

ORIGINAL

Integrating Sustainability into Financial Models: Reflections from Professional and Academic Experience

Integrando la Sustentabilidad en los Modelos Financieros: Reflexiones desde la Experiencia Profesional y Académica

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ABSTRACT

This paper focuses on the contribution of financial inclusion to the sustainability of productive systems, using the relationships between the SDGs and the sustainability matrix as a means of linking them. Financial inclusion directly impacts the reduction of poverty and inequalities, but also indirectly impacts aspects of health, education, and responsible production. The overall objective is to study the relationship between financial inclusion and sustainability in Argentina. A quantitative approach is applied, classifying countries into high, medium, and low financial inclusion groups and verifying the variables that determine membership in one group or another. Specifically, it establishes Argentina's performance and what it must do to converge to higher levels. The results show that financial education and digitalization reduce social inequality and reinforce the positive impact on the well-being of the population. Argentina has an intermediate level of inclusion, with potential for improvement through specific policies. The conclusion is that implementing inclusive strategies and providing financial instruments to the most disadvantaged facilitates progress and equal opportunities, making the achievement of the SDGs feasible. This aspect must be further explored so that countries become more sustainable and contribute to human well-being, improving the system's sustainability management.

Keywords: Financial Inclusion; SDGs; Sustainability; Argentina.

RESUMEN

El presente trabajo se enfoca en la contribución de la inclusión financiera a la sostenibilidad de los sistemas productivos, utilizando las relaciones entre los ODS y la matriz de sustentabilidad como medio de vinculación. La inclusión financiera impacta directamente en la reducción de la pobreza y las desigualdades. Pero también, indirectamente, en aspectos de salud, educación y producción responsable. El objetivo general es estudiar la relación entre inclusión financiera y sustentabilidad en Argentina. Se aplica un enfoque cuantitativo clasificando a los países en grupos de alta, media y baja inclusión financiera y comprobando las variables que determinan la pertenencia a uno u otro grupo. Específicamente, se establece el desempeño de Argentina y qué debe hacer para converger a niveles superiores. Los resultados muestran que la educación financiera y la digitalización reducen la desigualdad social y refuerza el impacto positivo en el bienestar de la población. Argentina presenta un nivel intermedio de inclusión, con potencial de mejora mediante políticas específicas. Se concluye que la aplicar estrategias inclusivas y proporcionar instrumentos financieros a los más desfavorecidos, facilita el progreso y la igualdad de oportunidades haciendo factible la consecución de los ODS. Se debe profundizar en este aspecto para que los países sean más sostenibles y contribuyan al bienestar humano, mejorando la dirección del sistema en términos de sustentabilidad.

Palabras clave: Inclusión Financiera; ODS; Sustentabilidad; Argentina.

INTRODUCTION

This research presents the contribution of financial inclusion (FI) to the sustainability of productive systems, using the relationships between the Sustainable Development Goals (SDGs) and the sustainability matrix as a link. The SDGs were defined by the United Nations (UN) Assembly as part of the 2030 Agenda for Sustainable Development.⁽¹⁾

In this paper, a distinction is made between sustainability (*sustentabilidad*, referring to sustainability at a specific point in time) and long-term sustainability (*sostenibilidad*, referring to sustained sustainability over time). A productive system, whether a country, region, or sector—is considered sustainable (*sustentable*) when, at a given moment, it contributes to human well-being across environmental, social, economic, and institutional dimensions. In contrast, a productive system is sustainable over time (*sostenible*) when the sustainability achieved at one point is maintained and adapted across future contexts.⁽²⁾

The 17 SDGs defined at that assembly include 16 goals directly related to the environmental, social, economic, and institutional dimensions, while the 17th focuses on partnerships for achieving the goals. These goals are the UN's response to social, economic, and environmental challenges, from an institutional perspective to the challenge of contributing to human well-being sustainably.⁽¹⁾

FI is a process of promoting affordable, timely, and appropriate access to a wide range of regulated financial services and products and expanding their use to all segments of society through the application of tailored innovative approaches, including awareness-raising and financial education activities, with the aim of promoting both financial well-being and economic and social inclusion.⁽³⁾

Financial inclusion is achieved through the availability of tools that make it easier for residents to carry out banking transactions (payments, credit, savings, etc.), improving the inclusion of the least advantaged sectors.⁽⁴⁾

