

Public Spending in Basic Education in Colombia: Its Contribution to Economic and Social Development¹

Gasto público en la educación básica en Colombia: su
contribución al desarrollo económico y social

Gastos públicos com educação básica na Colômbia: sua
contribuição para o desenvolvimento econômico e social

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Artículos

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Abstract

Education is a fundamental tool for social transformation, strengthening democracy, and reducing socioeconomic gaps in Colombia. Despite advances in educational coverage, problems related to quality and relevance persist in the educational system, with deficits in cognitive, technical, and socio-emotional skills among graduates. These challenges are exacerbated in a globalized context, highlighting the need to improve the link between education and the labor market, as well as to enhance educational infrastructure. To address these issues, efforts are required in three key areas: increasing coverage and graduation rates, improving educational quality, and ensuring curriculum relevance. Special education for adults and ethnic groups, as well as education in rural areas, needs particular attention to ensure inclusion and equity. The development of public policies that align educational training with the demands of the labor market is crucial for the economic and social development of the country.

Keywords: education, quality of education, educational opportunities, development policy, basic.

Resumen

La educación es una herramienta fundamental para la transformación social, fortalecimiento de la democracia, y reducción de las brechas socioeconómicas en Colombia. A pesar de los avances en cobertura educativa, persisten problemas de calidad y pertinencia en el sistema educativo, con déficits en habilidades cognitivas, técnicas y socioemocionales entre los graduados. Estos desafíos se agravan en un contexto globalizado, evidenciando la necesidad de mejorar la vinculación entre la educación y el mercado laboral, así como la infraestructura educativa. Para abordar estos problemas, se requieren esfuerzos en tres áreas clave: aumentar la cobertura y la tasa de graduación, mejorar la calidad educativa y asegurar la pertinencia del currículo. La educación especial, para adultos y para grupos étnicos, así como la educación en zonas rurales, necesitan atención particular para garantizar la inclusión y equidad. El desarrollo de políticas públicas que alineen la formación educativa con las demandas del mercado laboral es crucial para el desarrollo económico y social del país

Palabras clave: educación, calidad de la educación, oportunidades educacionales, política de desarrollo, formación básica

Resumo

A educação é uma ferramenta fundamental para a transformação social, fortalecendo a democracia e reduzindo as lacunas socioeconômicas na Colômbia. Apesar do progresso na cobertura educacional, persistem problemas de qualidade e relevância no sistema educacional, com déficits de habilidades cognitivas, técnicas e socioemocionais entre os graduados. Esses desafios são exacerbados em um contexto globalizado, destacando a necessidade de melhorar o vínculo entre a educação e o mercado de trabalho, bem como a infraestrutura educacional. Para resolver esses problemas, são necessários esforços em três áreas principais: aumentar a cobertura e as taxas de graduação, melhorar a qualidade da educação e garantir a relevância do currículo. A

educação especial, de adultos e étnica, bem como a educação em áreas rurais, precisam de atenção especial para garantir a inclusão e a equidade. O desenvolvimento de políticas públicas que alinhem o treinamento educacional com as demandas do mercado de trabalho é fundamental para o desenvolvimento econômico e social do país.

Keywords: educação, qualidade da educação, oportunidades educacionais, política de desenvolvimento, educação básica

Introduction

The Political Constitution of 1991 provides that education is a fundamental right in Colombia, defining it as “[...] a public service that has a social function, which seeks access to knowledge, science, technology, and other goods and values of culture” (1991, art. 67). Likewise, the Ministry of Education (2016) establishes that “Education plays a relevant role as a tool for transformation, strengthening democracy, improving social mobility, and reducing socioeconomic gaps.”

