staff members of ECLAC: José Eduardo Alatorre, Andrés Arroyo, David Barrio, Pablo Chauvet, Martín Cherkasky, Rodrigo Contreras, Felipe Correa, Manlio Coviello, Carlos de Miguel, Ernesto Espíndola, Jimmy Ferrer, Tania García-Millán, Sebastián Herreros, Raúl Holz, Azhar Jaimurzina, Valeria Jordan, Andrei Jouravlev, Luiz Fernando Krieger Merico, Jeannette Lardé, Mauricio León, Karina Martínez, Antonio Martins, Luis Méndez, Beatriz Morales, Gabriel Pérez, María Cecilia Plottier, Verónica Quiroz, Luis Riffo, Adrián Rodríguez, Edwin Fernando Rojas, Miryam Saade, Ricardo Sánchez, Silvana Sánchez, Nunzia Saporito, Lucía Scuro, Valeria Torres, Daniela Trucco, Heidi Ullmann, Hugo Ventura and Soledad Villafaña.

The following ECLAC consultants also provided input for the preparation of the document: Hugo Altomonte, Rafael Aramendis, Bernardo Atuesta, Martín Brum, Fedora Carbajal, Maira Colacce, Nicole Favreau-Negront, Noemí Giosa Zuazúa, Pilar Manzi, Sebastián Valdecantos, Juan Pablo Valenzuela and Eduardo A. Vasconcellos.

The authors wish to thank Cristóbal Budnevitch, Facundo Grimberg and Alicia Pita for their assistance.

Gratitude is also due to the Governments of France, Germany, Norway, Spain and the Republic of Korea, and to the European Commission, for their support for the substantive work of ECLAC, which contributed analysis and proposals to the preparation of this document.

Explanatory notes

- Three dots (...) indicate that data are missing, 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.
- Individual figures and percentages in tables may not always add up to the corresponding total due to rounding.

This publication should be cited as: Economic Commission for Latin America and the Caribbean (ECLAC), *The Inefficiency of Inequality. Summary* (LC/SES.37/4), Santiago, 2018.

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I. Equality at the centre of development

The Economic Commission for Latin America and the Caribbean (ECLAC) has proposed strategic paths towards development throughout its seven decades of existence. Since 2010, equality has had a central focus in that undertaking, as can be seen in the principal documents submitted for consideration by the countries of the region at the Commission's four most recent sessions. Thus, for almost a decade, ECLAC has identified equality as a foundational value of development and as a non-negotiable ethical principle, in keeping with the increasing importance of the topic in public demands and policy debates.

Equality stands at the centre of development for two reasons. First, because it endows policies with a rights-based approach at their very foundation, along with a vocation of humanism that embodies the most treasured legacy of modernity. Second, because equality is also a prerequisite for progress with a development model that focuses on innovation and learning that have a positive effect on productivity, economic and environmental sustainability, the dissemination of the knowledge society and the strengthening of democracy and full citizenship.

Equality encompasses equality of means, opportunities, capacities and recognition (ECLAC, 2014). Equality of means translates into a fairer distribution of income and wealth and into a wage bill that accounts for a greater share of domestic output. Equality of opportunities entails the absence of all forms of discrimination in access to social, economic and political positions. Equality of access to capacities covers the skills,

knowledge and capabilities that individuals acquire and that enable them to embark on life plans they consider worthwhile. At the same time, equality as mutual recognition is expressed in different actors' shares of caregiving, work and power, in the distribution of costs and benefits among present and future generations and in the visibility and affirmation of collective identities.

This document takes that definition of equality as its starting point before moving on to explore equality as a driving force for the economic system's efficiency. In dynamic terms, efficiency may be defined as the pace at which innovations can be made, those generated in other parts of the world can be absorbed, technology gaps can be reduced, innovations can permeate the production fabric and, as a result, productivity can be increased and new areas for investment can be established. The gains sought in GDP and productivity are based on the full utilization of resources and maximization of the potential of technological learning, while also preserving the environment. It is argued that inequality is not only the result of how the economy functions, but also a key determinant of that functioning, in that it conditions economic agents' access to capacities and opportunities and shapes the rules that govern their decisions. The core message is that inequality entails major costs in efficiency, which means that it must be overcome if development is to be attained. Not only do pro-equality policies have a positive impact on social well-being, they also help create an economic system that is more propitious for learning, innovation and higher productivity.

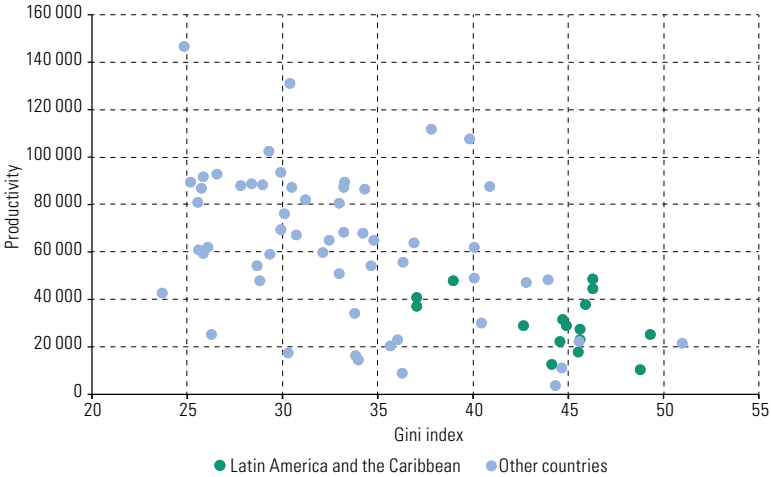
The historian Alfred Cobban (1965) succinctly identified the reason why the Government of France, in the 1950s and early 1960s, adopted economic development plans that radically transformed the country's economy: "poverty is inefficient." For a long time, however, an opposing view prevailed among economists: they maintained that efficiency and equality were at odds with each other, to the extent that Okun (1975) termed the relationship between the two "the big trade-off". It was thought that society had to pay an economic-growth cost to reduce the inequalities that arose from market competition. Increasingly, that idea is being challenged in

economic literature (see, for example Acemoglu and others, 2013; Ostry, Berg and Tsangarides, 2014), and now a new consensus is emerging that inequality is in fact a barrier to development. The “new economics of inequality” (Bowles, 2012) studies precisely the various supply-side mechanisms through which inequality creates disincentives for innovation and investment.

Equality is a necessary condition for the dynamic efficiency of the economy in that it creates a framework of institutions, policies and efforts that place the highest priority on innovation and capacity-building. From that perspective, equality is more important today than in the past because of the impact of the technological revolution, which makes building capacities and closing gaps a more urgent and unavoidable task. That urgency is heightened by the unsustainable nature of the current pattern of growth, which requires that the technological revolution be put to work in transforming the energy mix and channelling production processes along low-carbon paths in order to preserve the environment and its productive services for future generations. The mechanisms through which the relationship between causality and efficiency operates include the wider spread of education and skills across society; the elimination of barriers to creativity and of the effort that discrimination of any kind entails; social security provided by the welfare State that makes actors more accepting of the risks inherent in innovation; and a shift away from the culture of privilege and the political economy that keep new actors, sectors and ideas from transforming the economy and challenging rentier capitalist behaviours founded on static comparative advantages or political privileges.

Figure 1 shows the negative relationship that exists between inequality and productivity in a broad spectrum of countries. That relationship does not involve just one direction of causality between the two variables; on the contrary, causality runs in both directions between inequality and productivity in a complex interaction, as argued throughout the document.

Figure 1
Productivity and Gini index, 2014
(Purchasing power parity (PPP) dollars and percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of University of Groningen, Penn World Table [online database] <https://www.rug.nl/ggdc/productivity/pwt/>, and Harvard University, Standardized World Income Inequality Database (SWIID) [online database] <https://dataverse.harvard.edu/dataset.xhtml?persistentId=hdl:1902.1/11992>.

Note: The Gini index is expressed in percentage terms. Productivity is expressed in output per employee in 2011 PPP dollars.

The role of equality in efficiency on the supply side helps showcase its positive impact on effective demand. Income distribution is more likely to drive the expansion of demand in a country with a more diversified and competitive production structure. Thus, the traditional Keynesian view of distribution and effective demand is complemented by the Schumpeterian approach to innovation and skills.

The equality-based approach is aligned with the demands for capacity-building and with the emphasis afforded to the issue in the 2030 Agenda for Sustainable Development and the Sustainable Development Goals. The growing concern over high levels of inequality that is evident in domestic policies is thus echoed at the international level by the consensus of the international community enshrined in the 2030 Agenda. Equality has been acknowledged as a key factor for international stability and defusing conflicts. The 2030

Agenda's watchword of "leaving no one behind" clearly underscores its universalist and inclusive focus.

The international community reached this consensus not only on the back of technical analyses, but also through discussions between governments, international organizations and civil society. One example of that dialogue was the first meeting of the Forum of the Countries of Latin America and the Caribbean on Sustainable Development, held in Mexico City in April 2017. On that occasion, governments, international organizations, academics and civil society organizations discussed and quantified the region's progress towards equality and the implementation of the 2030 Agenda. It was agreed that those topics would continue to be addressed at the second meeting of the Forum, to be held in Santiago in April 2018.

II. International uncertainty

The pursuit of equality and efficiency in the framework of environmental sustainability acquires special urgency in the light of recent international trends, which reflect significant economic, technological and geopolitical changes. While they open up avenues for investment and learning, these changes heighten uncertainty and can exacerbate the region's technology lag.

A. Growing tensions in globalization

Nearly a decade after the global financial crisis began, the three large economic blocs (the United States, Europe and East Asia) are all growing simultaneously for the first time, albeit at very different paces, while growth in developing countries has been boosted by the upturn in commodity prices. Meanwhile, the digital revolution is picking up speed, driven by the development of global digital platforms and the scale and network effects of extending access to digital services to nearly two thirds of the world population and the increasing importance of those platforms across the economy. The combination of different response rates to the crisis, sustained economic growth in China and the struggle for control of the nerve centres of the digital economy has led to unexpectedly strong geopolitical tensions.

Competition in global markets has exposed all countries, but particularly the transition economies, to the effects of globalization, as a result of policies to liberalize international trade and FDI flows,

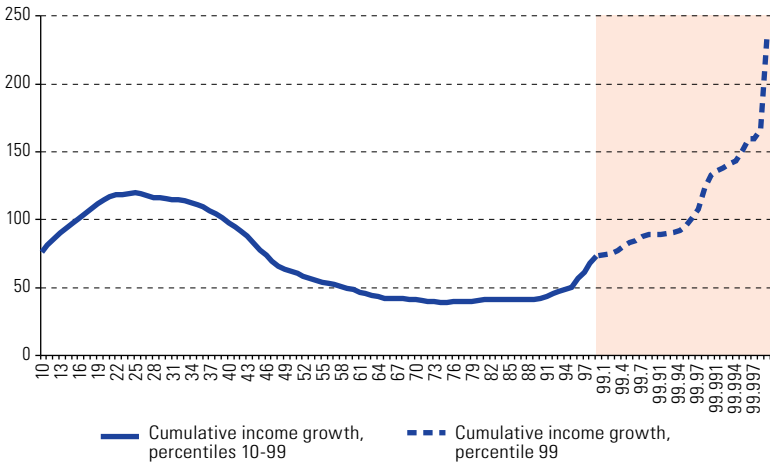
intensified by technological progress, particularly in digital technologies, which helped to reduce transaction costs and develop global production chains. Globalization and rapid growth in some developing economies (particularly in China and East Asia) have significantly reduced the income gap among countries. However, not all countries have benefited equally from globalization. Moreover, income distribution within many countries became more unequal between the early 1980s and the mid-2010s, despite economic growth, heightening concerns and raising international debate about the concentration of income and wealth.

Although inequality has declined between countries, it has reached its highest level in decades within the more developed regions, and the Gini index (the most commonly used measure of inequality) has increased in almost all regions of the world. The coefficient for the countries of the Organization for Economic Cooperation and Development (OECD) was 0.32 in 2014, its highest value since the 1980s; while in China it rose from 28.6 in the 1980s to 48 in 2012 (according to latest available data). Latin America was the only exception to this trend, as it has seen income concentration reach an all-time low over the last decade, albeit it remains the world's most unequal region.

On the basis of data from the *World Inequality Report 2018* (Alvaredo and others, 2018), figure 2 portrays the cumulative growth in average income in each of the percentiles of global income distribution over the period 1980-2016.¹ As the figure shows, globalization and market opening drove a significant increase in real per capita income in all countries. However, this growth occurred at different rates, creating winners and losers. The winners in terms of real per capita income growth were people with average income around percentiles 20 and 60—most of them from China or India, whose economies have expanded at unprecedented rates over the past 30 years—and those with average income around percentile 99, i.e. the world's richest 1%. Those left further behind were those with average per capita income between percentiles 70 and 90 of the global distribution, most of them belonging to the (old) middle classes in the most advanced countries.

¹ Income per adult is reported on the basis of the total national income distribution per adult (Alvaredo and others, 2018).

Figure 2
Real income growth per adult by income percentile
in the global distribution, 1980-2016
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of F. Alvaredo and others, *World Inequality Report 2018*, World Inequality Lab, 2018 [online] <http://wir2018.wid.world/files/download/wir2018-full-report-english.pdf>.

This analysis yields strong evidence that the benefits of globalization have been polarized in favour of the rich. The world's richest 1% captured 27% of the total cumulative growth in income between 1980 and 2016, while 50% of the distribution captured only 12% (Alvaredo and others, 2018). The richest 1% of the population has seen its income rise steadily in most countries.

