

## The Nexus of Financial Stability, Soundness, and Inclusion on Global Development Indicators

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**Abstract:** This research meticulously investigates the multifaceted influence of financial stability, soundness, and inclusion on a comprehensive array of development indicators across diverse global economies, stratified by income levels. Employing a robust panel data methodology for the period 2008–2022, the study utilizes descriptive, correlation, and fixed pooled regression analyses. Data sources include authoritative global databases from the World Bank and the International Monetary Fund. The dependent variables span economic (inflation rate, current account balance), social (unemployment rate), environmental (CO<sub>2</sub> and total greenhouse gas emissions), governance (democracy index), sustainability (sustainable development index), and human (human development index) dimensions. Our findings conclusively demonstrate that the impact of financial stability, soundness, and inclusion on these critical development indicators is highly heterogeneous across varying income-level economies, underscoring the nuanced and dynamic nature of these intricate relationships.

**Key Words:** *Financial stability, financial inclusion, financial efficiency, sustainable development goals (SDGs), governance, human development index,*

### 1. INTRODUCTION

The contemporary global landscape is characterized by an intricate interplay of economic volatility, geopolitical complexities, and persistent development challenges. While the global economy has demonstrated nascent recovery post-COVID-19, underlying structural impediments, particularly related to aggregate demand management and financial stability, remain salient. Financial stability, as conceptualized by the State Bank of Pakistan, denotes the pivotal interface between financial intermediaries (system, markets, and infrastructure) and investors, predicated on principles of structural integrity and trust. The World Bank further elaborates on financial stability as the adequate provision of resources, efficacious risk mitigation, and systemic economic equilibrium. This inherent stability is inextricably linked to financial soundness—defined as the capacity of a financial system to absorb unanticipated shocks—and financial inclusion, which signifies the populace's equitable access to essential financial services within a national economy.

Global development indicators, systematically compiled and regulated by institutions such as the World Bank and the United Nations Development Program, serve as crucial metrics for assessing progress across diverse developmental dimensions, including poverty alleviation, inequality reduction, environmental stewardship, and governmental efficacy. The attainment of Sustainable Development Goals (SDGs) has emerged as a paramount global imperative, dictating national policy trajectories and implementation methodologies. This research endeavors to elucidate the precise mechanisms through which financial parameters exert influence on these vital

development metrics.

### 2. Literature Review

Prior academic scholarship provides a comprehensive foundation for understanding the profound role of financial factors in national development. A study on 20 frontier markets spanning 2005–2014 demonstrated a statistically significant positive correlation between financial inclusion and human development outcomes (Ababio et al., 2020). Conversely, research encompassing 52 developing economies from 1958–2008 indicated that the evolution of the banking sector is significantly mediated by the quality of institutional frameworks, with robust economic institutions and elevated human development positively influencing banking sector development (Filippidi & Katrakilidis, 2015).

Studies focusing on Southeast Asian nations (2009–2017) revealed a positive relationship between domestic credit proxies and economic growth (Bui, 2019). Complementary research on ASEAN countries (2004–2017) further substantiated that domestic credit generation exhibits an assertive correlation with economic growth, albeit with a diminishing marginal effect beyond an optimal threshold ( $DC^* = 97.5\%$ ) (Aryestya & Marta, 2022). For South Asian economies (1980–2012), a positive nexus was identified between financial stability, proxied by the financial sustainability index, and economic development, represented by the human development index (Anwar & Nasreen, 2018).

Further investigations have revealed nuanced relationships. In Nigeria (1980–2015), international remittances were found to have a positive, albeit minor, impact on domestic credit to the private sector, while

foreign aid exhibited a negative association (Samuel et al., 2018). Within the European Union (2004–2014), while private credit did not strongly predict economic growth, stock market expansion showed a positive influence. Crucially, financial instability and elevated non-performing loans stemming from financial crises were found to exert detrimental effects on economic growth (Sotiropoulou et al., 2019). Research across Asian economies indicated that financial stability significantly impacts poverty and income inequality, whereas financial inclusion presented mixed effects (Ratnawati, 2020).

A broad study of developed and developing countries (1993–2015) highlighted that both international trade and capital flows positively contribute to economic growth. However, financial disturbances, high inflation, and non-performing loans were observed to negatively impact both financial stability and economic growth (Younsi & Nafla, 2019). For BRICS nations (1995–2018), financial stability, economic growth, technological advancements, and imports were identified as contributors to carbon emissions, while renewable energy and exports had a positive environmental impact (Wahab et al., 2022). More recent work comparing "Fragile Five" and G7 countries (1998–2020) affirmed a robust link between financial stability and economic growth in both country groupings (Kurtoglu & Ciftci, 2024).

The nexus between financial systems and human development has also been extensively explored. Across 185 countries, including 21 from the Middle East and North Africa (1990–2019), stable and developed financial systems were robustly linked to human development and its constituent elements, irrespective of the country's economic stage (Awdeh et al., 2023). However, a study across 26 countries (2011–2018) presented a significant *negative* correlation between financial stability and sustainable development in Asian countries, noting African economies' lag in sustainable development compared to European and Asian counterparts (Ozili & LoreMBER, 2023).