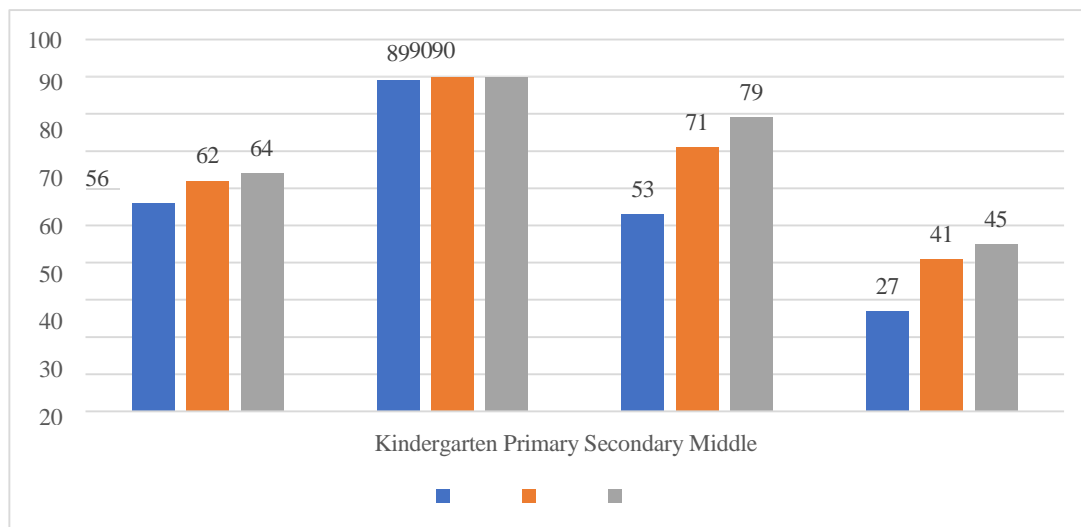
The Development Bank of Latin America (2017) highlights that education in the stages of childhood, adolescence, and youth is crucial for the development of skills that promote employability and general well-being. Despite this, significant failures persist in the acquisition of cognitive, technical, and socio-emotional skills, which negatively impact economic growth and productivity in Latin America, limiting quality job opportunities. Although educational systems have made progress in improving cognitive skills such as reading and mathematics, strengthening technical skills continues to lag, without receiving the same attention.

The Private Competitiveness Council (2020, p. 179) recognizes advances in educational coverage, permanence, and access in Colombia, highlighting secondary, middle, and higher education, with coverage rates of 72.3%, 42.6%, and 52%, respectively, for 2018. In terms of quality, although results in tests such as PISA have improved, the country continues to lag behind the OECD average. Regarding accreditation, it can be stated that only 10.9% of postgraduate and undergraduate programs obtain quality accreditation, and in higher education institutions, the figure reaches only 17.3%.

In terms of relevance, between 2010 and 2017, the figures increased in proportion to the population continuing with post-secondary education, rising from 16.7% to 22.3%. However, it can be observed that 44% of the workforce has a high school education or less. According to the Hays Global Skills Index, Colombia faces serious difficulties in attracting and retaining qualified talent compared to Latin America and the OECD. Additionally, 42% of employers, according to Manpower Group, are experiencing problems filling their vacancies due to a talent shortage.

Graphic 1

Comparative rate table of coverage net in Colombia years 2001, 2010 and 2019



Source: Ministry of education (2020)

In the same study, the Private Competitiveness Council (2020), makes the following recommendations:

1. Universalization of comprehensive preschool and expansion of the single school day
2. Design and implementation of a unified national curriculum for basic and secondary education
3. Strengthening teacher evaluation systems to improve classroom performance
4. Continuous updating of qualification catalogs
5. Promotion of the use of the National Qualifications Framework in educational and training planning. (P. 179)

This study will analyze the evolution of the coverage, efficiency, quality, and relevance of the educational system in Colombia during the period 2012-2019. The objective is to evaluate how these aspects have advanced and how their integration has impacted the economic development of the country.

Methodology

The present study was structured into three methodological stages, each focused on different aspects of the research through the use of qualitative and quantitative data. In the first phase, a mixed approach was adopted for data collection, analysis, and linkage (Sampieri et al., 2010). A systematic analysis of a wide variety of documents was carried out, including

regulatory texts and specialized literature on the behavior of the axes of coverage, efficiency, quality, and relevance in education in Colombia. This analysis allowed us to determine the behavior of these axes and their impact on the economic development of the country.

In the next stage, quantitative data were used from previous studies conducted by national and international entities on each of the variables analyzed by educational level, with data from studies from universities such as Javeriana and Nacional, as well as entities such as DANE, the Ministry of Education, and the Private Competitiveness Council, among others.

Finally, in the third stage, the triangulation of the findings obtained was carried out with the objective of corroborating and validating the results by crossing qualitative and quantitative data (Sampieri and Mendoza, 2018). This phase focused on the analysis of each of the variables during the period from 2010 to 2020. The methodological triangulation reinforces the validity of the results, providing a more complete understanding of the behavior of the variables and their impact on the economic development of the country.

Results and Discussions

According to UNESCO, Colombia is among the countries with a high percentage of overage students (26.5%), compared to countries such as Argentina (6.4%) and Chile (8.8%), as well as other more developed countries, including Spain and Korea, which have gross rates of 1.8% and 3.2%, respectively. For the year 2019, the average gross and net coverage for seniors in Colombia by educational level is slightly higher in primary education than in secondary education, with 82.08% and 68.42%, respectively. In transition, it is around 56.09%, and in secondary education, it is 30.05%. See graph No. 2. In Colombia, the total net income rate is estimated at 85.01%. According to Cajiao (2016), the reason for this mediocre indicator is the repetition rate, considering that Colombia has the highest proportion of repeaters among all the countries that participate in the PISA tests.