Although it is difficult to distinguish empirically between the effects of the various forces interacting within the economic system, the conclusions drawn by Alvaredo and others (2018) and Milanovic (2016) and those arising from the analysis of income share by decile above help to understand why globalization is being questioned in advanced countries. Income polarization depressed the wages of the middle class, forcing families to resort to borrowing to maintain their levels of well-being before the crisis. At the same time, those whose incomes grew the most invested more in financial assets than in production activities. The growing indebtedness of the middle class, coupled with the disproportionate expansion of financial assets, led to the collapse of subprime mortgage securities, which was

a key factor in the 2008 crisis. The high level of inequality and the inability to stimulate wage growth depressed consumer demand and hampered the recovery of the global economy.

B. The digital revolution heightens uncertainty

The world of technology also causes a high degree of uncertainty, with regard to both its performance and its impact on related activities. However, unlike in the macroeconomy, where uncertainty is the result of a decade of slow growth, the uncertainty in the digital sphere is the result of its success. The development of new technologies has accelerated and their effects are being felt across the economy and society.

Data flows, measured in terms of installed cross-border bandwidth capacity, show clearly that the rate of technological change has accelerated. That capacity has grown exponentially since 2007, while international flows of goods and services, foreign direct investment (FDI) and finance have fluctuated wildly, particularly in the wake of the global financial crisis (Manyika and others, 2016). Digital expansion, in the shape of increased data processing, transmission and storage capacities, was not affected by the problems that beset capital formation, growth and employment at the aggregate level.

The speed of change is also revealed by numerous other indicators, including those related to Internet access and the use of mobile technologies. The most advanced technologies have also seen remarkable levels of growth. In less than a decade, technology bundles linked to cloud computing and big data analysis have been launched and quickly taken up by consumers and businesses, especially medium-sized and large companies. Moreover, in less than two years, new fields of action have opened up in the areas of robotics and artificial intelligence which, although they have been in development for decades, have now become commonplace in policy discussions on account of their potential impact.

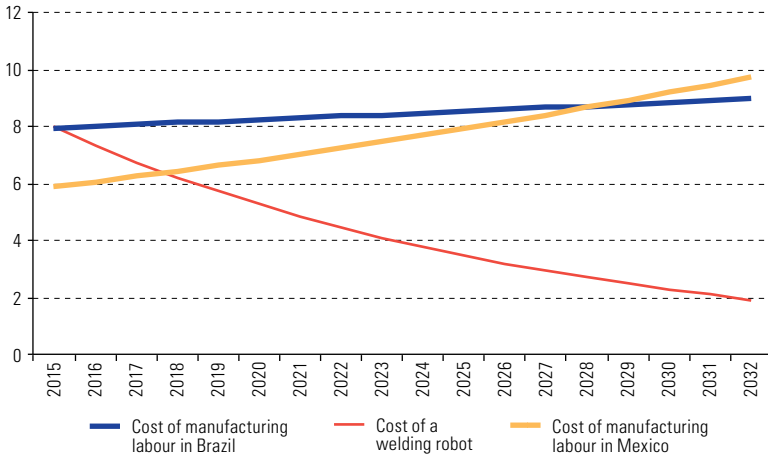
The development of the digital economy and society has many consequences, but three are of particular interest for policymaking. First, the expansion of digital technologies has blurred the boundaries between sectors that produce goods and those that provide services. Traditional cost-based competitive advantages have become more difficult to identify and build on as the use of physical goods increasingly

depends on their connection to the “product cloud”. Second, it has rekindled the debate surrounding Solow’s paradox (“you can see the computer age everywhere but in the productivity statistics”). Discussions about the impact of the platform economy on productivity have intensified and are far from reaching a conclusion. In particular, attention has been drawn to problems arising from measurement errors and from delays in implementing and creating the necessary complementarities (McAfee and Brynjolfsson, 2017).

The third consequence is by far the most relevant for policy decisions and is possibly the most uncertain. The impact of new technologies —particularly robotics and artificial intelligence— on employment levels and quality can be seen in areas ranging from compensatory mechanisms for affected sectors to the design of new education plans. Estimates from 2013 onward suggest very different outcomes; but the effects are significant in all cases, particularly against a backdrop of slow employment growth or a rapidly expanding working-age population. As robots have swiftly become cheaper and more capable, they have been taken up more and more quickly in different industrial sectors and countries. Technological progress means that manageably sized robots, ranging from industrial robots to stock management robots and those capable of providing services in call centres, can be produced and easily incorporated into the production structure. Combined with their falling cost, this will speed up the incorporation of robots into production processes. In 2015, a welding robot cost US\$ 8 per hour, much the same as human labour would cost for the same job in Brazil. It is estimated that costs will similarly equalize in the Mexican manufacturing sector in 2018 (see figure 3).

The effect of new technologies on the labour market, in terms of worker displacement, will depend on the occupational structure, which varies between countries. It will also depend on the costs of introducing new technologies (including purchase, adjustment, installation, training, maintenance and updating costs) and on the infrastructure required in the places where they are to be installed, which could make the step from a technologically feasible replacement to an economically viable one more difficult in the countries of Latin America and the Caribbean than in developed countries (Weller, 2017). Moreover, social and political resistance to these technologies could significantly delay their adoption at country and regional level.

Figure 3
Brazil and Mexico: average cost of a welding robot
and of manufacturing labour, 2015-2032
(Dollars per hour)



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

III. External vulnerability

A. Growth and external constraints

Growth in the region's economies tailed off following the rebound from the international financial crisis in 2010 and 2011. The average growth rate of 2.3% recorded between 2012 and 2017² was lower than the 3.8% the region posted between 2000 and 2008. It was well below that achieved in other parts of the world such as South-East Asia (5.3%), North Africa (3.1%) and the largest European emerging economies (2.8%) during the same period.³

To maintain employment, formalization and an increased wage share, economic growth must keep pace with the growth of the labour supply. Job creation was particularly strong during the years in which the economy was most buoyant (before 2009), partly owing to rapid growth but also because of an unusually high employment-output elasticity (ECLAC, 2017a). During that period, economic growth exceeded the threshold needed to absorb population growth, which explains the significant drop in unemployment.⁴ That threshold stands

² The 2017 figure for the countries of Latin America and the Caribbean is a forecast by the Economic Commission for Latin America and the Caribbean (ECLAC) in the *Preliminary Overview of the Economies of Latin America and the Caribbean, 2017* (ECLAC, 2018).

³ The 2017 figures for the countries of South-East Asia, North Africa and the largest European emerging economies are forecasts by the International Monetary Fund (IMF).

⁴ The growth threshold is calculated as the ratio between population growth and employment-output elasticity. It allows estimates of the economic growth needed for the total number of jobs to increase at the same rate as population growth and thus for a stable employment rate to be maintained.

at around 2.5% for the region as a whole, 2.4% for South America, 2.5% for Central America and Mexico and 2.7% for the Caribbean.⁵ The region's growth remained above the threshold until 2014, but at a rate that was barely sufficient to absorb population growth and maintain the employment rate. After that point, the region's average growth fell below the threshold. That dynamic began to be reflected in the unemployment rate, which rose by 1.6 percentage points between 2015 and 2016 for an accrued increase of 2 percentage points since 2014.⁶

It is important to consider the growth rate required to maintain employment against the rate of growth consistent with external equilibrium. Economic growth can fluctuate between periods, but in the long term, this rate cannot deviate from the growth rate consistent with balance-of-payments equilibrium. Analyses of the external sustainability of growth generally use the global income elasticity of exports and the domestic income elasticity of imports. Thirlwall's Law (1979) states that given the pace of growth of trade partners, economic growth consistent with long-term external equilibrium depends on the ratio between a country's export and import elasticities. An analysis of the subregions reveals that in South America, the ratio between those elasticities —Thirlwall's condition— deteriorated significantly in recent years, largely as a result of decreases in the income elasticity of exports.⁷ By contrast, in Central America and Mexico, Thirlwall's condition mostly improved, owing to increased income elasticity of exports.

The dynamics of foreign trade elasticities reveal the persistence of structural problems: technology gaps, specialization patterns and other variables that affect the systemic competitiveness of the region's countries (ECLAC, 2007 and 2010). Economies specializing in products with more dynamic global demand (Keynesian efficiency) and with greater capacity for disseminating technological progress (Schumpeterian efficiency) can be expected to contribute more to

⁵ The threshold assumes average natural population growth of around 1.2% and an employment-output elasticity of 0.48 over the past 16 years.

⁶ The 2014 unemployment rate was the lowest in the past 20 years.

⁷ The exception was Paraguay, which posted a slight improvement thanks to the adoption of new soybean production technologies, which Argentina, Brazil and Uruguay had taken up and deployed earlier.

growth in global output and to have higher levels of domestic growth consistent with current account equilibrium.⁸ The decrease in the income elasticity of exports in South America is linked with the rise in the share of commodities in total exports. In Central America and Mexico, by contrast, the share of medium-technology exports increased and the trend was towards more diversified export baskets. The Caribbean countries, in turn, remained heavily dependent on raw and processed commodities but diversified their export mix somewhat.⁹

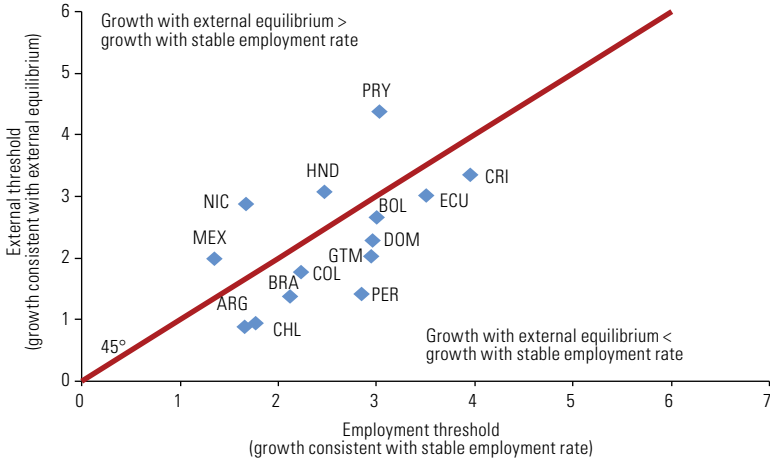
The proximity between the minimum threshold of growth needed to absorb the population increase and the ceiling for growth consistent with long-term external equilibrium indicates that the structuralist approach remains valid, given that job generation is ultimately limited by the external constraints on growth and, consequently, by the production specialization pattern. As shown by figure 4, in many of the region's countries (those located below the 45° line), the minimum growth threshold needed to absorb population growth (horizontal axis) is above the ceiling that long-term external sustainability imposes on growth (vertical axis).

Structural issues and external vulnerability tend to be exacerbated by the technological revolution. As the region lags further behind the technological frontier and the gap in dissemination of new sectors and knowledge widens, it will become even harder to enter the most buoyant global markets and to increase growth rates. The corresponding drop in labour demand will make it more difficult to address unemployment issues stemming from the increasing automation and digitization of production processes.

⁸ Technology-intensive goods do not account for a large share of total exports in Latin America, which is a reflection of the technology gap mentioned above. The region's share of global exports of high-technology manufactures declined, down from 8% in 2000 to 5% in 2015 (ECLAC, 2016c).

⁹ According to estimates of the Herfindahl-Hirschman index of world goods exports by product calculated by ECLAC, the export concentrations of the Caribbean, Central America and Mexico declined between 2000 and 2016.

Figure 4
Latin America (14 countries): ratio between growth consistent with external equilibrium and growth consistent with stable employment, 2000-2016
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC).
Note: Thirlwall's condition is defined as $y^* = \frac{\phi_1 \varepsilon z}{\pi}$ where ε is the income elasticity of the demand for exports, π is the income elasticity of the demand for imports, z is the growth of trading partners, ϕ_1 is the ratio of exports to imports, and y^* is the growth of the domestic economy consistent long-term equilibrium in the current account. A rate of 2% is assumed for the growth of trading partners.

B. Financialization and external vulnerability

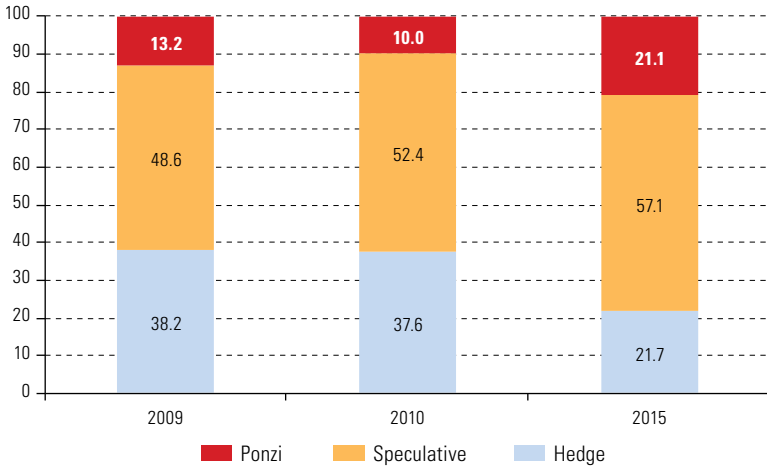
In a context of peripheral financialization, unrestricted financial account opening means that international liquidity conditions (derived largely from the monetary policy and risk aversion prevailing in central countries) are transmitted, practically without mediation, to the periphery, where they become a basic determinant of short-term economic dynamics. That interdependence has increased in recent decades as a result of the region's greater financial openness.

The aftermath of the 2008 crisis saw considerable growth in the global bond market. Emerging economies were actively involved in this process, having increased their total stock of international bonds from approximately US\$ 500 billion in 2000 to around US\$ 7 trillion in 2016. That stands in contrast to the behaviour of the developed economies, most of which reduced their levels of indebtedness over the same period. One novel feature of this borrowing was the role played by the private sector, which gained importance as an issuer of international securities compared to the public sector throughout the developing world.

