

# FINANCIAL INCLUSION AS A 'FITNESS PROGRAM' FOR FINANCIAL SYSTEMS

New cross-country evidence on how financial inclusion strengthens, rather than undermines, financial stability



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## ACKNOWLEDGMENTS

This policy brief summarizes findings from the academic paper *Financial Inclusion: The ‘Fitness Program’ for Financial Systems* by Michael Halling, Julia Sinnig, and Dirk A. Zetzsche (University of Luxembourg), published on SSRN in January 2026. The analysis incorporates data from the Global Findex 2025, covering survey year 2024. The research is part of a multi-year collaborative project between the University of Luxembourg and AFI.

Representatives of the Banco Central del Paraguay, the Banque Centrale des Etats de l’Afrique de l’Ouest (BCEAO), the National Bank of Cambodia, the National Bank of Rwanda, the Palestine Monetary Authority as well as several other AFI members contributed insights to the study.

The research project was presented at AFI’s Global Policy Forum (2024 and 2025), the 17th G-24/AFI Policymakers’ Roundtable at the 2025 IMF/World Bank Annual Meetings, the African Microfinance Week (2025), and the IMF Financial Access Survey Expert Group meeting (2025), among other venues.

### About AFI:

The Alliance for Financial Inclusion (AFI) is the world’s leading organization on financial inclusion policy and regulation. A member-owned network, AFI promotes and develops evidence-based policy solutions that help improve the lives of the unbanked and underserved globally through the power of financial inclusion.

### About the University of Luxembourg:

The research was led by Prof. Dirk Zetzsche (ADA Chair in Financial Law/Inclusive Finance) Prof. Michael Halling (Chair in Sustainable Finance), and Julia Sinnig (Assistant Professor in Commercial Law), at the Faculty of Law, Economics and Finance.

### METHODOLOGY AT A GLANCE:

Data: World Bank Global Findex (account ownership, age 15+) and IMF Financial Soundness Indicators, covering up to 162 economies (coverage varies by indicator) from 2011 to 2024.

Method: Panel regressions with country and year fixed effects, controlling for GDP, population, inflation, interest rates, exchange rates, and staff costs.

Scope: Largest cross-country sample and longest time series in the financial inclusion literature; includes the COVID-19 period and post-pandemic recovery.

Limitation: While the empirical design controls rigorously for alternative explanations, the study does not claim strict causal identification. Endogeneity concerns prevail regarding GDP effects given the multi-causal nature of economic production. The primary inclusion measure is account ownership, which captures access to the formal financial system but does not measure usage quality, financial health, or welfare outcomes.

## KEY MESSAGES



### **Financial inclusion does not undermine financial stability.**

A new cross-country study, covering up to 162 economies over 15 years, finds a neutral net effect on stability. While non-performing loans rise, financial institutions compensate through adequate provisions and stronger capital buffers.



### **Financial inclusion is associated with stronger, more efficient financial systems.**

Increased account ownership is associated with higher total assets, greater profitability, lower dependence on foreign capital, and patterns consistent with a shift towards more digital, less staff-intensive operating models.



### **This research brief develops policy recommendations drawing on the research results.**

The research results are conditional on the institutions' effective provisioning. Regulators are encouraged to strengthen the institutions' risk management capabilities and supervisory risk monitoring. As benefits depend on business optimisation and digitalisation, regulators are encouraged to ensure proportionate regulatory approaches that are open to innovation.



### **The case for financial inclusion is both social and economic.**

Policymakers can pursue financial inclusion not only as an equity objective but as a strategy to build more capable, more resilient financial sectors.

## WHY THIS MATTERS

Financial inclusion has become a central policy objective globally.

**60+** countries have launched or developed national financial inclusion strategies<sup>1</sup>

**1,400+** measurable policy targets set under the Maya Declaration by AFI member institutions across 83 countries, contributing to:

**1,200+** financial inclusion policy and regulatory reforms since 2009.<sup>2</sup>

Despite this, financial inclusion is still often framed primarily as a social objective. Concerns persist that bringing previously unbanked, lower-income populations into the formal financial system could increase credit risk and destabilize the banking sector. This tension between inclusion and stability runs the risk of constraining the ambition of financial inclusion agendas in some jurisdictions by creating a perceived policy trade-off.

Previous cross-country evidence on this question has been inconclusive. Some studies find that inclusion strengthens stability by diversifying deposit bases and lending portfolios; others identify risks from rapid credit expansion, particularly beyond certain thresholds.