Graphic 2

Average Gross and Net Coverage in Colombia by educational level (2019)

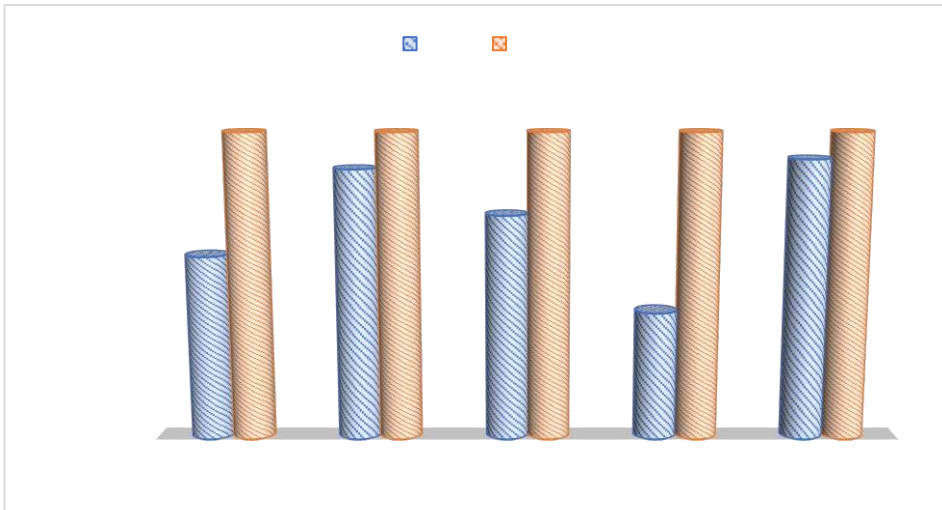


Table 1

Transition Primary Secondary Middle Total

Gross Net					
100.00 %	92.94 %	92.94 %	92.94 %	92.94 %	92.94 %
90.00 %		82.08 %			85.01 %
80.00 %			68.42 %		
70.00 %					
60.00 %	56.09 %				
50.00 %				39.05 %	
40.00 %					
30.00 %					
20.00 %					
10.00 %					
0.00 %					

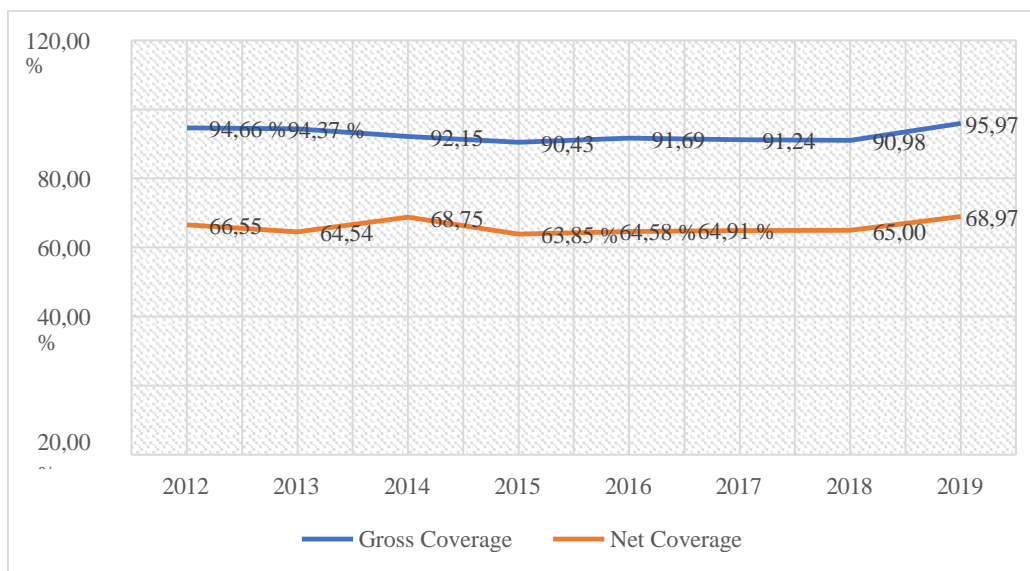
Source: Pontifical University Javeriana, 2021

According to Barrera et ál., (2012), the difference between the two rates has implications for poverty and social mobility. The author mentions that one of the results of these shortcomings is the inequity in the number of years of education that adults achieve with respect to their socioeconomic stratum.