FI provides tools for the digitalization of services and access for vulnerable groups. Its impact on the SDGs is significant, as it directly contributes to the eradication of poverty (SDG 1), zero hunger (SDG 2), good health and well-being (SDG 3), quality education (SDG 4), gender equality (SDG 5), and decent work (SDG 8). It also indirectly promotes other goals that facilitate the sustainability of the system.⁽⁵⁾

Furthermore, the sustainability matrix presents the interrelationships between its constituent dimensions. From it, the components that improve the links between the environmental, economic, social, and institutional dimensions emerge, based on the SDGs.⁽⁶⁾

Ultimately, financial inclusion and sustainability are complementary tools for achieving the SDGs, promoting equity in access to resources, reducing poverty, and building a more sustainable future. For this purpose, the matrix presented in figure 1 is essential for linking sustainability with the SDGs. It shows how the ecological, economic, social, and institutional dimensions are interrelated, with the SDGs being components of these links. Understanding how financial inclusion impacts, directly or indirectly, the SDGs are essential for countries to move toward sustainability, thus contributing to human well-being through financial instruments.^(5,7)

The figure shows the interrelationships and objectives that make up each cell of the matrix. In this way, the demands that each dimension impose on the others are determined using the targets of the Sustainable Development Goals (SDGs). Thus, for example, the ecological dimension demands ecosystem services from the ecological, economic, social, and institutional dimensions, doing so through SDGs 15, 7, 6, and 14, respectively. In turn, the fulfillment of goals 6 and 7 can be improved with financial inclusion, as it indirectly helps achieve these goals and contributes to human well-being through economic progress and healthy and productive environments, according to the matrix presented. These indicators highlight those impacted by FI.⁽⁷⁾

Governments can calculate the degree of progress in the sustainability of the productive system through these indicators. They determine what each country has achieved and what it still needs to achieve for its system to return to adequate levels of contribution to human well-being and sustainability. The indicators take values between zero and one, $0 \leq \text{SDG}_{ij} \leq 1$, where i, j represent the intersections between each of the sustainability dimensions. Thus, the closer the indicators for all components are to 1, the closer the country is to achieving an effective contribution to human well-being and the more sustainable the country will be.

Furthermore, institutional participation through the development of strategies to increase the use of financial instruments improves participatory governance and inclusive policies by strengthening trust in the banking system and facilitating social cohesion in the country in question. For these reasons, the sustainability matrix becomes a key tool for analyzing financial inclusion and its role in development, pursuing objectives that promote the sustainability of productive systems.

Specifically, the situation in Argentina is studied and the improvement needs for converging toward countries with high financial inclusion are examined. The overall objective is to study the relationship between financial inclusion and sustainability in Argentina.

| RELATIONS | | HUMAN WELL-BEING | | | | AGGREGATE DEMANDS |
|--------------------------------------|---------------|--|--|---|--|---|
| | | ECOLOGICAL Preservation | ECONOMIC Efficiency | SOCIAL Equity | INSTITUTIONAL Coter y Capacity | |
| DEMANDS | ECOLOGICAL | LIFE OF TERRESTRIAL ECOSYSTEMS SDG 15 | AFFORDABLE AND NON-POLLUTING ENERGY SDG 7 | CLEAN WATER AND SANITATION SDG 6 | CURRENT STATUS AND CONSERVATION (of environmental resources) SDG 14 | ECOSYSTEM SERVICES |
| | ECONOMIC | RESPONSIBLE PRODUCTION AND CONSUMPTION SDG 12 | INDUSTRY, INNOVATION AND INFRASTRUCTURE SDG 9 | DECENT WORK AND ECONOMIC GROWTH SDG 8 | REDUCING INEQUALITIES SDG 10 | ECONOMIC RESOURCES |
| | SOCIAL | SUSTAINABLE CITIES AND COMMUNITIES SDG 11 | QUALITY EDUCATION SDG 4 | HEALTH AND WELL-BEING SDG 3 | GENDER EQUALITY SDG 5 | SOCIAL PARTICIPATION |
| | INSTITUTIONAL | CLIMATE ACTION SDG 13 | END OF POVERTY SDG 1 | ZERO HUNGER SDG 2 | PEACE, JUSTICE AND STRONG INSTITUTIONS SDG 16 | ADAPTIVE MANAGEMENT |
| CONTRIBUTIONS TO HUMAN WELL-BEING | | HEALTHY AND PRODUCTIVE ENVIRONMENT | ECONOMIC PROGRESS | PROSPERITY AND EQUITABLE SOCIAL OPPORTUNITIES | PARTICIPATORY GOVERNANCE | DIRECTORATE OF SUSTAINABILITY OF THE PRODUCTION SYSTEM |