Greater indebtedness on the part of the non-financial corporate sector has three macroeconomic consequences for the region. First, beyond certain borrowing thresholds, funds obtained by companies are not used to finance investments in production. Second, a change takes place in the composition of the balance-of-payments financial account, in particular as regards portfolio flows. Since the global financial crisis, the annual cumulative amounts of flows associated with bond investments, which are more sensitive to changes in the external context, have outstripped those associated with borrowing operations.

The third effect is increased financial fragility. According to the framework defined by Minsky, which distinguishes hedged, speculative and Ponzi financing structures, the latter two, which involve greater financial fragility, show evidence of having increased (see figure 5), particularly among the companies most active in issuing international bonds. Of the companies issuing international bond debt, the percentage doing so in Ponzi conditions rose from 13.2% to 21.1% between 2009 and 2015, while those in speculative conditions increased from 48.6% to 57.1%. This increase adds further uncertainty with regard to future rates of investment and growth in the region.

Figure 5
Proportion of companies in Ponzi, speculative and hedged situations
in international bond markets, 2009-2015
(Percentages)



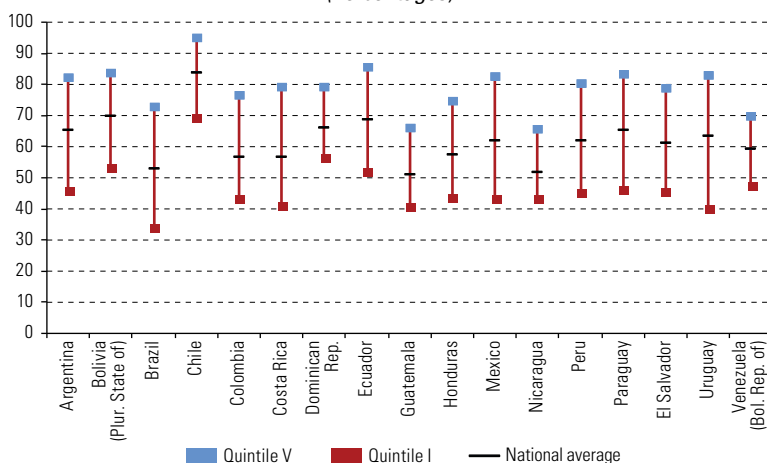
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Mulligan, "A sectoral analysis of the financial instability hypothesis"; *The Quarterly Review of Economics and Finance*, vol. 53, No. 4, Amsterdam, Elsevier, 2013; E. Torres Filho, N. Martins and C. Miaguti, "Minsky's financial fragility: an empirical analysis of electricity distribution companies in Brazil (2007-15)"; *Working Paper*, No. 896, Annandale-on-Hudson, Levy Economics Institute, 2017.

IV. Inequality: a barrier to increased productivity

Unequal access to capacities and opportunities —such as that caused by inequalities in access to education and health— compromises innovation and productivity. When people drop out of school before completing primary or secondary education, their productive potential suffers for the rest of their working lives. The lower wages that, all other things being equal, they will receive compared to workers with more years of formal education is an indicator of the productivity and well-being lost through curtailed schooling. Over the long term, the magnitude of those losses is extremely high. The cost to society goes beyond the lost future income of the worker who drops out of school, because there are positive externalities that arise from interactions between persons with high levels of education; in other words, the benefits to society of investing in education outstrip the private benefits. Inequality in education access has a hampering effect that, rather than remaining localized, spreads across the economic system as a whole.

In Latin America, a very substantial proportion of the population aged over 18 is still not attaining a level of education equivalent to the first full secondary cycle, and this is compounded by large differences between the top and bottom income quintiles (see figure 6). The situation also varies greatly by country. At one extreme is Guatemala, where just 50% of the population aged over 18 has a level of education equivalent to completing the first cycle of secondary school; at the other is Chile, where the share is over 80%.

Figure 6
Latin America (17 countries): people aged over 18 who have completed the first cycle of secondary education, by income quintile, around 2016
(Percentages)

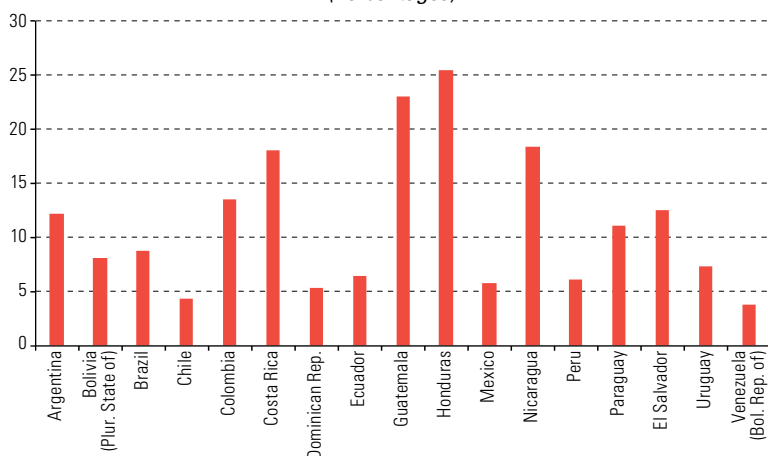


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of household surveys from the respective countries.

Inadequate educational attainments among the active population are a major constraint on capabilities, with consequences for productivity. A rough estimation of this loss consists in calculating the difference between households' actual income and what they would be earning if individuals who have not attained the minimum level of education had in fact done so. The incomes of individuals who have attained that minimum are left unchanged. A Mincer equation is used for a set of covariables in each country to explain the logarithm of the incomes of people in work (excluding those in the education system) aged between 25 and 55.

The income simulated for a situation in which all working people aged between 25 and 55 have completed the first cycle of secondary education is greater than current household income in all the countries (see figure 7). In the countries with the largest gaps (Guatemala and Honduras), the simulation yields a rise in household income of some 25%, while at the other extreme (the Bolivarian Republic of Venezuela and Chile) the change is less than 5%.

Figure 7
Latin America (17 countries): increase in household income if completion of the first cycle of secondary education were universal, around 2016
(Percentages)



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

This exercise assumes that the extra supply of workers will be employed at current wages. It is a simplification that takes no account of the ability of the labour market to absorb higher-skilled labour, of general equilibrium effects or of ongoing technological change. The value of the exercise lies not in its predictive power, but in the way it can illustrate the costs of inequality.

In highly unequal societies, the decision to drop out of school does not depend solely on differences in talent or effort, but also on reduced opportunities for access to education: for example, financial constraints, a limited supply of quality education facilities in a given neighbourhood or geographical region, or the need for early entry into the labour market. The correlation between the levels of education attained by parents and their children over several generations is an expression of that inequality: it is much higher in unequal economies, such as those of Latin America and the Caribbean, than in more egalitarian societies. If society were to offer the same education access opportunities from the outset, there would be no reason for that correlation. Inequality in education is an intergenerational transmitter of unequal capacities and opportunities, and it is a key factor in the perpetuation of low productivity.

Daude and Robano (2015) evaluate children's educational attainments relative to their parents' across 18 countries of the region using information from the Latinobarómetro Corporation. Comparing the results of their estimates for Latin America with others available for the world, they find the coefficient of correlation between parents' and children's education to be significantly higher in Latin America than in other regions and countries such as Asia, Africa, Europe and the United States. Estimates for the different countries of the region are very heterogeneous: whereas in Costa Rica an increase of 4 years' education for the parents entails 1.6 years' more education for the children, in Guatemala the figure is 3.4 years' more.

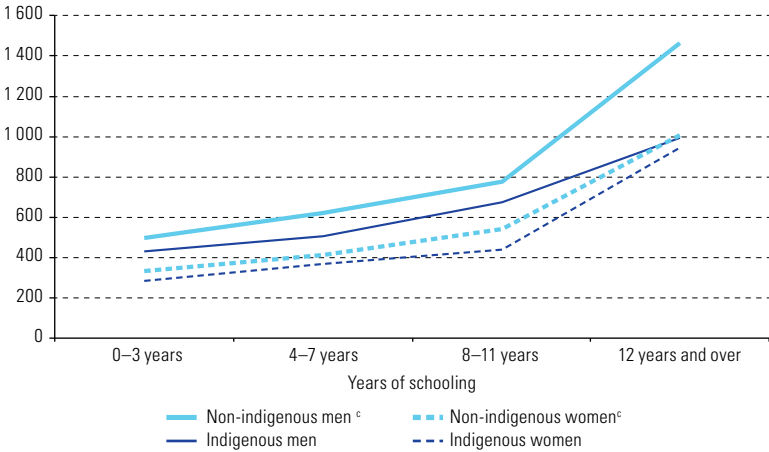
But it is not just asymmetries in access that have an impact. Even if everyone had equal access to capacities at the start of life, discrimination would affect their employment opportunity expectations. In societies characterized by sexual, racial or ethnic discrimination, people who are discriminated against know that they will come up against ceilings in their careers or, at the very least, will be at a disadvantage compared to a peer of another sex or racial or ethnic identity. Figure 8 shows that on average, Afrodescendent¹⁰ and indigenous people complete fewer years of schooling and earn significantly less than their non-Afrodescendent and non-indigenous counterparts. This is a disincentive for women, Afrodescendants and indigenous people, whose educational achievements do not afford them better prospects in the job market. Any disincentive to learning poses an obstacle to innovation and productivity, which adds to the more direct and immediate loss inherent in neglecting a talented individual.

Rather than a luxury that only high-income countries can afford, correcting inequality is a necessary precondition for assisting those countries that lag behind to attain the productivity levels enjoyed by the former.

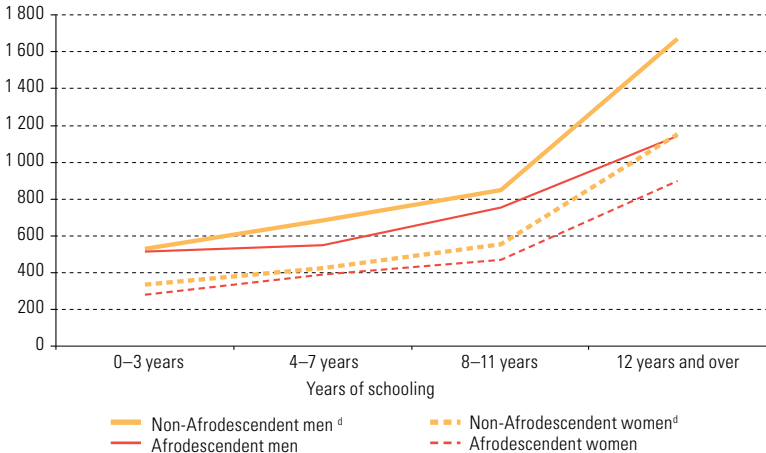
¹⁰ The term "Afrodescendent" is considered acceptable in some countries but not in others. ECLAC acknowledges that this debate exists and that the concept is not universally accepted.

Figure 8
Latin America (selected countries): average monthly labour income among employed persons aged 15 and over, by sex, race or ethnicity and years of schooling, national totals, around 2015
(Purchasing power parity at constant 2010 prices)

A. Nine countries, by ethnic origin (indigenous or non-indigenous)^a



B. Four countries, by racial origin (Afrodescendent or non-Afrodescendent)^b



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

^a Includes: Brazil (2015), Chile (2015), Ecuador (2016), Guatemala (2014), Mexico (2016), Nicaragua (2014), Peru (2016), Plurinational State of Bolivia (2015) and Uruguay (2016).

^b Includes: Brazil (2015), Ecuador (2016), Peru (2016) and Uruguay (2016).

^c Does not include Afrodescendent population.

^d Does not include indigenous population.

V. Inequalities that cause segregation and deterioration: territory and the environment

Other dimensions of inequality are closely related to those already studied. One of these is territorial, since poverty or low levels of development are concentrated in certain areas. Cities are part of this territorial dynamic, in which development tends to be concentrated in certain spaces and to generate polarization, both within cities themselves and in relation to the rural world. Other inequalities relate to environmental degradation: the lower-income sectors suffer most from the negative consequences of pollution in urban areas, and poor subsistence farmers are forced to work in the most degraded rural ecosystems. Moreover, the infrastructure endowment and its existing investment patterns serve to consolidate and reproduce territorial and environmental inequalities. Analysing them jointly helps to identify the limitations of the current model and to discuss the bases of a new one that is consistent with the 2030 Agenda for Sustainable Development and which recognizes the role of the environment and natural resources as the basis for the material, ecosystemic, environmental and energy underpinnings of economic processes (Sunkel, 1996).

A. Territorial inequalities

There is a long tradition of studies that show that the spatial concentration of income and capacities is key in the dynamics of the regional economy. It is with good reason that the core of the modern theory of regional economics is a centre-periphery model, whose

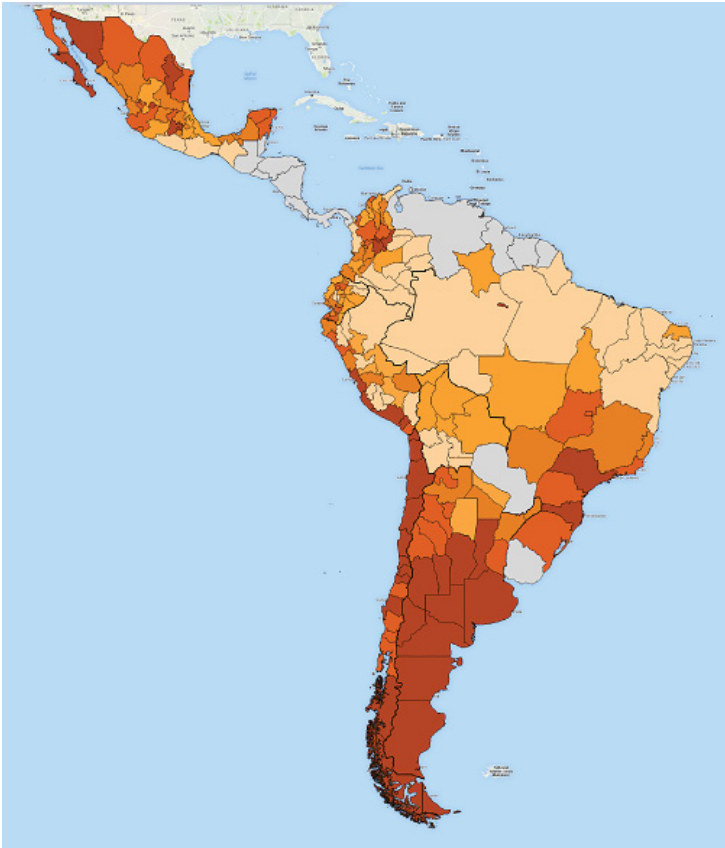
key variables (increasing returns, specialization patterns and localized technology spillovers) are those originally identified by ECLAC and the pioneers of development theory.