Graph No. 3 analyzes the coverage rate, both gross and net, by year. It is observed that the highest percentage of admissions of older students occurs in the years 2014 and 2019, with 68.75 % and 68.97%, % respectively. This increase which is attributable to the progress of the “Everyone learn” program, implemented in 2012 and strengthened in 2019, which included the training of teachers through scholarships focused on educational excellence, along with the improvement of the learning environments for children. This, which resulted in an increase in educational coverage, although it was not always reflected in terms of physical infrastructure. See graph No. 3.

Graphic 3

Average Gross and Net Coverage in Colombia by year



Source: Pontifical University Javeriana (2021).

Efficiency

According to Aguirre (2017), in addition to being visible in the variations in educational coverage at the intra- and inter-regional levels, educational inequality can also be found in the latent differences in the scores of standardized tests that are applied to students throughout the country, such as the Saber 11 exams. Students who attend official schools obtained an average of

50.72 and 48.83 points in critical reading and mathematics during the second semester of 2016, respectively. In contrast, students who attend unofficial schools obtained 53.35 and 52.01 points in the same tests. Furthermore, in urban areas, the average critical reading score was 51.91, higher than the 48.19 points obtained by students in rural areas. The gaps are also notable by area; educational establishments located in urban areas have considerable advantages in mathematics, with an average score of 50.27, while the average score of rural schools is 45.75 points.

For the aforementioned author, equity should be interpreted as the opportunity for society as a whole to share a common starting point in the direction of true social and economic development, with educational reform being a key instrument to support this development. It must also be understood that policies focusing solely on increasing coverage are insufficient to generate added value, since the population needs to have access to an educational system that offers learning opportunities. These opportunities will be taken advantage of as long as they are relevant and of high quality (Aguirre, 2017).

According to Acosta (2006), efficiency is *achieved when a desired result is obtained with the minimum input* (p. 19). According to the Departmental Secretariat of Education of Valle del Cauca, educational efficiency is “the capacity demonstrated by the educational system to retain the enrolled population until it completes all its grades established for the respective level, to promote that population from one degree to another with the due fluency, avoiding the waste of time” (2016).

For Aedo (2005) every program or product to be efficient must achieve its objectives

[...] “without waste of resources” and then refers to technical and economic efficiency as two different types of efficiency. The first refers to the relationship between the product and the quantity of a certain input, and the second occurs when, in addition to technical efficiency, preferences or technologies are taken into account and concludes by stating that “the criterion of economic efficiency can be related to a cost-effectiveness index” (p. 11)

Viana and Pinto (2018) maintain that studies on educational efficiency have focused on the nature of schools and their location. They classify schools as private, public, or charter, and also divide them according to whether they are located in urban or rural areas. The National Administrative Department of Statistics (DANE) defines rural areas as those with dispersed housing, dedicated to agricultural activities, without road nomenclature or public services. The authors found that both students from urban and rural schools exhibit low performance in evaluated competencies, with inefficiency being 5.62% higher in rural schools. When broken down by type of institution and location, rural private schools stand out for having the greatest inefficiency, mainly attributable to school management.

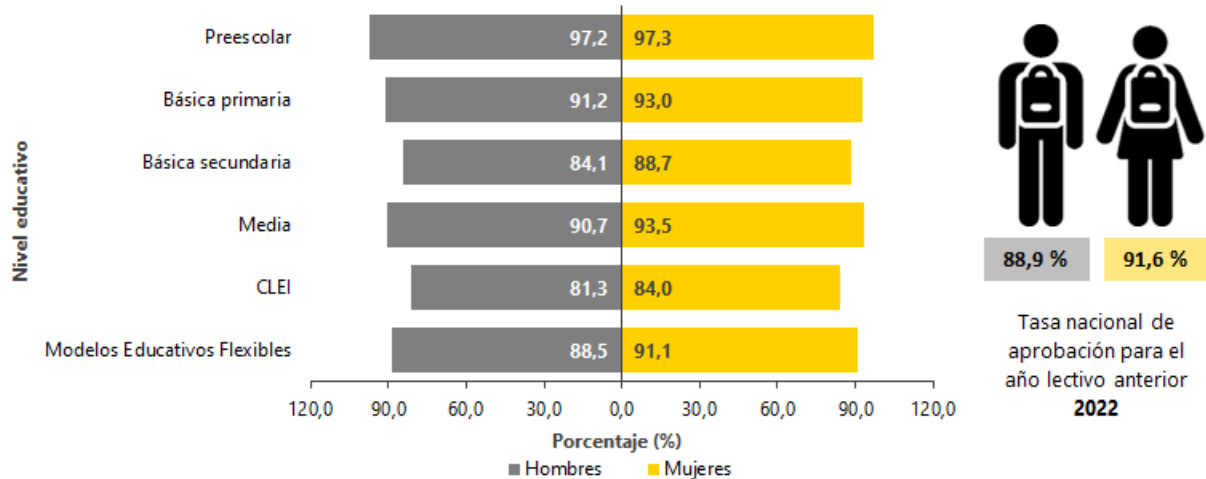
Aguirre (2017) argues that educational inequality is not only manifested in the differences in coverage at the inter- and intra-regional levels but also between public and private