Figure 1. Sustainability Matrix and SDG's⁽⁷⁾

METHOD

This research applies a quantitative approach, employing factorial methods to examine the link between financial inclusion (FI) and sustainability in Argentina. To address this objective, the methodology is structured into analytical stages that allow for the exploration, reduction, and interpretation of data related to financial inclusion and its link to sustainability. It is structured in three stages: (a) construction of a sustainability matrix based on the Sustainable Development Goals (SDGs), (b) principal component analysis (PCA) to reduce the dimensionality of the variables associated with FI, and (c) estimation of an ordered logistic regression model to predict the probability of Argentina's convergence toward higher levels of financial inclusion.

Sustainability is analyzed using a multidimensional approach. The environmental, social, economic, and institutional dimensions are interrelated through the sustainability matrix. Each cell of the matrix determines components that are represented, in this work, by the SDGs. Likewise, financial inclusion directly or indirectly reinforces the achievement of these goals, contributing to human well-being.

Studies on banking access, status, and prospects are referenced in this paper to obtain data on global financial inclusion, with countries classified according to high, medium, and low levels. Argentina is located at the medium level of FI. These studies indicate the likelihood that this country will converge to higher levels of financial inclusion. Considering the variables used in these studies, they are related to the SDGs, impacting, directly or indirectly, the dimensions of sustainability. To do so, the sustainability matrix is used.^(7,8)

A literature review on sustainability and its relationship with financial inclusion is conducted to establish a reference framework and verify the importance of these relationships for human well-being. It is also verified that financial inclusion contributes to most of the goals, becoming a fundamental aspect of contributing to well-being. The PCA was performed using SPAD v56 software on data from the 2017 Global Findex and complementary databases for access to financial services. Significant variables were obtained, and the factor axes were obtained through a linear combination of these variables. This allowed us to study how the country point cloud was distributed in the first factorial plane and identify patterns of association between them for partitioning. A hierarchical classification of countries was then obtained, differentiating them into those with high, medium, or low financial inclusion.⁽⁸⁾ Of the variables, those with the greatest contribution to inertia in the PCA were selected. These variables are listed in table 1, indicating the group in which they were significant and the SDG to which they are related.

To relate the FI results to the SDGs, the level achieved by group 2, to which Argentina belongs, was compared

to that achieved by group 3 (high FI), assessing the SDGs to compare the two groups. Using the sustainability matrix, the extent to which countries in the intermediate group must improve to contribute to human well-being and become more sustainable through FI was determined.

Subsequently, an ordered logit model was estimated to be using EViews 9 software, considering the FI group to which a country belongs as the dependent variable, and key variables such as the percentage of the population with access to bank accounts, internet use for payments, and receipt of government transfers as explanatory variables. The model structure follows recommendations for ordinal latent variables.⁽⁸⁾

Finally, counterfactual scenarios are simulated for Argentina, evaluating the impact of doubling or quadrupling the current values of the key variables. This allows for estimating transition probabilities between inclusion levels and quantifying the effort required to achieve standards like those of G3 countries.

The robustness of the model is validated through cross-comparison and sensitivity analysis. This methodology seeks to contribute to a comprehensive evaluation of evidence-based public policies, providing comparative tools for the design of financial inclusion strategies with a sustainable impact.

