Working papers economics - Digital Appropriation and Economic Inequality in Colombia

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In Colombia, the most significant digital inequalities are no longer driven primarily by disparities in internet access, but by differences in the skills and uses that allow individuals to translate technology into economic and social opportunities.

Publication Date: Tuesday, 24 of November 2026 **Approach**
This study analyzes digital appropriation as a dimension of economic inequality in Colombia. To do so, it constructs a Composite Digital Appropriation Index (CDAI) for the 2018-2025 period using information from the National Quality of Life Survey conducted by DANE (National Administrative Department of Statistics). Unlike approaches focused exclusively on internet access, the index incorporates four dimensions: access to devices and effective connectivity, digital skills, transformative uses, and communication and information uses.

The analysis examines how digital appropriation is associated with socioeconomic characteristics such as education, income, age, gender, and area of residence, and studies disparities across departments. It also explores the recent evolution of territorial gaps and the way individuals allocate their digital activities across uses with different potential to promote productivity, economic inclusion, and well-being.

Contribution
The study develops a multidimensional measure of digital appropriation that goes beyond traditional indicators of connectivity and technological access. In particular, it distinguishes between the extensive margin of digitalization, related to access and participation in the digital environment, and the intensive margin, associated with the ability to use technologies to generate economic and social benefits.

In addition, it combines distributional and territorial analysis tools to examine digital inequalities across individuals and departments, showing how differences in education, income, and location translate into persistent gaps in digital appropriation. Finally, it introduces a digital portfolio perspective that makes it possible to analyze not only how much individuals use digital technologies, but also the types of activities they perform and their potential to expand educational opportunities, productive activities, and economic inclusion.

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Findings

The results show that digital appropriation in Colombia increased by nearly 33 percent between 2018 and 2025. However, this progress has been uneven. The most pronounced gaps are observed across educational attainment levels, followed by those associated with age and area of residence.

Individuals with higher education exhibit levels of digital appropriation more than five times greater than those with basic education or less, while the urban CDAI is more than twice the rural level. Education emerges as the main factor associated with digital appropriation at both the individual and departmental levels.

From a territorial perspective, all departments except Vichada recorded improvements during the period analyzed. Departments that were initially lagging behind grew relatively faster and partially narrowed their gap with Bogotá, although significant territorial disparities remain. The highest levels of digital appropriation continue to be concentrated in more urbanized departments and those with higher levels of economic development.

The digital portfolio analysis also shows that higher-income individuals allocate an increasing share of their digital activities to transformative uses, such as online education, digital banking, e-commerce, and interactions with government institutions. By contrast, lower-income individuals devote a larger share of their digital activities to communication and information uses.

These findings suggest that today’s digital inequalities depend increasingly less on access to technology and increasingly more on the capabilities and uses that enable individuals to transform technology into economic and social opportunities.

Fuente: https://www.banrep.gov.co/en/publications-research/working-papers-economics/digital-appropriation-economic-inequality