

IN LATIN AMERICA AND THE CARIBBEAN, WE HAVE MORE RESEARCHERS BUT POORER ONES

On March 22, 2022, in Buenos Aires, Dr. Rodolfo Barrere opened the XLII Annual Meeting of the Interciencia Association with a conference in which he discussed the evolution of science and technology indicators in Latin America and the Caribbean (LAC), in the 2010-2019 decade. Dr. Barrere is the Coordinator of the Observatory of Science, Technology, and Society of the Organization of Ibero-American States (OEI). The presentation showed the results of the surveys carried out by the Ibero-American Network of Indicators in Science and Technology (RICYT).

Investment in R&D in millions of PPP dollars (by purchasing power parity) increased from just over 50,000 in 2010 to under 60,000 in 2019. These numbers are strongly influenced by Brazil's investment, representing between 60 and 70% of the regional total. Three countries, Brazil, Mexico, and Argentina account for 83% of regional investment in 2019. Given the accelerated growth in Asia in the decade, these numbers reflect a regional decline in investment. In 2010, 3.6% of global investment was invested in R&D in LAC, and the figure for 2019 is 2.6%.

In times when GDP grows, the fraction dedicated to R&D also grows, while in turbulent times, when GDP decreases, the fraction of this already reduced GDP also falls. It is concluded that spending on R&D is not a priority and is among the first to be cut in lean times. In the world concert, the fraction of GDP dedicated to R&D in LAC is meager, 0.56%, a number that hides an even worse reality in most countries since it is strongly influenced by the values of Brazil, the only that has been able to overcome the 1% barrier.

The most developed countries reach higher percentage figures (e.g., in Israel and South Korea, about 5%). In addition to higher public investments, the private sector contributes much more significant fractions. In the US, companies contribute 70% of total investment, which is 2% of GDP, while other sectors contribute 0.8%. In LAC, companies contribute 37%, which comes from state-owned companies. Associated with this fact, the bulk of scientific research in LAC is carried out in universities. As might be expected,

the number of registered patents in the region's countries is very low; The most noticeable case among the largest countries is Argentina, which in 2019 reported only 53 patents.

Regarding the human resources available in the region, there is a sustained growth in the number of researchers (full-time equivalents), from 264,500 in 2010 to 386,000 in 2019. This growth was maintained even when investment decreased, so **we have more researchers but poorer ones**. If compared at the global level, in 2019, LAC accounts for 4% of world researchers, while, let us remember, that 4% has only 2.6% of total world investment. Finally, Barrere analyzed the information available on how the Science and Technology sector responded to the challenge of the COVID-19 pandemic in 2020. No increased funds were available for R&D, but there was a redirection, turning capacities to the pandemic issue. In LAC, the number of publications related to the topic increased exponentially during that year, reaching a cumulative total of 6,600 publications by mid-April 2021. At first, the articles focused on aspects related to the response of health systems to the challenge. Still, later it was observed that the pandemic acquired an important role in many areas of knowledge. Many social science studies, for example, dealt with the consequences of the pandemic and health measures on the population's behavior.

The social perception of science and technology during the pandemic showed that the general population had a positive view of the sector. Still, its post-pandemic evolution will indeed be affected by the economic consequences that the pandemic is leaving.

It is said that the success of a country requires science and technology. At the Argentine Association for the Progress of Science we say that *we do not want a government that supports science and technology but rather a country that is supported by science and technology*.

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