Table 1. Definition of Main Variables⁽⁸⁾

| Variable code | Defining | Significant in the GROUP | SGD |
|---------------|---|--------------------------|-----|
| W25 | Inequality in life expectancy % | G1 | 3 |
| W64 | Dependency ratio | G1 | 10 |
| W66 | Total fertility rate (births per woman) 5-10 | G1 | 1 |
| W67 | Total fertility rate (births per woman) 15-20 | G1 | 5 |
| W73 | Mortality rates (per 1000 live births/person) | G1 | 3 |
| W74 | Mortality rates (per 1000 live births/person) women | G1 | 3 |
| W8 | Human Development Index ranking | G1 | 1 |
| x60 | Used the internet to pay bills or buy something online in the past year, older adults (% age 25+) | G3 | 9 |
| x65 | Used the internet to pay bills or buy something online in the past year, rural areas (% age 15+) | G3 | 9 |
| x66 | Used the internet to buy something online in the past year (% age 15+) | G3 | 9 |
| x67 | Used the internet to buy something online in the past year, men (% age 15+) | G3 | 9 |
| x68 | Used the internet to buy something online in the past year, in the labor force (% age 15+) | G3 | 9 |
| x70 | Used the internet to buy something online something online in the past year, female (% age 15+) | G3 | 9 |
| x72 | Used the internet to buy something online in the past year, older adults (% age 25+) | G3 | 9 |
| x75 | Used the internet to buy something online in the past year, income, poorest 40 % (% age 15+) | G3 | 9 |
| x77 | Used the internet to buy something online in the past year, rural (% age 15+) | G3 | 9 |
| x284 | Primary source of emergency funds: family or friends (% able to fundraise, ages 15+) | G2 | 2 |
| x287 | Primary source of emergency funds: family or friends, not in the labor force (% able to fundraise, ages 15+) | G2 | 6 |
| x288 | Primary source of emergency funds: family or friends, female (% able to fundraise, ages 15+) | G2 | 5 |
| x290 | Primary source of emergency funds: family or friends, older adults (% able to fundraise, ages 25+) | G2 | 2 |
| x291 | Primary source of emergency funds: family or friends, primary education or less (% able to fundraise, ages 15+) 15 years old) | G2 | 4 |
| x293 | Primary source of emergency funds: family or friends, income, poorest 40 % (% able to raise funds, ages 15+) | G2 | 1 |
| x295 | Primary source of emergency funds: family or friends, rural (% able to raise funds, ages 15+) | G2 | 8 |

| | | | |
|------|--|---------|----|
| x320 | Primary source of emergency funds: asset sales (% able to raise funds, ages 15+) | G2 | 16 |
| x324 | Primary source of emergency funds: asset sales, women (% able to raise funds, ages 15+) | G2 | 5 |
| x428 | Paid utility bills: using a financial institution account (% ages 15+) | G3 | 8 |
| x434 | Paid utility bills: using only cash (% ages 15+) | G2 | 10 |
| x435 | Paid utility bills: using only cash (% paying utility bills, ages 15+) | G2 | 10 |
| x645 | Received government payments: first account opened to receive government payments (% receiving payments into an account, ages 15+) | G2 | 8 |
| x130 | Saved money in the Last year, in the labor force (% age 15+) | G3 | 8 |
| x134 | Saved money in the last year, older adults (% age 25+) | G3 | 10 |
| x135 | Saved money in the last year, primary education or less (% age 15+) | G3 | 4 |
| x136 | Saved money in the last year, secondary education or more (% age 15+) | G3 | 4 |
| x137 | Saved money in the last year, income, poorest 40 % (% age 15+) | G3 | 1 |
| x352 | Sent or received domestic remittances in the last year, secondary education or more (% age 15+) | G1 | 4 |
| x364 | Received domestic remittances in the last year, secondary education or more (% age 15+) | G1 | 4 |
| x400 | Sent domestic remittances in the last year, secondary education or more (% age 15+) | G1 | 4 |
| x416 | Utility bills paid in the last year (% age 15+) | G2 Y G3 | 8 |
| x417 | Utility bills paid in the last year, men (% age 15+) | G2 Y G3 | 8 |
| x418 | Utility bills Utility bills paid in the past year, in the labor force (% age 15+) | G2 Y G3 | 8 |
| x422 | Utility bills paid in the past year, older adults (% age 25+) | G2 Y G3 | 8 |
| x423 | Utility bills paid in the past year, primary education or less (% age 15+) | G2 Y G3 | 4 |
| x425 | Utility bills paid in the past year, income, poorest 40 % (% age 15+) | G2 Y G3 | 2 |
| x426 | Utility bills paid in the past year, income, richest 60 % (% age 15+) | G2 Y G3 | 1 |
| x427 | Utility bills paid in the past year, rural (% age 15+) | G2 Y G3 | 10 |
| x490 | Wages received: cash only (% age 15+) | G2 | 2 |
| x491 | Wages received: cash only (% of wage recipients, age 15+) | G1 | 2 |
| x492 | Wages received from the private sector: cash only (% age 15+) | G2 | 2 |
| x493 | Wages received from the private sector: cash only (% of wage recipients) salaries, ages 15 and older) | G1 Y G2 | 1 |
| x601 | Used a mobile phone or internet to access an account, secondary education or more (% ages 15 and older) | G3 | 1 |
| x605 | Used a mobile phone or internet to access an account (% with an account, ages 15 and older) | G2 Y G3 | 16 |
| x622 | No deposit or withdrawal in the past year (% with a financial institution account, ages 15 and older) | G1 | 8 |
| W46 | Gender Inequality Index | G1 | 5 |
| W47 | Gender Inequality Index Range | G1 | 5 |
| W148 | Rural population with access to electricity. | G2 Y G3 | 7 |
| W150 | Population using improved sanitation facilities | G2 Y G3 | 6 |