The Latin America and the Caribbean regional development index (RDI) for 2015, calculated by ECLAC, offers a broader perspective on territorial inequalities. Unlike traditional analyses of territorial disparities benchmarked on the averages for each country, RDI compares the relative development of 175 territorial entities in eight Latin American countries against the regional averages (see map1).¹¹ This approach adds extra dimensions to per capita GDP, such as health, education and access to housing. The 2015 RDI enables identification of the macroregions with the largest relative lags in economic and social development, which include the North-East of Brazil, south-western Mexico and the Andean and Amazonian areas of the Plurinational State of Bolivia, Colombia, Ecuador and Peru. By contrast, the territories with the best results are usually the national capitals or largest metropolitan areas.

If the regions are divided into five development levels according to this indicator, it may be seen that territories with lower-middle and low levels of RDI have more than 87 million inhabitants, close to 18% of the total population of the countries analysed, whereas their GDP share is just 9%. The population in the high-development bracket amounts to 158 million, representing 32% of the total population of the eight countries and generating 47% of their GDP. The differences between the strata are also very marked in terms of the social indicators of life expectancy, infant mortality, illiteracy and access to drinking water. For example, infant mortality in territories that have a low RDI is double the rate in high-RDI territories.

¹¹ RDI is a composite index based on 10 variables (percentage of rural population, employment rate, per capita GDP without extractive mining, illiteracy rate, population with higher education, infant mortality rate, life expectancy, homicide rate, housing without indoor water connection, homes/housing with a computer), for eight countries and 175 territorial entities of first tier political-administrative divisions (region, state, province and department), taking 2015 or around 2015 as the base year. The variables are standardized to generate a score, and grouped by quintiles of degrees of development classified as high, upper-middle, middle, lower-middle and low. The 175 entities are highly heterogeneous. For a description of the methodology, see ECLAC (2017b) annex 1.

Map 1
Latin America (8 countries): regional development index (RDI) 2015^a



 Low	 Middle	 High
 Lower-middle	 Upper-middle	 No information

Source: Economic Commission for Latin America and the Caribbean (ECLAC), *Panorama del Desarrollo Territorial en América Latina y el Caribe, 2015* (LC/W.671), Santiago, 2015.

Note: The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

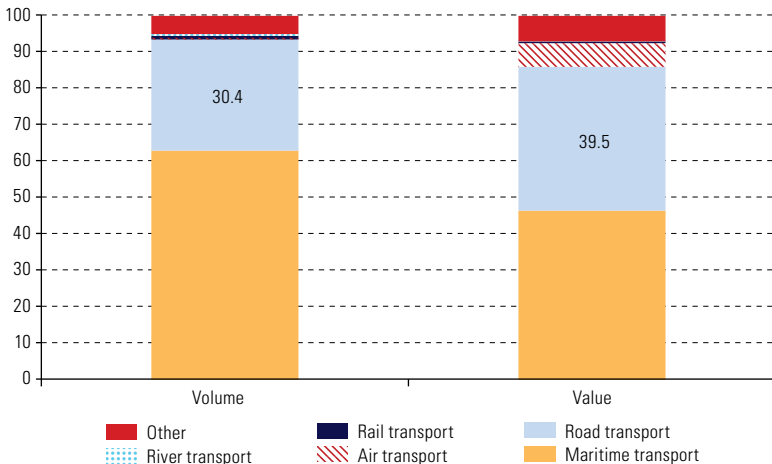
^a The countries analysed are Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and the Plurinational State of Bolivia.

B. Infrastructure and geographical fragmentation

Regional disparities are consolidated by the dominant patterns of investment in infrastructure. The region’s infrastructure generally maintains the hallmark of an enclave model (Muñoz and Pérez, 2016), since it was originally built to take mining and agricultural output to the ports for export. The region’s infrastructure nodes are linked to the exploitation and exportation of extractive natural resources. Over time, the capacity and quality of the transport network have been upgraded but territorial connectedness within each country or across the region remains insufficient.

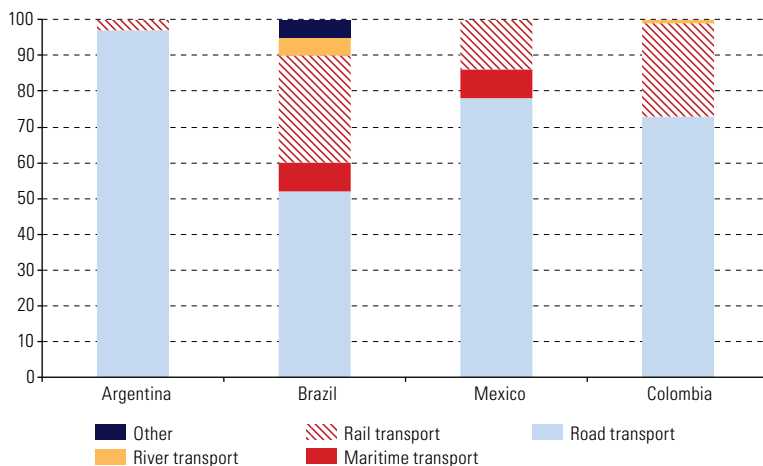
Connections both within and between the region’s countries are not only fragmented; they are also economically and environmentally inefficient. Most intraregional trade in South America is transported by sea —63% of the total volume and 46.3% of the total value according to 2013 data. The rest travels predominantly by road, which accounts for 30.4% in volume terms and 39.5% by value. Within countries, 86% of the total volume is carried by road. National data suggest the same predominance of road transport in domestic freight even in countries that have rail or river networks, such as Argentina, Brazil, Colombia or Mexico (see figures 9 and 10).

Figure 9
South America: modal distribution of intraregional trade, 2013
(Percentages of volume and value)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), International Transport Database (BTI).

Figure 10
Latin America (4 countries): domestic modal split, 2013
(Percentages of tons/km transported)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of national statistics.

Note: The data for Colombia are measured in tons.

The modal split entails large losses in terms of energy efficiency and heavy consumption of non-renewable energy with high carbon emissions. The region's advantages in the river and rail modes of transport are underused in terms of capacity, complementarity and energy use.¹²

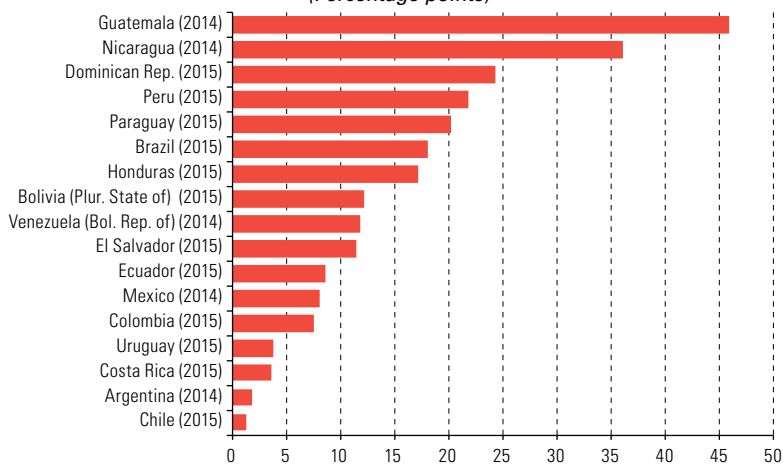
The space for public investment policy has not been adequately exploited. Insufficient road connectivity, unequal access to basic and advanced infrastructure services and patterns of environmental unsustainability reveal the limitations of the traditional approach taken by public investment policies in the region.

¹² The 30,000 metric tons transported by 1,000 trucks could be transported on one barge or in 24 trains. With the same amount of diesel (1 t) consumed by a truck with a 1-ton load in travelling 241 km, a barge can travel over four times further (991 km), and a train, more than three times (769 km) (Permanent Commission of Transportation of the River Plate Basin, 2015).

C. Urban segregation

The centre-periphery nexus is often reflected in an asymmetric rural-urban dynamic, in problems of poverty concentration in certain urban areas and, in many parts of the city, the absence of the public goods that the State should provide. There are, for example, internal disparities in access to basic drinking water and sanitation infrastructure, which are amplified in the comparison between rural and urban areas. Sanitation coverage is broader among households in the highest income quintile than in the lowest quintile (see figure 11); and the gap is much wider in rural areas than in the cities. There are also significant disparities in energy supply.

Figure 11
Latin America and the Caribbean (17 countries): differences in sanitation coverage between urban households in the highest and lowest income quintiles
(Percentage points)



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

Overcoming these asymmetries is essential to respond to the new rurality in the region and restore the attractiveness of rural areas for new generations. The interaction between the rural and the urban worlds is complex and ever-changing, producing a myriad of varying combinations of the two. It must be recognized that the rural world has undergone long-term sociocultural transformations, including the growing importance and the new roles of women, young people, indigenous peoples and Afrodescendent populations.

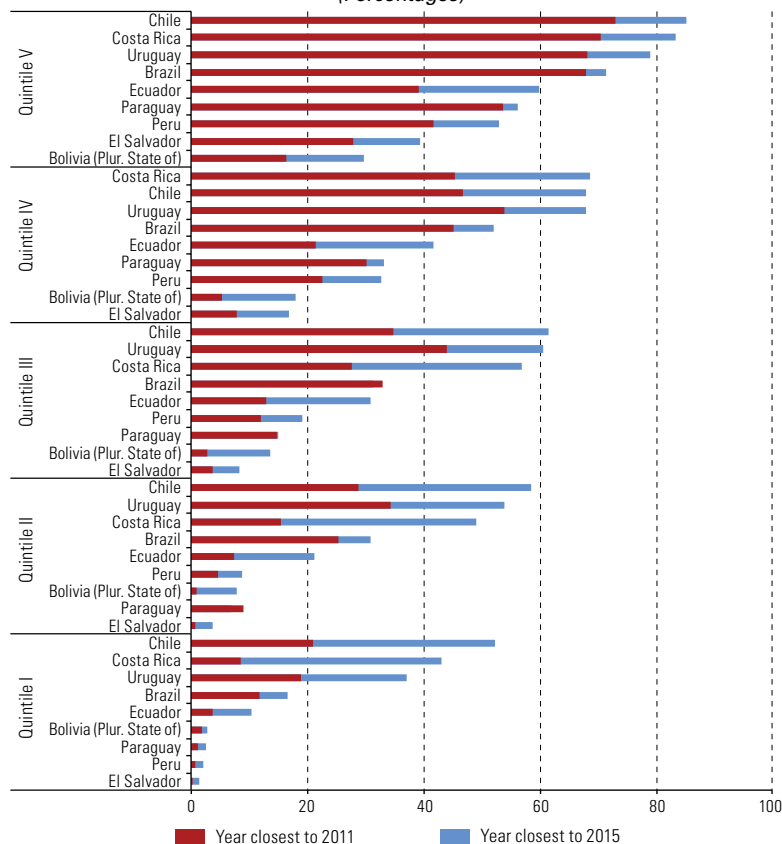
The gaps are also qualitative. The means by which water and sanitation are provided in the lowest-income households does not compare in technological quality to water provision in higher-income households (for example, a standpipe or public fountain some distance from the house, a well or delivery truck, compared to a household connection to the drinking water network; or a latrine or septic tank, instead of a household connection to the sewerage network). Moreover, in the case of water, this access is often intermittent and vulnerable to interruptions caused by droughts or other factors.

Gaps in the provision of services are associated with the persistence of slums,¹³ whose inhabitants frequently face higher risks of exposure to communicable diseases, environmental pollution and natural disasters. Moreover, the public policy costs are high, since tackling informal urban land occupation through regularization is expensive. The proportion of the region's population living in slums fell from 34% in 1990 to 21% in 2014. In terms of absolute numbers, however, although 2 million people left the slums, over 100 million still live in such settlements.

Major disparities by income level exist not only in basic services, but also in the most advanced services such as access to digital technology (see figure 12). Although Internet access has increased in nearly all quintiles in recent years, the difference in the number of households with access to this technology between the highest (fifth) and lowest (first) income quintile remains egregious: nearly four times more in Chile and Costa Rica; between eight and nine times in Uruguay, Ecuador and Brazil; 21 in the Plurinational State of Bolivia, and 45 times in Peru. This hinders online access to health, education and government services, and impairs e-commerce among Latin American countries, which could become a tool for regional integration, particularly in the area of digital goods and services. All these services and applications require quality infrastructure and generalized access to it.

¹³ The term "slums" refers to dwellings known variously in the region as "villas miseria," "pueblos jóvenes," "encamentos," "cantegriles" or "favelas," among other terms.

Figure 12
Latin America (9 countries): households with Internet access by income quintile, around 2011 and 2015
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), Regional Broadband Observatory (ORBA), on the basis of household surveys.