institutions. This is reflected in the results of the Saber 11 tests, where, in 2016, public schools obtained lower scores in critical reading (50.72) and mathematics (48.83) compared to private schools, which achieved 53.35 in critical reading and 52.01 in mathematics. Regarding rural areas, average results were lower in both reading and mathematics compared to urban areas. Aguirre emphasizes that education is key to social equity and sustainable development and that educational policies must focus not only on expanding coverage but also on improving the quality and relevance of the educational system to generate value.

According to the DANE Technical Bulletin (2023), the national school passing rate in 2022 was 90.2%, which was higher for women (91.6%) than for men (88.9%). The highest passing rate was recorded in preschool, with more than 97% for both men and women, followed by primary basic education. In contrast, the lowest approval levels were observed in basic secondary school, especially among men, and in the Special Integrated School Years (CLEI), where rates were lower than 89%.

Graphic 4

Rate of approval by level educational and sex year 2022



Source: DANE, (2023).

Quality of the Education in Colombia

The quality of education has a marked influence on the future of society, as it offers quality education to its population. Strengthening this aspect will allow for rapid and sustained

economic growth, which contributes to the reduction of inequality and poverty and lays the foundation for a peaceful society (Gracia et ál., 2015).

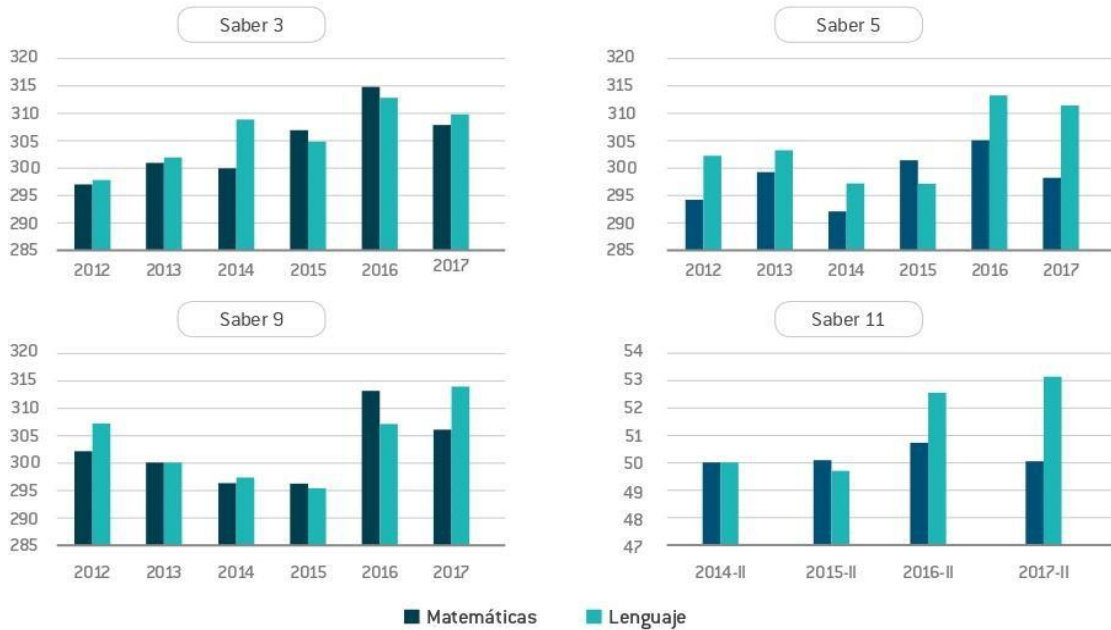
For García et ál. (2014), various factors influence the quality of education, such as the professionalization of teachers, the relevance of academic curricula, the updating of institutional educational projects, the relevance of single-day curricula, and educational infrastructure (p. 76). Institutions and inspection, surveillance, and control, as actions to ensure educational quality, directly affect the quality of the educational system (World Bank, 2007, as cited in Escallón, 2018).