RESULTS

Principal component analysis (PCA) identified three distinct groups of countries based on their level of financial inclusion: high (G3), medium (G2), and low (G1). Argentina falls into the intermediate group (G2), with heterogeneous performance on key variables associated with the SDGs (figure 2). Group G3 presents a sustainability contribution level of 89,83 %, while Argentina only reaches 46,58 %, demonstrating a substantial gap (figure 3).

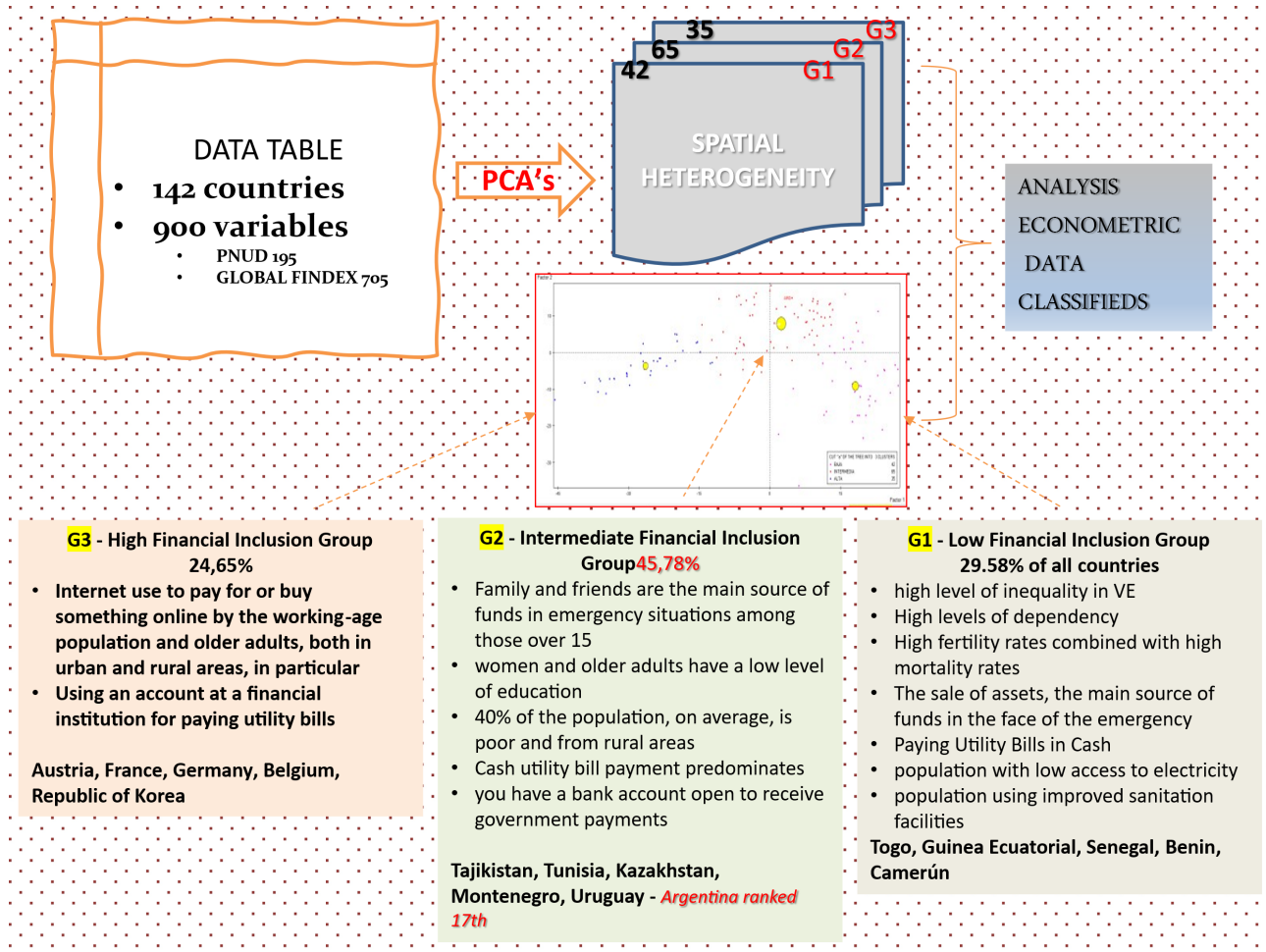


Figure 2. Global Map of Financial Inclusion

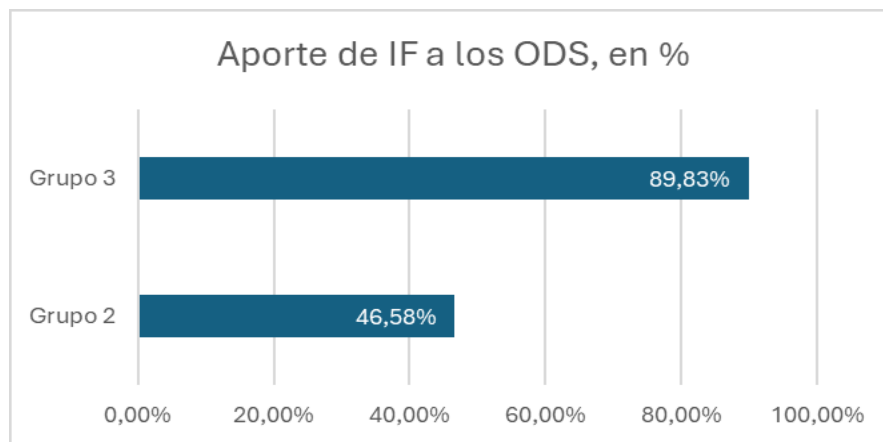


Figure 3. FI, SDG and Sustainability Relationship

In figure 4, the sustainability matrix applied to the data of group G2 reveals unequal contributions between dimensions: high contribution in affordable energy (SDG 7) and education (SDG 4), but critical levels in health (SDG 3) and infrastructure (SDG 9).

| | | |
|---|---|--|
| AFFORDABLE AND NON-POLLUTING ENERGY 0,9019 SDG 7 | CLEAN WATER AND SANITATION 0,5381 SDG 6 | |
| INDUSTRY, INNOVATION AND INFRASTRUCTURE 0,1692 SDG 9 | DECENT WORK AND ECONOMIC GROWTH 0,6015 SDG 8 | REDUCING INEQUALITIES 0,4972 SDG 10 |