Note: The methodology used to calculate household per capita income was altered between the periods considered. The types of Internet connection that are included in the different countries are the following: in Paraguay, Internet by cable or wi-fi and Internet by USB modem; in Ecuador, dial-up, dedicated line, cable modem and mobile broadband (MBB); in Uruguay, fixed-line broadband (FLB), MBB and dedicated line; in Chile, fixed broadband (FBB) and MBB, either contracted or prepaid, in addition to mobile phone or another mobile device. In Costa Rica, the question in the survey is posed per housing unit, which could include more than one household.

In the first quarter of 2017, in a sample of 18 of the region's countries, network coverage was over 90% for 3G and around 70% for 4G. Nonetheless, there is still a wide demand gap (coverage minus effective demand for the service), since the average number of subscribers is only 53% of the population covered.

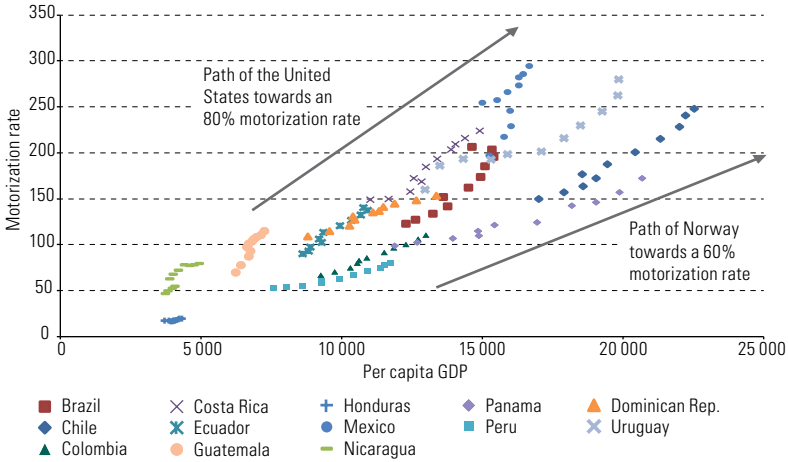
D. Urban mobility: a combination of inequality, inefficiency and environmental costs

The urban mobility situation is a combination of inequality, production and energy inefficiency and environmental deterioration. Although 60% of the population in the region's metropolitan areas travel on foot, by bicycle or on public transport, societies overall spend three times more on private vehicles than on collective transport systems.¹⁴ The automobile occupies 30 times more space per person transported than a bus and five times more than a bicycle (ECLAC, 2017c). At the same time, a bus ride lasts between 50% and 220% longer than a car journey, as a result of spatial segregation and public mobility systems that favour higher-income sectors (CAF, 2016).

There is ample room to increase the share of cleaner modes of public transport. According to the Observatory of Urban Mobility of the Development Bank of Latin America (CAF) (2015), 56.4% of daily journeys are made by public transport, and of these, electric trains and metros account for approximately 16%. As proven sustainable mobility solutions, metro lines and trains offer important opportunities to invest in responding to urban mobility demand in a manner that is socially inclusive and environmentally efficient, which would make cities more competitive and dynamic. Despite the existence of valuable initiatives in a number of Latin American cities, the dominant trend (see figure 13) suggests a rise in motorization similar to that of the United States, where it is close to 80%, as opposed to that of Norway, where it is close to 60%.

¹⁴ According to CAF (2009), "companies have invested very large sums to build roads and systems, and to purchase transport vehicles [...] the largest investments are made in private vehicles (63%) and in urban roads (17%). Investments in collective transport systems (rails and collective vehicles) account for 20% of the total."

Figure 13
Latin America (13 countries): motorization rate, per capita GDP and comparison with trends in the United States and Norway, 2005-2015
(Rate per 1,000 inhabitants and dollars in purchasing power parity at constant 2011 prices)



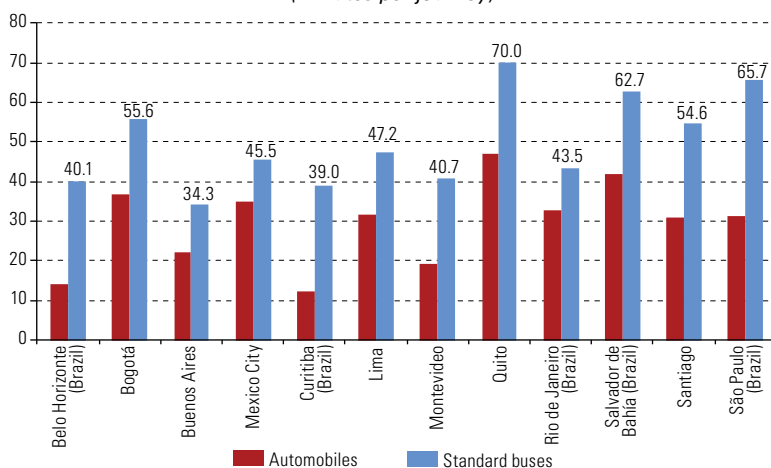
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from International Organization of Motor Vehicle Manufacturers (OICA) and yWorld Bank, World Development Indicators.

Spatial segregation, congestion and lags in the implementation of adequate public systems lengthen travel times and cause users to shun these services (see figure 14).¹⁵ This is driven by factors similar to those driving the flight from public to private services in education, health, safety and even drinking water.

Beyond costs in terms of travel time, the inefficiency of the dominant modes of urban transport in the region affects the energy consumption pattern and, consequently, urban pollution and people’s health. An individual automobile emits 2.5 times more CO₂ per passenger than an equivalent trip by bus and five times more than by metro (ECLAC, 2017c).

¹⁵ The share of public transport in total transport has decreased in a sample of Latin American cities that includes Montevideo, Quito, Santiago and São Paulo (Brazil) (CAF, 21016).

Figure 14
Latin America (12 metropolitan areas): travel time
in private cars and buses, 2014
(Minutes per journey)



Source: Development Bank of Latin America (CAF), “Observatorio de Movilidad Urbana,” 2016 [online] <https://www.caf.com/es/temas/o/observatorio-de-movilidad-urbana/>.

In 2014, the use of individual motor vehicles (cars and motorcycles) in 29 large cities across the region consumed 66% of the energy used in the transport sector, while buses consumed 30% and rail vehicles 4%. Roughly 94% of transport uses oil derivatives as an energy source (Enerdata, 2015), which slows the decarbonization of the energy mix. Although some countries, such as Chile, Costa Rica, Ecuador and Uruguay, have made progress in decarbonizing electricity production, significant effects have not yet fed through to the transport sector.¹⁶

Private transport is inefficient not only in terms of energy, but also in terms of pollution. Individual transport is the leading cause of pollutant emissions, with the exception of nitrogen oxides (NO_x). Urban transport as a whole is a major source of greenhouse gas (GHG) emissions in the region, since it generates 38% of the CO₂ emissions from the burning of fossil fuels, compared to 21% from electricity generation

¹⁶ The electrification of transport would reduce the carbon content of the energy matrix, but emissions of coarse particles (PM₁₀), with the exception of black carbon from combustion, would not be significantly reduced, since they also come from wear and tear of the rolling stock.

and 17% from industry (UN-Habitat, 2012). While transport produces 25% of fine particulates in suspension (PM_{2.5}) in cities worldwide (Karagulian and others, 2015), the figure rises to 34% in Brazil and 30% in the rest of the region. In the case of suspended particulates of up to 10 microns (PM₁₀), transport is responsible for 38% of all emissions. Urban transport in Latin America and the Caribbean is more polluting than the world average.

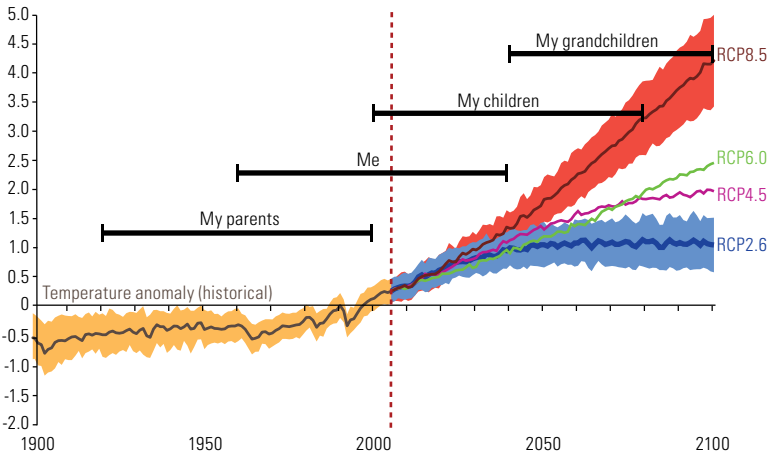
E. Inequality and environmental costs

Environmental sustainability is an intergenerational justice issue and as such cannot be reduced to finding an appropriate discount rate for present versus future consumption (Beltratti, Chichilnisky and Heal, 1993). Also at play is a trajectory of growth that affords future generations the right to enjoy the same level of well-being as the present generation, and that right is undermined by the destruction of the ecosystem. At a time when that destruction is already occurring and average global temperatures are rising at higher rates than expected (see figure 15), intergenerational equality is an imperative.

Inequality between generations entails a cost in future productivity as the production services of the ecosystem fall. Meanwhile, inequality within current generations also has an impact on the environment and productivity. One example of this is the pollution emitted in cities—and the significant health impact it causes—depending on the means of transport used. The absence of intergenerational justice in environmental matters (with the associated costs for well-being and productivity) is compounded by the asymmetry in the total pollution generated by different income segments and in their exposure to its effects within the same generation.

Desertification is another consequence of unsustainable agricultural activity. The United Nations Development Programme (UNDP, 2015) calculates that roughly 60% of the region is arid land; in addition, over 300 million hectares of its farmland are desertified, equivalent to about 20% of all usable land. The International Fund for Agricultural Development (IFAD, 2010) estimates that 50% of productive land will be desertified by 2050. Soil degradation is also manifested through reduced fertility and in loss of organic carbon.

Figure 15
Global surface temperature anomaly, 1900-2100,
compared with the average for 1986-2005
(Degrees Celsius)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Intergovernmental Panel on *Climate Change (IPCC), Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, V. R. Barros and others (eds.), Cambridge, Cambridge University Press, 2014, and D. Weston, "State of the planet, Kyoto and technical fixes," *The Political Economy of Global Warming: The Terminal Crisis*, London, Routledge, 2013.

Note: RCP: Representative Concentration Pathway; RCP2.6: mitigation scenario leading to a very low forcing level; RCP4.5 and RCP6.0: stabilization scenarios; RCP8.5: scenario with a very high level of greenhouse gas emissions.

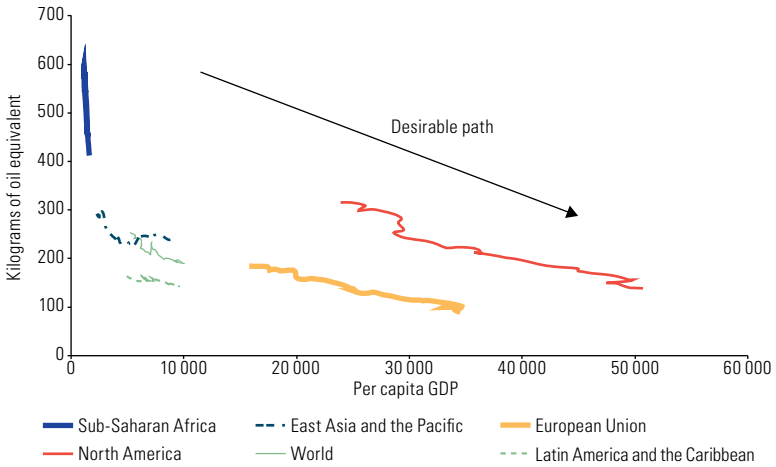
Alongside soil degradation, there has been a major increase in the use of fertilizers to compensate for the loss of natural resources. At the same time, there is more intensive use of pesticides, fungicides, herbicides and insecticides that threaten people' health, the environment and the services it provides. These trends are captured by analysing land productivity dynamics. The Global Earth Outlook report (UNCCD, 2017) reveals signs of declining soil productivity in approximately 20% of the world's land surface with vegetation. The worst affected regions are South America and Africa, with 27% and 22% respectively.

In some European and North American economies, there was a significant drop in the ratio of CO₂ emissions to per capita income and the ratio rose in the Asian economies as they industrialized, as predicted by the environmental Kuznets curve. Other economies, such as those in sub-Saharan Africa or in the Middle East and North Africa, have not followed the same pattern, however. In Latin America and the Caribbean, the ratio has flatlined. Thus, the hypothesis of the Kuznets curve is not confirmed in all cases, which suggests that the relationship between pollution and per capita income is less direct than originally thought. An explanation for this is that the two forces defining the curve (structural change and technical change) depend on policies and institutions, which can accelerate progress towards the least polluting stage or bring it to a premature halt.

Reducing emissions requires a far-reaching technological change that has not yet been achieved in the region. Pollutant emissions per unit of energy consumed must be reduced, as must energy consumption per unit of per capita income. Figure 16, which displays energy consumed per unit of income, shows insufficient progress in this area. Current levels of emissions and energy efficiency are both stagnating far short not only of desirable levels for sustainable development, but also of those attained in other parts of the world. Should it continue along this path, the region will not meet the climate targets of the Paris Agreement and the Sustainable Development Goals. This is an unsustainable path in the medium and long terms.

There has been no significant decoupling between the region's economic growth and its energy requirements. This contrasts with the efforts of the European Union, which has reduced its energy intensity below that of Latin America and the Caribbean, and even the United States and Canada, which underscores the importance of policies for efficient energy use and energy diversification.

Figure 16
Trend in the ratio of energy intensity to per capita GDP, 1971-2014
*(Kilograms of oil equivalent per US\$ 1,000 of GDP
 and dollars at constant 2010 prices)*



Source: World Bank, "World Development Indicators", 2017 [online] <http://data.worldbank.org/data-catalog/world-development-indicators>.