According to Cury and Ruiz (2015), the 2015 Synthetic Index of Educational Quality (ISCE) revealed that no region of Colombia managed to exceed 6 points on a scale from 0 to 10. This indicator, which evaluates aspects such as performance on Saber tests, school repetition, and the learning environment, showed that educational quality in the country, although improved in some aspects, still presents challenges. The national averages obtained were 5.13 for primary school, 4.9 for secondary school, and 5.53 for middle school, evidencing the need to implement more robust strategies to achieve standards of educational excellence. When reviewing the data by region, the following results were obtained: the Andean region with a total evaluation of 5.3 points, far from what was achieved by the second-place region; the Pacific region with a maximum score of 4.7, closely followed by the Orinoquía region, which reached 4.6 points; and far behind, the Amazon region closed with 4.4 points. Finally, the Caribbean region obtained the lowest regional score with 4.3 points.

In 2018, the ISCE showed significant improvement, driven mainly by the increase in Saber test results. However, despite this general progress, secondary education failed to achieve the improvement goal established by the Ministry of Education, unlike the primary and secondary levels (Chart 6). This suggests that, although progress has been made, challenges remain in educational quality at the secondary level. It is crucial that the ISCE continues to be used as a measurement tool to monitor ongoing progress in this area. Graph 5 shows the average results of the knowledge tests, synthetic quality index, and minimum annual improvement (Private Competitiveness Council, 2020).

Graphic 5

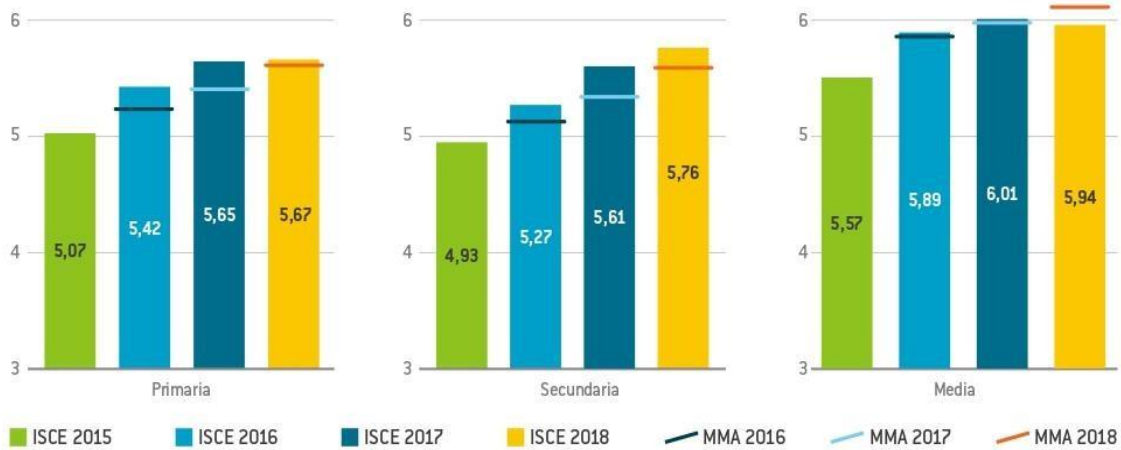
Average results of Saber 3, 5, 9 and 11 tests and Synthetic Index of Educational Quality (ISCE) and minimum annual improvement (MMA)



Source: (Advice Private of competitiveness, 2020)

Graph 5.1

Synthetic index of educational quality ISCE Colombia 2015-2018



Source: Advice Private of competitiveness (2020).

The results of the ISCE are a sample of the educational gap in the country, due to the lack of planning policies that promote quality improvement and, in addition, the lack of relevance of

curricula. In particular, the Caribbean and the Amazon face important challenges in the educational field, which affect their economic progress and the need for structural changes.

The results of the tests known as 11° presented in the report of the Ministry of Education and the ICFES show the educational situation in the country, in which the five Departmental Territorial Entities of Santander, Cundinamarca, Arauca, Norte de Santander, and Casanare occupy the top positions (1 to 400), while Sucre occupies 23rd place out of the 32 departments in the country.

Relevance of the education in Colombia

Relevance in education is defined as that which offers students learning opportunities, taking into account traditions, local institutions, favorable cultural practices, belief systems, and community needs. This requires creating appropriate educational environments for groups such as ethnic groups, Afro-Colombians, people with special educational needs, and populations with specific cultural characteristics.

Montes (2017) describes it as the degree to which educational policies adapt to real socio-educational demands and needs. Evaluating these needs allows us to design policies that adequately respond to social and educational challenges, establishing a basis for measuring the effectiveness of the educational system.

According to Pérez (2020), “an education is relevant when it is congruent (convenience, coherence and logical relationship) with the social conditions and needs, with the norms that regulate social coexistence and with the characteristics of the learners in their diverse environments.” “natural and social interaction” Page 1. In this way, an adequate education must promote the complete development of students, covering not only the academic sphere but also the social, emotional, and cultural spheres.