| QUALITY EDUCATION 0,6895 SDG 4 | HEALTH AND WELL-BEING 0,1513 SDG 3 | GENDER EQUALITY 0,4132 SDG 5 |
| END OF POVERTY 0,4407 SDG 1 | ZERO HUNGER 0,3621 SDG 2 | PEACE, JUSTICE AND STRONG INSTITUTIONS 0,3912 SDG 16 |
| ECONOMIC PROGRESS 0,5503 | PROSPERITY AND EQUITABLE SOCIAL OPPORTUNITIES 0,4132 | PARTICIPATORY GOVERNANCE 0,4339 |
| CONTRIBUTION OF FINANCIAL INCLUSION TO SUSTAINABILITY 0,4658 Direct contribution: 0.4431 Indirect contribution: 0.4995 | | |
| Note. The table only presents the part of the matrix that is linked to the study carried out. | | |

Figure 4. Contribution of Financial Inclusion to Sustainability (Group 2)

Ordered logit model

$$y_i^* = \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \beta_4 x_{4i} + \beta_5 x_{5i} + \varepsilon_i \quad (1)$$

x_{1i} : Utility bills paid via use of a financial institution account (% age 15+).

x_{2i} : Internet use to pay bills or buy something online in the last year, older adults (% age 25+).

x_{3i} : Use of the internet to buy something online, in the workforce (% of age 15+).

x_{4i} : Use the internet to buy something online, older adults (% age 25+).

x_{5i} : Use the internet to buy something online, rural (% age 15+).