VI. Institutions and the culture of privilege

A. Equality and efficiency require more and better public goods

One common determinant of problems caused by inequality is the non-existence or poor quality of public goods and externalities associated with security, education, health and the environment, along with the absence of systems of rules to guarantee equal opportunities. The chief public good that the State originally provided—and which today remains a powerful driver in building its capacities—was defence. Many of the innovations deployed by commercial market-leaders originated in or were heavily influenced by defence research. Meanwhile, the governments of the developed nations increasingly set about producing the public goods demanded by the welfare State, and this shift did not entail any negative impact on their technological capabilities (as measured by levels of productivity). The type of political system in place is a powerful determinant in the production of public goods: controlling for the effect of countries' income levels, there is a statistically robust, positive relationship between democracy and the provision of public goods (Deacon, 2009).¹⁷

Similar to what happens at the national level, inequalities of income and power in the international system hamper the transition

¹⁷ Alesina, Reich and Ribboni (2017) argue that the large-scale expansion of the provision of public goods to the population was how States were able to ensure their effective participation in war efforts. Kallhoff (2011) discusses the issue from the perspective of distributive justice and political philosophy. See also Acemoglu and others (2013).

towards a new model with increased provision of global public goods. From this perspective, hyperglobalization —full commercial and financial liberalization with no rules other than those needed to minimize transaction costs between countries— is incompatible with the simultaneous existence of nation States and democracy (Rodrik, 2011). That is because hyperglobalization constrains the range of issues on which a country’s citizens can decide. Under hyperglobalization, nation States see their powers reduced to merely legitimizing market-imposed rules (the idea that “there is no alternative;”TINA). In particular, given their ability to transfer resources quickly and flexibly between countries, financial markets can arbitrate not only between rates of profit and bond yields in different currencies, but also between policies. The effects of those movements (which often have no obvious links with economic fundamentals) on currency values, borrowing capacities and the expansion or reduction of credit bring a strong influence to bear on decision-making and even on the announcements that national authorities can make. To paraphrase one of De Gaulle’s ministers, this is an “exorbitant privilege” at the policy level that the international system confers on a handful of financial investors. That resource mobility reduces the ability of States to collect taxes, which are systematically evaded through the use of tax havens.¹⁸ Thus, the culture of privilege is also clearly present in the international system’s rules of play.

One feature that distinguishes developed countries from developing ones is the variety —and levels of penetration into the social fabric— of networks and public and private organizations that provide public goods and generate externalities (North, Wallis and Weingast, 2009). The production of public goods has a cost and generates a distributive impact. While the provision of public goods leads to a new economic configuration with greater levels of efficiency and well-being, the transition towards that new equilibrium demands a divisive political process that has, as its corollary, the redistribution of income and power among actors. Those who are in more favourable positions under the existing situation will tend to invest their resources and energies in obstructing or preventing the transition. By expanding opportunities for market access and encouraging innovation and change

¹⁸ The recent leaks of documents on offshore accounts, known as the “Panama papers” and the “Paradise papers”, reveal the extent of these privileges.

in production sectors, the provision of public goods opens the door to competition from new players who threaten the profits of incumbents. Democracy and political equality provide opportunities for forming coalitions favourable to an equilibrium where there is an increased supply of public goods.

The relationship between the State, the market and society therefore needs to be analysed from a different angle (ECLAC, 2014). A State that is effective in the production of public goods goes hand in hand with a highly organized and diverse civil society and with a market where cooperation coexists with innovation and competition. In the orthodox economic literature, it is frequently assumed that the only institution that matters is respect for property rights, and it is generally understood that this implies a reduction in the State's presence and weight within the economy (Chang, 2006). However, the countries with the best records of respecting private contracts are those that impose higher taxes (Besley and Persson, 2010). This is because taxes are essential in funding the development of the State's capacities and, accordingly, the production of public goods. Without that capacity, markets would weaken or expand only intermittently, constrained by the absence of public goods or by fierce social conflicts fuelled by inequality, which could be exacerbated by the absence of effective regulatory regimes.

The relationship between inequality and institutions is enduring. The intergenerational transmission of poverty reflects and reinforces the intergenerational transmission of exclusive institutions. One factor in explaining that persistence is that inequality permeates a society's culture, which sees certain groups' enjoyment of rights that are denied to others as something natural. This gives rise to a culture of privilege that is implicitly accepted by both the entitled and the disadvantaged.

Ultimately, the direct impact of inequality on learning and capacities is compounded by another effect, perhaps less visible but no less important: inequality weakens the State's capacities and saps the effectiveness of public policies. The political economy of inequality and its close relationship with the institutions and culture that govern social relations pose a barrier to increased productivity and growth by limiting the supply of public goods needed for the existence of competitive markets and innovative players. To view the combat

against inequality and poverty as a sacrifice of efficiency is to ignore their key role in determining the high levels of inefficiency found in the social relations and production structures of unequal economies. On the contrary, in a democratic society, public goods are a manifestation of equality and belonging.¹⁹

B. An entrenched culture of privilege

The culture of privilege serves as the bedrock for inequality and its reproduction in Latin America and the Caribbean. Its origin is inseparably linked to conquest and colonization, through which indigenous peoples and people of African descent were subjected to forced labour and slavery, their property and wealth were expropriated, their beliefs and values were suppressed and they were systematically mistreated and denied all status of citizenship. This culture of denial of the other was concomitant with economic, political and social privileges tied to ascriptive and semi-ascriptive differences: racial or ethnic identity, gender, origin, culture, language and religion (Calderón, Hopenhayn and Ottone, 1994 and 1996). It laid the historical foundation for the culture of privilege that, with different manifestations and degrees, continues to this day.

During the colonial period, the denial of the other applied not only to indigenous and African peoples, but also to persons of mixed blood and women; then, as independent republics emerged, it was extended to immigrants, peasants, the illiterate, slum dwellers and domestic workers. The colonial experience established a form of dominance whereby those imposing the differences simultaneously set themselves up as the judges responsible for determining the hierarchical structure of that differentiation: conqueror, colonizer, Creole, landowner, dignitary, aristocrat, politician.

The culture of privilege can be understood through three basic features that date back to the rationale of colonial times and that were preserved, albeit with modifications, into the post-independence period. The first of these is the normalization of difference as inequality. Ascriptive and semi-ascriptive features serve to justify inequalities in

¹⁹ “As goods which are open to the public, the provision of public goods is not only a visible sign of solidarity, but also rather a joint commitment to make collective achievements available to each citizen. Public good regimes encapsulate societal progress” (Kallhoff, 2014).

property rights, power, standards of living, access to assets, networks of influence and status of citizenship. That hierarchical equating of the different with the unequal was enshrined in the common mindset of the elites and dominant groups: in other words, it came to be considered part of the natural order. The hegemonic nature of this form of domination stems from the internalization of an historic construct (the hierarchy of races, genders, peoples or populations) as an almost natural reality.

The second feature of the culture of privilege is that the person establishing the hierarchy is not an impartial judge: instead, the hierarchy is determined by one actor among many who, in order to secure the benefits accruing from the privilege, sets himself or herself up as both judge and party. Such individuals obtain their positions of privilege through their class of birth or bloodlines, their socioeconomic status, their race or gender, their birthplace, their culture, their belonging to the elites that wield power or any combination thereof.

The third defining feature of the culture of privilege is that to function and perpetuate itself, the hierarchy must be propagated through actors, institutions, rules and practices. In this way, a dialectic is established between the normalization of difference as inequality on the one hand and, on the other, the reproduction of inequalities through social structures and institutions. Within this dialectic, the culture of privilege leads inexorably to asymmetries in numerous aspects of collective life, such as access to privileged positions in business and finance, decision-making and deliberative power, greater or lesser presence in the channels through which ideas, ideologies and political agendas are conveyed, the appropriation of public resources for private benefit, special conditions in matters of justice and taxation, contacts for accessing better jobs and services, and ease in securing the best places to dwell, acquire supplies and receive schooling and care.

Through the culture of privilege, past inequalities are transmitted to the present, where they reproduce. Thus, for example, Afrodescendent populations, whose forebears were enslaved and pressed into forced labour, continue to suffer from deeper poverty, lower levels of schooling, increased exposure to the adverse effects of territorial segregation and employment in the most precarious niches of the labour market. Poverty rates among indigenous and Afrodescendent populations remain above those of the rest of the population while, at the same time, poor income

distribution underscores the connection between ethnicity and social inequality, with a much higher percentage of people of African descent and indigenous origin located in the poorest quintile (ECLAC, 2016b).

The overrepresentation of persons of African descent in prisons is another example of difference as inequality and it is a reality in countries whose prison populations are among the highest in the world, such as the United States and Brazil. In the latter, the number of prison inmates rose by 74% between 2005 and 2012, and the number of people of African descent who were arrested was 1.5 times higher than the number of whites taken into custody.²⁰

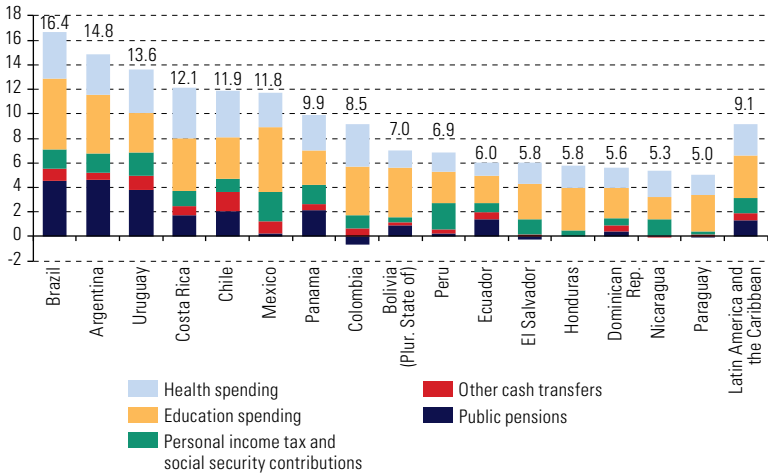
The culture of privilege is a key element in the pursuit of development with equality because it normalizes the relationship between a person's place on the social ladder and his or her greater or lesser access to education, health, work, security and comfortable living conditions. This dynamic permeates multiple areas where structural and institutional factors come together to perpetuate or recreate an unequal order: taxation, the appropriation of income from natural resources or financialization, the blocking of political and policy regulations by de facto powers, territorial segregation and the provision of infrastructure, segmentation in the quality of urban life, the costs that populations pay for environmental degradation and climate change, rigidities in intergenerational social mobility, or the segregation of capacities and access to well-being according to ascriptive factors or considerations of origin.

The region's tax system reflects this culture of privilege. In Latin America and the Caribbean, fiscal privileges persist in the shape of exemptions, evasion, avoidance and low rates of income tax. Much of the tax burden is indirect and falls on consumption, while income tax rates are lower than the average for OECD countries. The region's average tax burden is half the average reported by 15 European Union countries, and personal income tax levels account for most of the difference. While the bulk of the tax burden in the region comes from consumption taxes and is regressive in nature, the effective rate of the tax burden on the tenth income decile was 4.8% in 2014, compared to an average of 21.3% in the countries of the European Union.

²⁰ See Brazil, General Secretariat of the Office of the President of the Republic (2014).

The main difference in the redistributive capacity of fiscal policy between the region and the developed world arises from cash transfers and direct taxes, since the fall in the Gini coefficient produced by the distribution of expenditure on education and health is similar in the two groups. On average, the region's Gini coefficient falls by just three percentage points as a result of direct fiscal measures, while it drops a further six through the public provision of education and health services. In European and other OECD economies, however, the combined redistributive impact of cash transfers and personal income tax averages around 17 and 19 percentage points respectively, while redistribution through public expenditure accounts for between 6 and 7 percentage points. Figure 17 shows that the region's fiscal policy tools for reducing inequality vary widely in their effectiveness.

Figure 17
Latin America and the Caribbean (16 countries): inequality reduction by
fiscal policy instruments, measured by the Gini coefficient, around 2011
(Percentage points)



Source: M. Hanni, R. Martner and A. Podestá, "El impacto redistributivo de la acción fiscal en América Latina: los efectos de impuestos y transferencias públicas"; *Los efectos de la política fiscal sobre la redistribución en América Latina y la Unión Europea*, Colección Estudios, No. 8, Madrid, EUROSociAL Programme, 2014.

Note: The information available from household surveys does not allow estimation of the redistributive impact of public cash transfers in Honduras.

The meagre redistributive impact of taxation —be it because of the tax composition and total burden, because of the lack of effective oversight or because of the royalties that exist— is part of a system of privileges in which the most advantaged remain untouched by the social obligation to contribute to the common good through taxes. By contrast, taxation with a clear redistributive impact —which could be seen as a societal norm— is not only essential for promoting more equality: it also serves to draw attention to and raise awareness about equal rights.

To summarize, inequality has not only economic consequences, but also political, social and cultural ones. It tends to reproduce fragmented societies with low levels of social interaction, limited reciprocal trust, a weak sense of belonging, a limited perception of common direction and little propensity for collaboration or for valuing or protecting public goods. This manifests itself in various areas of social relations, including violence and support for democracy, which reflect the de-integrating power of the exclusive institutions that exist in the region's societies.