<sup>1</sup>Alliance for Financial Inclusion. 2022. National Financial Inclusion Strategies: Current State of Practice. Kuala Lumpur. Available at: <https://www.afi-global.org/publication/national-financial-inclusion-strategies-current-state-of-practice-2022/>

<sup>2</sup>Alliance for Financial Inclusion. 2025. 2025 Maya Declaration Progress Report. Kuala Lumpur. Available at: <https://www.afi-global.org/publication/2025-maya-declaration-progress-report/>. Policy reform figures from Alliance for Financial Inclusion. 2025. 2024 AFI Annual Report. Kuala Lumpur.

A new large-scale empirical study, which is the result of a collaborative research project undertaken by Professors Halling, Sinnig and Zetzsche of the University of Luxembourg and the Alliance for Financial Inclusion (AFI), examines whether inclusion is linked to weaker banking-system indicators and finds that in fact financial inclusion seems to strengthen, rather than to destabilize, financial systems.<sup>3</sup>



Nigerian woman working in a pos kiosk. (Vic Josh / Shutterstock.com)

<sup>3</sup>Halling, M., Sinnig, J. and Zetzsche, D.A. 2026. Financial Inclusion: The 'Fitness Program' for Financial Systems. University of Luxembourg. Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=6143246](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=6143246)

## WHAT THE RESEARCH SHOWS

### About the study:

The research draws on data from 162 economies (coverage varies by indicator) between 2011 and 2024, analysing the World Bank's Global Findex database<sup>4</sup> in conjunction with the International Monetary Fund's Financial Soundness Indicators (FSIs).<sup>5</sup> This represents the largest cross-sectional sample and the longest time series used in cross-country studies on financial inclusion to date, encompassing the period before, during, and after the COVID-19 pandemic. The analysis controls, inter alia, for GDP, population growth, inflation, interest rates, exchange rates, and staff costs to isolate the relationship between financial inclusion and financial system outcomes.

### 1. Inclusion expands lending and raises non-performing loans

As financial inclusion expands, total lending grows and, as would be expected when lower-income populations enter the formal system, the share of non-performing loans (NPLs) also increases. This is the finding that has historically fuelled concerns about inclusion undermining stability.

### 2. Provisions and risk-proportionate capital buffers offset the additional risk

However, the study shows this increase in credit risk is offset by two countervailing responses. First, financial institutions set aside adequate loan loss provisions; expected losses from NPLs are already accounted for. Second, banks build up stronger Tier 1 and total regulatory capital buffers, in line with the higher risk in their

portfolios. When capital measures are adjusted for risk-weighted assets, the positive relationship with financial inclusion disappears, confirming that the capital build-up is a proportionate response to risk, not an independent improvement. The net result: financial inclusion does not impair financial stability.

### 3. Balance sheet resilience improves through liquidity and reduced foreign exchange exposure

Financial inclusion is associated with improvements in two further dimensions of balance sheet strength. First, the ratio of liquid assets to short-term liabilities rises, indicating that financial systems become better positioned to meet short-term obligations. Second, banks' unhedged foreign exchange exposures decline as domestic deposits grow through inclusion, reducing the reliance on external funding denominated in foreign currencies. This is a significant source of vulnerability for developing countries' banking systems, particularly those with thinly traded currencies, and its reduction represents a tangible resilience dividend from inclusion.

### 4. Financial system size and profitability expand

Financial inclusion is associated with significant increases in the regulated institutions' total assets, total capital, and gross income. Interest margins rise, and net income (before and after tax) increases. Financial institutions appear to be compensated for the higher credit risk: the wider interest margins are consistent with risk being priced rather than subsidized. Returns on assets and equity remain stable, suggesting that banks neither misprice nor over-earn from newly included clients. As credit provision expands, banks provide more financing to the overall economy, and the gross domestic product increases.

<sup>4</sup> The World Bank Global Findex Database (FinDex 2025) measures account ownership among adults aged 15 and older across 141 economies.

<sup>5</sup> The IMF Financial Soundness Indicators (FSIs) capture data on capital adequacy, asset quality, earnings, liquidity, and sensitivity to market risk for deposit-taking institutions.

### 5. Operating models shift toward digitalization

The study finds a significant decline in staff costs as a share of total non-interest expenses as financial inclusion advances. This is consistent with financial institutions investing in digital infrastructure and streamlined processes to manage rising volumes of lower-value transactions profitably. The operational pressure of serving newly included populations appears to drive modernization and efficiency gains across the sector.