Considering that the business sector indicates the need for adequate human capital to carry out productive activities, it is currently lacking because there are not enough trained personnel, or those who are available do not possess the necessary skills or experience. In response, policies have been implemented in the country to ensure the relevance of human capital, such as the development of skills, improvement in educational quality, integration of ICT, promotion of research and innovation, learning a second language, and alignment between the labor demand of companies and the educational offerings (OECD and World Bank, 2012, pp. 187-192).

Importance of the Education for the development of a country

According to the World Bank, education is a basic right and a crucial element for development. It is one of the most effective tools for reducing poverty, improving health conditions, achieving gender equality, and promoting peace and stability. In addition, it generates

constant and significant benefits in terms of income, being key to promoting equity and social inclusion.

The concept of development has evolved over time, and several studies affirm that it does not have a single definition. For many people seeking an interpretation, development is the way in which individuals progress, not only socially but also culturally, politically, and economically. Some theories describe it as a change in the productive conditions of a society, which implies improvements in the quality of life and an increase in physical capital.

Research has shown that, to achieve this development, it is not enough to accumulate physical capital or produce goods; the formation of human capital, through education and skills development, is also vital. In this way, the concept of human development emerged, which is related to economic growth. It is understood that for a country to prosper economically, there must be an increase in the production of goods and services, which in turn leads to greater social well-being.

Is say, the citizens they must be capable of have a progress economical and by so much a improvement in their conditions socioeconomic of such manner that HE decrease social gaps which necessarily infer that there is an improvement in the well-being and education conditions of the population. (Perez, 2015)

With the United Nations Declaration of 1969, the *United Nations Declaration on Social Progress and Development* links social progress to economic progress. This is what Montuschi (2019) states, asserting that this social progress requires “the full use of human resources” (p. 2), and proclaims the importance of economic growth for social progress. On the other hand, Peña (2020) states that “a society with economic growth also must aim to be more fair and promote the equality of opportunities so that all the population can develop” (p. 1). Furthermore, he affirms that no growth is possible without development, accurately stating, “There is not a single country that today is defined as developed that has achieved such status without first having prolonged periods of high economic growth.” In this sense, the concept of well-being arises.

In summary, when considering the previously mentioned terms, it can be concluded that economic growth is a key factor in promoting human development, as it utilizes available resources to improve well-being and quality of life. Therefore, to achieve real human development, it is essential to ensure ideological and political freedom, in addition to social equity and adequate redistribution of wealth.

On the other hand, Miquel affirms that “the welfare encompasses dimensions quantifiable and others totally subjective that, only, the answer individual about the perception in view of the same can answer” (2015, p. 9). The notion of “economic well-being” is defined by the same author as “the context in which individuals or households do not suffer deprivation of their basic needs, there is consistent equality of opportunity, and inequalities are minimal, considering the addendum that, in addition, said situation must be sustainable in time” (p. 9). Therefore, it can be

understood from the author's perspective that in a home where there is well-being, there is no problem in satisfying basic needs, and for this, individuals must have the necessary economic conditions to meet each of them.

According to Grábalos et ál. "the Human development is essential for sustainable development and economic growth, and requires the use of clean technology that preserves natural resources and is respectful of nature, avoiding pollution and adapting production to the needs of the population" (2017, p. 4). This requires more uniform and fair societies, and for current generations to show solidarity with future generations and be willing to give up having more for the well-being of the environment for future generations. Consistent with the above, the great challenge we face in this century is to establish a connection between human development, economic development, and economic growth, all in harmony with the planet.

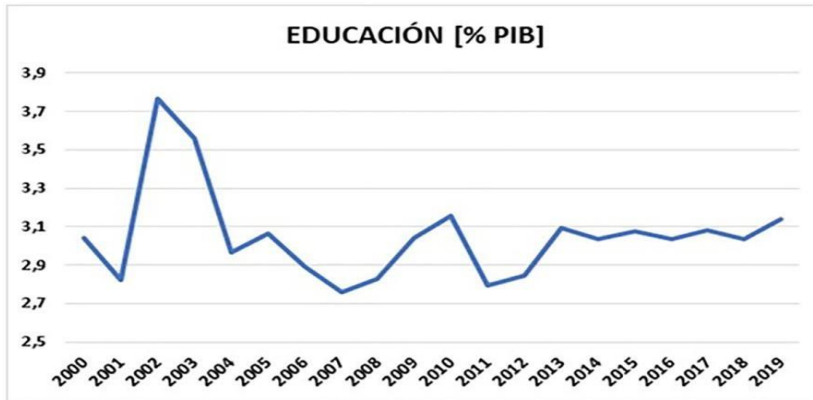
Human development is deeply linked to education, which not only imparts knowledge but also influences the formation of people's identities, values, and capabilities. Education acts as the engine of both individual and collective progress, improving the quality of life and contributing to the creation of more just and equitable societies (National Educational Plan, 2021). It represents a long-term investment in the well-being of both individuals and countries. Considering human development as a process that encompasses dimensions such as health, education, standard of living, and social participation, education plays an essential role in providing the necessary foundations for a healthy life, active participation in the community, and the development of skills that allow people to reach their full potential.