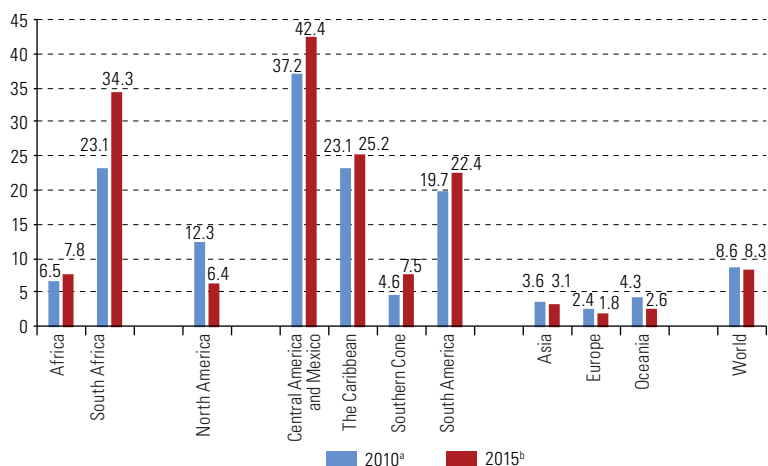
C. Violence and democracy

Latin America and the Caribbean is not only the most unequal region in the world, but also the most violent —as measured by the homicide rate per 100,000 inhabitants— if areas in which there are wars or armed conflicts are excluded. Although it is a region at peace, insofar as there are no wars between countries and domestic armed conflicts are being brought to a conclusion through political negotiations, the frequency of intentional homicide is higher than would be expected given the region's level of economic, political and social development.

In 2015, the global homicide rate was 8.3 per 100,000 inhabitants, down slightly from the 2010 level (see figure 18). All subregions of Latin America and the Caribbean experienced a rise in the homicide rate, albeit in highly varied degrees. The worst situation is in Central America and Mexico where the homicide rate is five times the global average, while Caribbean countries report rates of 25 per 100,000 inhabitants, making them the third most violent region in the world. The South American average combines two very different situations: whereas Argentina, Chile and Uruguay display rates below the global average,

rates in the Bolivarian Republic of Venezuela, Brazil and Colombia are between three and seven times the world average. In terms of dynamic change, however, the greatest deterioration occurred in the Southern Cone, where the rate increased more than 60%.

Figure 18
Homicide rate per 100,000 inhabitants, by region and subregion, 2010 and 2015



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations Office on Drugs and Crime (UNODC), Statistics [online] <https://www.unodc.org/unodc/en/data-and-analysis/statistics.html>, 2017.

^a For 2010, simple averages for each subregion are calculated as follows: Africa (47 countries), Southern Africa (5 countries), North America (4 countries), Central America and Mexico (8 countries), the Caribbean (16 countries), Southern Cone (3 countries: Argentina, Chile and Uruguay), South America (9 countries), Asia (49 countries), Europe (42 countries), Oceania (11 countries), World (110 countries).

^b For 2015, simple averages for each subregion are calculated as follows: Africa (31 countries), Southern Africa (1 country), North America (4 countries), Central America and Mexico (5 countries), the Caribbean (4 countries), Southern Cone (3 countries: Argentina, Chile and Uruguay), South America (7 countries), Asia (22 countries), Europe (33 countries), Oceania (3 countries), World (110 countries).

Violence and high homicide rates are not new phenomena, either in the Americas generally or in Latin America and the Caribbean in particular. Although the high levels recorded at least since the 1950s started to fall at the end of the twentieth century, in the last two decades, the improvement has come to a halt and there has been a clear deterioration, particularly in Mexico, the northern triangle of Central America and some Caribbean countries.

In the region as a whole, the origin of violence seems to be shifting from political motives to causes linked to common and organized crime. In this context, femicide has gained visibility and is increasingly repudiated as an extreme expression of gender inequality and of the work yet to be done to guarantee women the right to a life free from violence. Its intensity, especially in the northern triangle of Central America and in the Dominican Republic, is an indicator of the persistence and severity of gender violence.

The effects of exclusionary institutions are also reflected in the perception of the value of democracy in the region. One of the region's most significant achievements is to have ended the military regimes and dictatorships that were frequent in the last century and which perpetrated serious human rights violations. Elections are now being held regularly and political democracy has been consolidated, although in a context of great heterogeneity. These achievements are not free from risks and setbacks. Formal respect for legality can coexist with a weakening of democracy measured as a political order of fully functioning rights and effective separation of powers.

Despite its limitations, the return to democracy and its normalization has been a very important civilizing process. Nonetheless, it has not been accompanied by an equivalent spread of full equality in terms of economic and social rights. The redistributive effect of democratic regimes has been limited. There is a clear warning in the fact that, between 1995 and 2016, the proportion of the population that believed democracy is preferable to any other form of government never exceeded 60%. Moreover, 20% considered that an authoritarian government is preferable in some circumstances, and 20% had no preference between a democratic and an authoritarian regime.

The foregoing shows that large segments of the population are dissatisfied with the results of a democracy that has proven ineffective in reducing inequalities, deficient in terms of the performance of State agencies, unreliable in terms of the probity of public servants, and highly prone to the capture of public institutions by power and interest groups. Insufficient support for democracy as a regime and a public good cannot be attributed mechanically to the persistence of inequalities in the region, since there are also political, social and cultural factors in play.

Nonetheless, the depth of inequalities, along with their persistence in the face of policies aimed at reducing them, probably play a role in the indifference, detachment and limited civic and political life in the region.

Strengthening democracy threatens the culture of privilege. At the same time, however, it raises questions about the coherence between the symbolic and material progress of democracy towards a culture of equal rights. Symbolic progress entails democratic institutions and forums for discussion that instil, in the collective awareness, the idea of a community of citizens with equal rights. Material progress involves effective tools that translate that idea into actions that promote equality and penalize privileges. To bring these two dimensions together, institutional changes must be introduced to dismantle the culture of privilege through social compacts for equality, as ECLAC proposed to its member countries in the position paper it presented at its thirty-fifth session (ECLAC, 2014). Such compacts are both an end and a means: as the fruits of a deliberative process in pursuit of equality and democratic learning they are ends in themselves and, as instruments of public policy, they are a means for the ongoing and progressive implementation of pro-equality policies. The construction of compacts and their institutional consecration both produce a collective learning process in which the culture of equal rights is instilled in the community's awareness and, consequently, the exercise of privilege is curtailed.

VII. Strategic orientations

The culture of privilege and the prevailing pattern of development increase the differences between the centres and the peripheries, while generating unsustainable income polarization. Responding to these changes requires cooperative strategic decisions at the global, regional and national levels, under a multilateral approach engaging all stakeholders. In this framework, ECLAC reaffirms its conviction that the Latin American and Caribbean countries need to launch a new development paradigm based on an environmental big push. The technological revolution and the environmental crisis shorten the time horizon for action. The current generation is the first that cannot deny the scale of these changes; and it is also possibly the last that can lay the foundations for and launch a new economic, social and political regime capable of making more egalitarian economic growth compatible with environmental stewardship. Accordingly, the 2030 Agenda for Sustainable Development prioritizes three lines of action for the new model: a macroeconomy for development, a welfare State based on rights and productivity growth, and decarbonization of the economy and society.

In macroeconomic terms, it reaffirms the need for a development-oriented policy that, in addition to controlling inflation, strengthens countercyclical instruments, linking the objectives of financial stability with the goals of production restructuring and improvements in the income distribution (ECLAC, 2010). In relation to social policies, the rights-based approach and the pursuit of substantive equality are pillars of the new welfare regimes and will make it possible to tap synergies between equality and the efficiency of the economic system. On

environmental issues, the focus is on three pillars of decarbonization: the digitization of society and production, particularly of micro, small and medium-sized enterprises (MSMEs) given their importance for job creation and wages; the development of sustainable cities; and the promotion of renewable energies.

A macroeconomy for development

The purpose of a macroeconomy for development is to preserve real and financial stability through countercyclical policies that safeguard the catalytic role of public investment. Making macroeconomic adjustments by cutting public investment exacerbates structural problems, which worsens long-term instability. The region's propensity for procyclicality diminishes its capacity to undertake investment projects and prolongs and intensifies slowdowns, thereby making it difficult to restore macroeconomic equilibria.

To maintain financial stability, it is necessary to adopt macroprudential policies that impede the accumulation of fragile financial structures and prevent asset and credit bubbles. In addition, protecting the economies from the vagaries of the international financial cycle is a sine qua non for this stability. Economies with greater financial depth and market liquidity attract more capital and are more exposed to abrupt changes in financial markets (Eichengreen and Gupta, 2014). Even when the international financial cycle is not driven by short-term investments or subject to sudden stops in financial flows, swings in international credit markets can generate significant financial and real distortions. In the developing world, this dynamic was clearly visible in the impact that non-conventional monetary policies (quantitative easing) had on exchange-rate volatility and raw material prices.

For this reason, international organizations such as the International Monetary Fund (IMF) have added their voice to the historical recommendation by ECLAC that cross-border capital flows be managed to maintain stability and as a precondition for countercyclical policymaking. Such regulation is vital for managing the exchange rate and ensuring competitiveness. The typically procyclical dynamic of international financial flows tends to influence exchange rates, inducing sharp revaluations (devaluations) in booms (crises) that unbalance the current account.

The welfare State

Social policies play a central role not only in the protection of rights, but also in stimulating productivity. A new mode of interaction is needed between the production structure and the welfare regime, as the two are mutually interdependent. Inclusive social development policies that are capable of providing quality, difference-sensitive social services and benefits help to increase worker productivity, improve environmental stewardship and enhance resilience to natural disasters (ECLAC, 2017d).

Equality for the twenty-first century is closely related to education issues. Throughout the world, one of the main policy responses to the potential adverse effects of automation on employment is to invest in education. Innovation is considered a key part of the teaching strategies and capacity-building that will enable children to interact in the society of the future (OECD, 2016). Rapid technological changes and automation in production systems pose challenges not only for school curricula, but also for higher education and continuous training systems. Given the fast pace of technical change, it is necessary to develop the new skills that will be required in the labour market. The following, in particular, need to be prioritized: (i) regular training in science, technology, engineering and mathematics (STEM disciplines) in the school system; (ii) the development of social and behavioural skills, along with leadership and management capabilities, since the skills least susceptible to automation are perception, the manipulation of complex problems, creativity and social intelligence; (iii) the development of critical thinking, problem solving and creativity, which require curiosity, imagination and critical skills, among other capacities; (iv) the skills to operate in a digitized world; (v) increased hours of training and experience in companies and workplaces; and (vi) capacities for active learning throughout life.

Another area of action is the creation or strengthening of a care system which, from a rights standpoint, requires a new social reproduction rationale that supports due provision of public goods and services in order to spotlight and redistribute the unpaid day-to-day work shouldered by women. The need to develop a care system is particularly urgent in the cases of: (i) providing children and older

persons, as well as the chronically ill and persons with disabilities, with better living environments, greater possibilities for development and access to higher levels of well-being; (ii) defeminizing and sharing out social reproduction tasks to free up women's time and enabling them to access the labour market and pursue life plans; and (iii) transforming gender roles and achieving a more equitable distribution of care work between men and women in the home.

In developed and developing countries alike, the introduction of a basic income —to complement and strengthen social protection systems— is increasingly being discussed as a way of addressing persistent poverty and inequality and the uncertain impact of technological change processes. The basic income is a regular, unconditional universal payment that the State pays to the country's inhabitants to enable them to meet their basic needs.

In Latin America and the Caribbean, the debate on basic income stems from the relatively recent expansion of non-contributory social protection. From the rights standpoint, the provision of basic income would represent an evolution of the conditional and targeted cash transfers used in the past 20 years, which, over time, have legitimized cash transfers and the possibility —or, in some cases, the right— to access income other than through asset ownership or employment.

In the countries of the region, a guaranteed universal basic income could be implemented gradually, progressively and with a long-term perspective. The modalities for implementing such an income are highly varied (by age group, by territory, by income level) and would depend on the conditions prevailing in each country; but it is not impossible and it could become a tool to achieve the goal of ending poverty.

Three pillars of decarbonization: digitalization, sustainable cities and renewable energies

At the heart of the strategy for achieving a new model of sustainable development with equality is furthering progressive structural change through an environmental big push. The big push concept proposed by Rosenstein-Rodan (1960) is an economic growth strategy that consists of the coordination of large investments that need to be undertaken simultaneously in different sectors, as part of a process

driven by public investment.²¹ Within a framework of multiple investments that must be carried out simultaneously and aimed at large markets to be viable, the returns to be had from the combined set of actions depend on their complementarity. As those investments occur in markets subject to imperfect information, market prices cannot be used as the sole basis for calculating investment decisions. Public policies are therefore necessary to play a guiding and coordinating function.

Moving forward through the environmental big push within the framework of the 2030 Agenda for Sustainable Development, the Paris Agreement and the New Urban Agenda requires implementing policies and creating and strengthening institutions that allow for an economic development leap aimed at diversifying the production structure and managing natural heritage more efficiently, without violating ecological limits for the reproduction of life. Industrial and technological policies are fundamental for achieving these objectives, since the development of activities and sectors based on new technologies, materials and business models depends on them. These policies need to be integrated and coordinated with actions elsewhere, including in the tax and regulatory, public investment, financing, infrastructure and education fields. The ranking and coordinated implementation of instruments is the essence of the environmental big push.

New opportunities for production restructuring can arise from the application of digital technologies to production, and from an increase in the density of the industrial fabric stemming from a redefinition of the technologies in use and of the energy matrix. Examples of this include the management of smart cities; the expansion of mass transportation; the management of biodiversity; the recovery of rural territories; the management and sustainable use of fresh water; the development of biomaterials; and the production of renewable energies and consequent development of their value chains. Each one of these activities is an option for diversifying production in a transformative agenda that generates the material conditions for social inclusion, while guiding investments along a low-carbon growth path.

²¹ “There is a minimum level of resources that must be devoted to a (...) development programme if it is to have any chance of success. Launching a country into self-sustaining growth is a little like getting an airplane off the ground. There is a critical ground speed which must be passed before the craft can become airborne (...) Proceeding ‘bit by bit’ will not add up in its effects to the sum total of the single bits. A minimum quantum of investment is a necessary (though not sufficient) condition of success” (Rosenstein-Rodan, 1961, p. 57).