ε_i : Logit is distributed.

$$(y_i^*) \approx 29,069 * x_1 - 30,843 * x_2 + 31,436 * x_3 + 43,742 * x_4 - 11,911 * x_5 \quad (2)$$

The results of the ordered logit model indicate that the probability of Argentina converging to the high financial inclusion group (G3), maintaining its current values, is practically zero ($2,98 \times 10^{-7}$). However, counterfactual simulations show that doubling or quadrupling key variables—such as the use of digital financial services or the percentage of people who receive payments through accounts—significantly increases the probability of convergence to G3 (up to 99,6 % in the most optimistic scenario). Figure 5 and figure 6.⁽⁸⁾

| Variable | G3 | AR | AR/G3 |
|---|-------|-------|-------|
| Utility bills paid: Using a financial institution account (% age 15 or +) | 0,599 | 0,08 | 0,134 |
| Internet use to pay bills or buy something online, older adults (% age 25 or +) | 0,676 | 0,185 | 0,274 |
| Using the internet to buy something online, in the workforce (% age 15 or +) | 0,653 | 0,184 | 0,281 |
| Using the internet to buy something online, older adults (% age 25 or +) | 0,545 | 0,136 | 0,25 |
| Using the internet to buy something online, rural (% age 15 or +) | 0,531 | 0,126 | 0,238 |

Figure 5. Indicator Comparison: Argentina vs. G3 Average

Figure 6 shows three scenarios. They simulate the probability of belonging to each group by increasing Argentina's initial values for the variables previously considered in the logit model; that is, from doubling to quadrupling their current values. Tripling the current values increases the probability of entering group 3 to 0,2098, while quadrupling them ensures the desired FI level established for reaching the high-inclusion group.

| IF Group | Scenarios for Simulation of the Current Situation | | |
|----------|---|-------------------------------------|--|
| | SCENARIO 1: Duplicates indicators | SCENARIO 2: Triple indicators | SCENARIO 3: Quadruple indicators |
| G1 | 1,35E-05 | 1,43E-08 | 1,52E-11 |
| G2 | 0,9997 | 0,7902 | 0,0039 |
| G3 | 0,0003 | 0,2098 | 0,996 |

Figure 6. Probability of Argentina belonging to each Financial Inclusion Group

DISCUSSION

The methodological framework on the sustainability of production systems underscores the importance of conducting multidimensional analyses. In this context, the distinction between sustainability focused on the present and long-term sustainability oriented toward continuity over time is well established in the literature. (2,7,9,10)

Sustainability involves a dynamic balance among economic, social, and environmental dimensions, aligned with contemporary societal values and needs. In contrast, long-term sustainability emphasizes the preservation and regeneration of natural and social capital for future generations.

This study examined the relationship between the Sustainable Development Goals (SDGs) and the sustainability of production systems to assess their contribution to human well-being, with a particular emphasis on public policy interventions.⁽⁶⁾ The analysis of characterization, international comparisons, and relative convergence reveals that countries in Group 3 (G3) show the most favorable conditions globally in terms of financial inclusion.

A key innovation of this research lies in establishing the relationship between financial inclusion and the SDGs through the application of the sustainability matrix. This methodological contribution enhances the explanatory power of the matrix, helping to identify specific environmental, economic, social, and institutional dimensions that must be addressed to promote human well-being—through productive and healthy environments, economic advancement, social equity, and participatory governance.^(6,8)

To assess the contribution of financial inclusion to the achievement of the SDGs, we draw on previous studies that analyzed specific cases and identified both direct and indirect relationships. Directly associated goals include SDG 1 (No poverty), SDG 2 (Zero hunger), SDG 3 (Good health and well-being), SDG 4 (Quality education), and SDG 5 (Gender equality). Other authors, although not always supported by empirical studies, suggest that financial inclusion can indirectly support SDGs 6, 7, 9, 10, and 16. Based on the data analyzed, SDG 8 (Decent work and economic growth) should also be added, as the Global Findex database reports the percentage of adults receiving wages through financial accounts. Additional research highlights macroeconomic effects linked to financial inclusion.^(5,11)

The findings confirm both direct and indirect contributions of financial inclusion to the SDGs across countries in the intermediate group, although these contributions remain below optimal levels. This suggests that additional efforts are required for these countries to progress toward higher levels of development.