Valdez (2015) maintains that education is fundamental for economic growth and is a key indicator of a country's competitiveness. In fact, countries that excel in the PISA tests also tend to rank at the top of competitiveness rankings and have higher levels of GDP per capita.

In Colombia, investment in the educational sector as a percentage of GDP has been historically low and has shown a decreasing trend. In 2002, this investment represented just over 3.7% of GDP, but in the following years, it fell below 2.9%, especially between 2007 and 2011. Only in 2019 was a slight increase observed, reaching 3% of GDP, as can be seen in graph No. 6.

Graph 6

Stake of the education as % of GDP

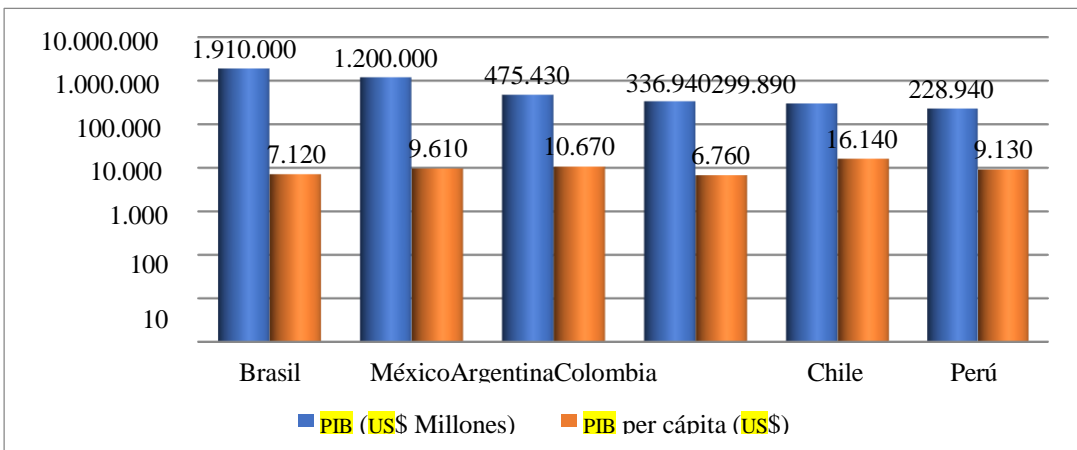


Source: National University (2019).

According to the International Monetary Fund (2019), government spending in Colombia is allocated for secondary students, averaging 16% of GDP per capita. This situation places Colombia in 47th place out of 63 world economies analyzed globally and in fifth place among six economies in Latin America, being surpassed by countries in the region such as Brazil, Mexico, and Argentina, as seen in graph 7.

Graph 7

Public spending in education/country



Source: Background Monetary International (2019).

Conclusions

The Colombian educational system faces significant challenges in terms of coverage, quality, efficiency, and relevance, despite the progress made in recent decades. Coverage has improved considerably, with notable increases in secondary and middle education levels;

however, disparities persist, especially between urban and rural areas, as well as among different socioeconomic strata.

Educational quality remains a critical area for improvement. The results of standardized tests, such as the Saber tests, reveal significant gaps between public and private institutions and between regions. Despite efforts such as the Synthetic Index of Educational Quality (ISCE), average scores still do not reach desirable levels, indicating the need for more robust policies and better implementation of educational strategies.

The relevance of education is another crucial challenge. There is a disconnect between the skills taught by the educational system and the demands of the labor market. Policies should focus on developing relevant technical and socio-emotional skills that facilitate job placement and social mobility.

In terms of efficiency, the system exhibits significant inefficiencies, as reflected in high repetition and school dropout rates. The variability in educational outcomes depending on the region and type of institution indicates an unequal distribution of educational resources and opportunities.

Finally, education in Colombia is essential for the economic and social development of the country. Adequate and sustainable investments in education not only improve the quality of life of citizens but also promote economic growth and social equity. It is imperative that educational policies align with the needs of the country, fostering an inclusive, equitable, and high-quality system that prepares students for the challenges of a globalized and competitive world.

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