Integration between technologies is also necessary to reduce the environmental footprint of digitalization and develop renewable energy sources. The demand for electricity from digital technologies, particularly from large data centres, has a significant and growing weight in total energy demand; and the scope of its environmental effects will depend on what type of sources are used to satisfy it. Moreover, the development of renewable sources will depend on advances in the digitization of their production systems and both short- and long-distance transmission networks. A digital industrial policy in the region should prioritize three areas of development:

- Broadband infrastructure, both fixed and mobile, to attain penetration levels close to those in OECD-average-income countries and qualities close to international standards in terms of speed and latency, as well as competitively priced services.
- The information technology industry (hardware, platforms, applications or data), to increase the quality supply of products and services for digital modernization among firms.
- Business capabilities for the digital transformation of business models, products and services.

This industrial policy needs to exploit synergy between government programmes (national, subnational and local), promote public-private partnerships and ensure transparency and evaluation and accountability mechanisms in the areas of investment, innovation and regulation. The institutional challenge consists of:

- Expanding digital development strategies (digital agendas) with policies focused on production restructuring and specialization, training and technological innovation that include MSMEs.
- Moving towards regulatory models that generate incentives to encompass the new needs for investment in networks, and take account of the characteristics of the industrial Internet in terms of new models of deployment, interoperability, security, data protection and privacy.
- Developing a regional digital market that allows scale and network economies to be exploited, through the harmonization of spectrum and national regulations.

The policy proposals lie in the areas of international positioning, infrastructure and regulation, and actions to support supply and demand. Policies to promote international positioning need to connect the region to international technology networks and support the transfer of knowledge and skills in areas such as equipment, high-speed networks, digital platforms and market integration. The aim is to attract the new technological and business skills needed to implement priority specialization programmes through international cooperation instruments, training, technology transfer, investment attraction and entrepreneurship networks.

The key objective of the infrastructure policy and regulation is to create conditions that expand investment in infrastructure to increase the penetration and quality of fixed and mobile broadband. Delays in investments in new generation networks can cause network saturation as a result of the continuous growth of data traffic. This policy should enable compatibility between investment, competition and innovation, in an environment of growing convergence and hyperconnectivity.

Supply-side policies—the creation of Internet-based technological production capabilities—and demand policies—the development of digital capabilities in firms— must be closely related; a recurrent failure in policy implementation in the region is the lack of coordination between instruments to support supply and demand. The proposals point in two directions: firstly, to strengthen technological capabilities through research centres and the promotion of technology-based firms; and, secondly to develop capacities and promote digital innovation in the production sphere, mainly in MSMEs.

Urban sustainability is one of the pillars of decarbonization and diversification policies, owing to the current unsustainable patterns of energy consumption and pollution, on the one hand, and the opportunities to overcome urban problems by using emerging technologies and industries, on the other. The growing diseconomies in cities, together with challenges in terms of quality of life, social inclusion and the radical improvement of public services, open up investment opportunities in which urban policy, the New Urban Agenda and the Sustainable Development Goals all converge. The city can serve as an innovation and investment hub to steer the development pattern towards a progressive structural change based on an environmental big push in specific sectors and territories.

Urban sustainability can benefit from technological advances in the energy sector, the automotive industry, construction and digitization. Public policy should guide and accelerate innovation in these activities through quality and performance standards in urban goods and services. The coordinated application of regulations, sector-level public policies, private investments and technological innovations can change production patterns. Furthermore, land-use and urban inclusion policies can reinforce the positive effects of the new technologies.

Urban mobility should be a focus of action, given its large contribution to CO₂ emissions, air pollution and disparities in terms of quality and travel times. The adoption of a decarbonization strategy for urban mobility requires priority electrification of mass transit systems and better multimodal articulation. Aside from innovation in propulsion systems, it is vital to promote change in passenger and freight mobility through connected and, ultimately, autonomous vehicles, as well as changes in consumption patterns that are expressed in the rapid growth of shared mobility (car sharing and ride-sharing), where automobile ownership begins to decline.

Digital technologies can play an important role in rationalizing resource use in cities, improving the quality of services, strengthening participatory processes and supporting virtuous links between urban policies and production restructuring initiatives. Smart grids, which integrate electricity grids through digital technologies, are a strategic tool for promoting decarbonization.

The following proposals are aimed at decarbonizing universal public services and the appropriating technological change in urban areas:

- Strengthen regulations on the environmental performance of public services and emissions from urban vehicles, to speed up innovation in the production sector, particularly in mobility and construction.
- Strengthen local finances by rationalizing urban land use to decarbonize production activity and reduce inequality.
- Foster the appropriation of digital technologies to improve urban operation through the virtualization and, consequently, the rationalization of travel demand, greater and easier access to all types of services and the optimization of public services—including records and registers—and local finances. Digitization

must also strengthen and deepen informed and timely participation in key decisions to steer the style of development.

- Develop national urban policies and coordinate them with industrial and technological policies at different levels of government.

Policies directed at diversifying the energy matrix need to combine regulatory changes with incentives for local production of the equipment and services needed to develop investment projects in renewable energy and energy efficiency. This may include the creation of systems for storing the large volumes of energy produced intermittently by renewables, taking advantage of the abundant natural resources available to the region and generating production linkages linked to their production and technological applications. Such storage systems will be expanded to reservoirs, vehicles and buildings, thereby blurring sectoral boundaries.

To bring about the decarbonization of the electricity matrix (as distinct from the energy matrix, which includes the consumption of liquid fossil fuels for transport), that is, to increase the penetration of renewable energies in electric power generation, the following guidelines must be followed:

- Harmonize regulations throughout the region —thus far applied only in Argentina, Brazil, Chile and Mexico— to allow bidding for time blocks. This would avoid requiring renewable sources (solar, in particular) to supply power during the hours of darkness, which would increase their profitability. The harmonization process should be run by ministries of energy, in dialogue with the private sector.
- Substitute imports in production chains. Until now, non-conventional renewable energies have generally been introduced through turnkey projects. The Brazilian experience illustrates the potential of an industrial policy geared towards increasing the local production of components. There is great scope for innovation in wind and solar energy, and in other sources, such as geothermal, biodiesel and tidal energy, as well as the supply of buses for public transport systems, an area in which the region already has domestic manufacturing experience. In this connection, it is worth analysing the possibility of supporting trans-Latin firms in the sector in the transition towards electrification of the public

transport fleet. Responsibility for these actions lies with the ministries of energy, ministries of science and technology, and universities and firms in collaboration.

- Gradually internalize real social costs in the economic calculus. Among other things, this means phasing out subsidies on fossil fuels, taxing emissions, assigning a price to CO₂; or, conversely, rewarding investment in renewables.
- Gradually reflect the systemic risk of high-carbon paths —due to their physical, technological and reputational effects, among others— that could turn financial assets into financial liabilities (unsaleable or stranded assets) through the dynamic of climate bubbles. Examples include overinvestment in areas that will be adversely affected by climate change (where, for example, agriculture faces drought risk) or in areas where technical progress will change the pattern of production or consumption (for example, the increasing incorporation of electric cars or boats to replace fleets that use fossil fuels and would become unsaleable or unpayable). Central banks, the banking sector, insurers and public sector procurement will all have key roles to play in these policies.
- Regulate or standardize bank financing for renewable energy projects by harmonizing risks and opportunities and rates of return, with a view to flattening the learning curve. Development banks, in partnership with private banks and ministries of energy, are key players in this.

In such efforts, complementarity among the countries of the region could drive large-scale investments. Projects that use wind and solar energy are on a smaller scale than those based on fossil fuels. They are also geographically dispersed, have a smaller environmental impact, gain authorization more easily and can be rolled out within shorter time horizons. This makes new renewable capacity more flexible to install; it also makes it an attractive solution for providing electricity to isolated communities.

Enhancing transparency and trust in institutions

To progress towards sustainable development, international cooperation and multilateral institutions must be strengthened. The application of expansionary fiscal policies (together with investments targeting low-carbon development paths) in countries with international trade

surpluses would help balance this trade without serious repercussions on employment and growth in deficit countries, while at the same time enhancing global growth and sustainability. Multilateral cooperation would restore the ability of governments to act in coordination to stabilize global finances and thus control their effects on the national economies, which would avoid speculative bubbles and prevent accentuation of the business cycle, with their serious consequences for employment.

Similarly, the adoption of international agreements on labour rights and the welfare State would reduce the risks of predatory competition based on wages as the key adjustment variable for increasing exports and attracting foreign capital. A multilateral system open to trade, working to narrow production and technological asymmetries, would foster job creation in less developed countries and reduce the political tensions associated with migration. Only by creating jobs and opportunities in developing countries —currently overwhelmed by income and wealth inequalities and rapid population growth— will it be possible to stem migration to the developed world.

Changes in public policies to promote the environmental big push need a base of support and public legitimacy. Transparency, accountability, evaluation of the impact of policies and programmes, citizen participation in decision-making and recognition of information and power asymmetries are key elements of the environmental big push. Initiatives carried out in Latin America and the Caribbean to improve access to information, participation and access to justice on environmental issues are part of the effort to advance towards implementing the 2030 Agenda and attaining the Sustainable Development Goals.

The environmental big push can thus help broaden the role and meaning of social policy, which, until now, has focused on just two components of well-being: people's income and the social protection system. It thus tends to disregard the importance of collective consumption based on public services, which forms part of families' indirect income and fosters the condition of citizenship and the sense of belonging.

By contrast, resources are being allocated in ways that contribute to the deterioration of public services and increase environmental degradation, as the consumption pattern of the elites becomes entrenched. This is causing a mass flight from public education and

health services to private providers. The process is also reproduced in the mass abandonment of public transport —given that the poor service quality and safety levels encourage private vehicle use— as well as the absorption of public space for shopping centres, the growth of private security services, self-segregated neighbourhoods and even discrimination in access to drinking water. The cumulative effect of these phenomena erodes the sense of belonging to a political community and of equal citizenship in the public sphere.

In short, the provision of quality public services with operating standards that attract high-income sectors yet do not discriminate against the poorest, is key to the reconstruction of coexistence and democratic trust, inclusion and progress towards a development model with a smaller environmental footprint and greater well-being. A developed country is one in which the rich use public transport, are educated in public schools and drink tap water; and where the social gaps between high- and low-income groups are less yawning. Advocacy for collective consumption places the rights perspective at the heart of the debate about the new welfare regimes; and it is an essential part of the environmental big push.

A new development model

The quality of democracy depends both on the institutions that promote equal rights and on the modes of coexistence that reflect a society's sense of belonging. The technological alternatives with the smallest carbon footprint and the change in the energy matrix must also strengthen this collective belonging. Hence the importance of strategies and policies that facilitate the transition to more sustainable ways of producing, inhabiting and consuming and, at the same time, enhance the provision of public goods and better-quality services. This will make it possible to move towards a new model of development, with fewer social gaps and spatial segregations, and to achieve growth based on innovation and the dissemination of clean technologies.

The exponential spread of innovation and the digital revolution are penetrating all areas of life; and Latin America and the Caribbean cannot be left behind. It is time to tap the technological innovation fields that offer tools for the environmental big push. These encompass areas as

diverse as urban management and transport, biodiversity management, conservation, water use and recycling, the quality and timeliness of social protection systems, training the new generations in strategic capabilities for the new world of work, the development of biomaterials and the production of renewable energies.

The environmental big push thus links the macroeconomic, the industrial, the social and the environmental. Given this interdependence, the region is facing either the risk of perpetuating a vicious circle of low productivity, volatile growth, high inequality and serious environmental costs; or the opportunity to transition to a virtuous circle with synergies between a proactive macroeconomy, a low-carbon production and energy matrix and a better quality of life.

In this document, ECLAC has sought to gauge both the magnitude and the urgency of the challenge of the environmental big push. Its magnitude is evident in the acknowledged and growing interdependence of the different domains of development. Its urgency reflects the sword of Damocles that is climate change, and the opportunities and risks arising from the speed of technological change. It is not a question of postponing the attainment of equality, but of recognizing that increasing equality in order to achieve more robust growth—growth with a better production base, capable of ensuring a sustainable future for the coming generations—is a matter of efficiency.

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Inequality is inefficient because it hinders learning, productivity, innovation and growth. Equality is, then, not only an ethical principle inherent to development, but also a key tool for achieving it.

Consistently with the emphasis that the Economic Commission for Latin America and the Caribbean (ECLAC) has placed on equality since 2010, and in keeping with the purpose of leaving no one behind enshrined in the 2030 Agenda for Sustainable Development, this document examines the mechanisms by which inequality erodes dynamic efficiency in the Latin American and Caribbean economies. It analyses and measures the productivity and income effects of unequal access to health and education, as well as the consequences of inequality of opportunities arising from gender-, race- or ethnicity-based discrimination. It also examines how these inequalities play out at the level of territory, infrastructure and urban dynamics, where their costs not only weigh on productivity, but also worsen energy inefficiencies and environmental degradation, thereby compromising the development possibilities of present and future generations.

Inequality imposes constraints on innovation and creativity that are all the heavier because they are embedded within the culture of agents, which creates a culture of privilege in which many public goods and rights are not universal, but denied to much of the population. This weakens trust in social interactions and in democratic institutions.

Here, ECLAC proposes strategic guidelines for increasing the dynamic efficiency of the Latin American and Caribbean economies on the basis of equality. Capacity-building and the construction of welfare States are at the heart of a new development paradigm that puts the technological revolution at the service of low-carbon, technology-intensive growth. In this regard, and in view of the rapid transformations and mounting uncertainties in the global economy, the region urgently needs stronger public and private investment revolving around an environmental big push in order to diversify its production structure and even out its structural disparities.