Financial inclusion serves as a critical enabler of the SDGs. ECLAC (Economic Commission for Latin America and the Caribbean), through studies conducted by its Subregional Headquarters in Mexico, emphasizes that financial inclusion generates opportunities and strengthens the capacity to achieve the SDGs.⁽¹²⁾ Similarly, the World Bank identifies financial inclusion as a key mechanism for reducing poverty and fostering prosperity. Globally, around 2.5 billion people lack access to formal financial services, and 75 % of the poor do not have a bank account. While the World Bank estimates that financial inclusion contributes to seven of the 17 SDGs, our analysis—focusing specifically on the indicator “percentage of adults receiving payments into an account” (from the FINDEX database)—places this global figure at 66,10 %.⁽⁴⁾

As such, financial inclusion has become a topic of growing interest among academics, policymakers, and international organizations due to its demonstrated micro- and macroeconomic effects. Based on the sustainability matrix, our findings indicate that countries with high levels of financial inclusion have made significant progress in improving quality of life and advancing the SDGs set out in the 2030 Agenda. According to our data, some of these countries are approaching 90 % achievement of positive financial inclusion effects on the SDGs, either directly or indirectly. Prior research suggests that financial inclusion enables individuals—

especially those in the bottom 40 % of the income distribution, who are often excluded from formal financial systems—to engage in everyday transactions and expand their socioeconomic opportunities.⁽¹¹⁾

By contrast, the developed model and international comparison show that Argentina remains far from achieving comparable results and faces considerable challenges. Closing this gap would require the country to more than quadruple its current performance levels, making convergence with G3 averages highly unlikely under current conditions. Nevertheless, policy recommendations focused on financial education and digitalization may significantly enhance Argentina's prospects. According to Microscopio Global, Argentina has the potential to expand financial inclusion through innovation in digital financial services—promoted by the Central Bank of Argentina (BCRA)—alongside broader adoption of electronic payments, increased use of digital tools, and expanded coverage of the national bank transfer system to reach currently unbanked populations.^(13,14)

| | | |
|----------------|----------------|---|
| Pillars | Access | Focuses on infrastructure, access points, instruments, and programs that facilitate entry into the financial system. |
| | Use | Promotes the adequacy of products, cost reduction, deposit generation, access to credit, and the use of electronic payment methods. |
| | Quality | Highlights inter-institutional strengthening, transparency, dissemination, and financial education as crucial elements. |

Figure 7. Pillars of the ENIF⁽¹⁵⁾

The Argentine government's financial inclusion program, known as ENIF, establishes three pillars, as shown in figure 7.⁽¹⁵⁾ It also requires the development of financial tools. These financial products may include:

- Promoting low-cost savings accounts for people with low purchasing power.
- Establishing credit lines for microenterprises and small entrepreneurs.
- Generating products that include low-cost insurance and improving the financial security of those who have not been reached until now by these services.
- Facilitating digital access.
- Educating on savings, investment, and financial management.

Improving financial inclusion should be the objective of these initiatives, which offer alternatives tailored to different social sectors. Each pillar includes specific components that strengthen its purpose. It is a structured framework that seeks to promote the inclusive and sustainable development of the financial system.

CONCLUSIONS

Financial exclusion affects over two-thirds of the global population, generating persistent social imbalances. This underscores the urgency of promoting financial inclusion policies that enhance countries' sustainability and contribute to human well-being.

Based on country classification, the study finds that only 25 % of nations currently reach high financial inclusion levels. Increasing the population's financial participation directly supports the achievement of the Sustainable Development Goals (SDGs) by fostering equity and social progress.

Providing access to financial instruments is essential for inclusive growth. It ensures that all individuals—regardless of socioeconomic status—can improve their quality of life.

The quantitative analysis reveals Argentina's intermediate position and its limited probability of convergence to high inclusion without significant progress. Specifically, the country would need to quadruple its current levels on key financial variables to match the standards of the highest inclusion group.

Addressing financial inclusion not only enhances national resilience but also lays the groundwork for globally equitable and sustainable progress.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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