Farmer in Vanuatu holding his mobile phone. (Alliance for Financial Inclusion)

## THE 'FITNESS PROGRAM' MECHANISM

The data is consistent with a self-reinforcing cycle through which financial inclusion strengthens institutional capacity. In this sense, financial inclusion can be considered as a 'fitness program' for financial systems. An interpretative framework (not a tested transmission chain) linked to these findings is suggested below.

- 1 Inclusion expands the client base**  
 New populations gain access to accounts, payments, savings, and credit, increasing total transaction and lending volumes.
- 2 Smaller transaction sizes create operational pressure**  
 Serving large numbers of low-value clients is not profitable using traditional, staff-intensive banking models.
- 3 Institutions invest in efficiency**  
 Banks respond by digitalizing processes, streamlining operations, and reducing per-transaction costs, driving down staff expenses relative to total operating costs.
- 4 Profitability improves**  
 Lower unit costs and higher volumes generate increased interest margins and net income, strengthening the earnings base of the financial system.

- 5 Institutions absorb more risk**  
 Stronger earnings enable banks to build adequate provisions and capital reserves to cover the higher non-performing loan ratios associated with newly included, lower-income borrowers.
- 6 Domestic funding deepens**  
 Growing deposits reduce reliance on foreign capital, lowering foreign exchange risk and vulnerability to external shocks.
- 7 Economy grows**  
 Expansion of financial intermediation leads to enhanced financing of businesses, leading to overall economy growth.

Taken together, the pattern is a financial system that intermediates more, earns more, costs less per unit, and is not less stable than before.

**Financial Inclusion:  
The 'Fitness Program' for Financial Systems**

Michael Fleming, Mark Fleming and Dale G. Krueger

January 2016

Keywords: Financial inclusion, financial stability, financial intermediation, financial development

Abstract: Making financial services available to all is a key goal of development. However, it is a challenge for the IMF's financial system. This paper examines the impact of financial inclusion on the stability of the financial system. It shows that financial inclusion can be a source of financial stability. The paper also discusses the role of financial inclusion in the context of the financial system. The paper is based on a review of the literature on financial inclusion and financial stability. The paper is based on a review of the literature on financial inclusion and financial stability. The paper is based on a review of the literature on financial inclusion and financial stability.

Download the full paper here:

[\*\*"Financial Inclusion: The 'Fitness Program' for Financial Systems"\*\*](#)

## IMPLICATIONS FOR POLICYMAKERS AND REGULATORS

The empirical research results support the policy recommendations that we develop in this section.

### Invest in proportionate supervision

The neutral stability outcome is conditional, not automatic. It depends on financial institutions managing the higher credit risk that comes with newly included populations, which in turn requires banks to engage in effective risk management. On an aggregate basis, the banks identified and priced these risks accurately in the sample. Still, some institutions may have failed and will fail to engage in effective risk management. Effective prudential regulation, including proportionate application of Basel standards, adequate provisioning requirements, as well as institutional and supervisory capacity to assess and monitor evolving risk profiles, enables the financial system to absorb additional risks. Jurisdictions in which the higher default rates of vulnerable clients prompted financial stress should prioritize strengthening risk monitoring and management capacities within the institutions and across supervisory frameworks.

### Reframe the narrative

Financial inclusion should not be positioned solely as a social policy objective, but rather as a financial system and overall economic development strategy. Central banks, finance ministries, and development partners can use these findings to make the case for ambitious national financial inclusion strategies, framing inclusion as complementary to, rather than in conflict with, prudential objectives and economic growth.

### Support digitalization as an enabler

The finding that financial inclusion is associated with a shift from staff-intensive to digital operational models reinforces the case for policies that support digital financial infrastructure: national payment systems, digital identification frameworks, interoperable platforms, digital microcredit, and regulatory frameworks that are proportionate and open to innovation. Investing in these areas can amplify the efficiency gains and contribute to the commercial sustainability of financial inclusion initiatives.

### Inclusion may contribute to reducing external vulnerability

The reduction in unhedged foreign exchange exposures associated with financial inclusion is particularly relevant for small, open economies with less access to FX hedging instruments. Deepening domestic deposit bases through inclusion can be a deliberate strategy to reduce external financing risks, complementing macroprudential policies.

### Strengthen the evidence base

The study identifies important areas for additional research. These include: the interaction between financial inclusion and monetary policy transmission, the effects of financial inclusion across gender, income, and education segments; and the role of specific types of financial institutions (regulated banks in comparison to non-bank financial institutions, fintechs and mobile money operators). Notably, this study does not test whether the stabilizing mechanisms hold under severe macroeconomic stress, nor does it differentiate between types of financial service providers. These are important questions for policymakers designing inclusive regulatory frameworks which the collaborative research project will address going forward.



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