Innovations in research methodologies, including the use of AI tools, have corroborated connections between financial indicators (e.g., financial development, sustainability, inclusion) and the Human Development Index (Christina Patricia & Genaro, 2023). Demand-side drivers for financial inclusion were identified as financial literacy and human development, while the supply side was significantly influenced by the density of commercial bank branches (Gerald et al., 2022). Furthermore, consumer inflation (1986–2020) was found to exert significant short and long-term impacts on financial sector development, particularly during economic expansions (Yue et al., 2022). Financial inclusion also demonstrated a positive relationship with population growth across various income-level countries (1984–2018) (Pal, 2022).

The relationship between financial development and current account balances has been explored in MENA countries (1990–2018), revealing that financial development indicators influence current account balances, with corruption negatively affecting this

balance (Bousnina & Gabsi, 2021). Economic indicators have also been linked to financial development; a study across 120 countries (1997–2017) indicated that financial development and economic growth can have inverse relationships but also positive links with inflation and employment growth (Wen et al., 2021). Lastly, the intricate interplay between financial sector development and environmental quality, particularly carbon emissions, has been noted in regions like the Belt and Road Initiative countries, where environmental quality is often compromised by urban population growth (Li et al., 2021). Another study on the top seven economies (1990–2018) highlighted the complex influence of financial factors on carbon emissions (Orazalin et al., 2019).

This extensive body of literature establishes a compelling rationale for our investigation into the precise mechanisms through which financial stability, soundness, and inclusion contribute to multifaceted global development.

### 3. Research Methodology

This study utilized a robust panel dataset spanning from 2008 to 2022, thus encompassing various global economic cycles and crises. The empirical analysis focused on global economies, disaggregated by World Bank income classifications, with a specific emphasis on the top 50 global economies by GDP. Data procurement adhered to rigorous standards, drawing primarily from authoritative sources such as the World Bank database, the International Monetary Fund (IMF) database, Economic Intelligence Unit (EIU) reports, and other reputable global data repositories.

The analytical framework incorporated descriptive statistics for initial data characterization, correlation analysis to identify bivariate relationships, and a fixed pooled regression model for robust inference on panel data. All statistical computations were performed using E-views software.

#### Dependent Variables (Proxies for Development Indicators):

- **Economic Development:** Inflation Rate (IR) and Current Account Balance as a percentage of GDP (CAD).
- **Social Development:** Unemployment Rate (UR).
- **Environmental Development:** CO2 Emissions per Kiloton (CO2) and Total Greenhouse Gas Emissions per Kiloton (TGE).
- **Governance:** Democracy Index (DI).
- **Sustainability:** Sustainability Development Index (SDG\_Score).
- **Human Development:** Human Development Index (HDI).

#### Independent Variables (Proxies for Financial Stability, Soundness, and Inclusion):

A comprehensive suite of independent proxies was employed to capture the multidimensional aspects of financial stability, soundness, and inclusion. These

included: Bank Capital to Assets Ratio (BCAR), Non-Performing Loan Ratio of Commercial Banks (NPLR), Domestic Credit Sanctioning to Private Sector by Financial Institutions (DCB), Operational Branches of Commercial Banks per 0.1 Million adults (CBB), Personal Remittance (PR), Broad Money (BM), Official Currency Exchange Rate (OER), Gross Domestic Product (GDP), Foreign Direct Investments (FDI), Total Reserves (TR), Yield Spread (IRS), and Real Policy Rate (RI).

### Hypotheses:

- **H0 (Null Hypothesis):** There is no statistically significant interconnectivity between financial stability, soundness, and inclusion and global development indicators.
- **H1 (Alternative Hypothesis):** There is a statistically significant interconnectivity between financial stability, soundness, and inclusion and global development indicators across various dimensions (human, economic, social, governance, sustainability, and environmental development).

## 4. Empirical Findings

The empirical analysis decisively demonstrates that financial stability, soundness, and inclusion exert a measurable impact on global development indicators. Critically, this impact is not uniform but rather highly heterogeneous across economies categorized by different income levels. While certain independent proxies of financial stability, soundness, and inclusion exhibit pervasive significance across all economic strata, others demonstrate heightened importance within specific income segments. Furthermore, the significance of these independent proxies varied considerably depending on the specific development indicator under examination. For instance, in the context of governance development (proxied by the Democracy Index), commonly significant independent variables included the Non-Performing Loan Ratio of Commercial Banks (NPLR), the density of Operational Branches of Commercial Banks (CBB), Domestic Credit Sanctioning to the Private Sector by Financial Institutions (DCB), Personal Remittance (PR), and Total Reserves (TR). These findings underscore the complex and context-dependent nature of the relationships studied.

## 5. Conclusion, Limitations, and Recommendations

### 5.1 Conclusion

This study has rigorously delineated the intricate interconnectivity between financial stability, soundness, and inclusion and a comprehensive spectrum of global development indicators, encompassing human, economic, social, governance, environmental, and sustainability dimensions. The core conclusion is that the influence of financial stability, soundness, and inclusion is dynamic and varies significantly across distinct income-level economies. This research offers critical empirical insights for policymakers, academics, and practitioners committed to advancing global development by strategically leveraging financial sector parameters.

### 5.2 Limitations

Acknowledging the inherent constraints of any extensive empirical research, this study faced limitations primarily related to resource availability and temporal scope. Challenges in data acquisition for a vast sample of over 200 countries included issues of documentation completeness, potential biases, and restricted access due to national policies or geographical impediments. These acknowledged limitations delineate specific avenues for future scholarly inquiry, particularly advocating for expanded data collection efforts and the integration of additional development indicators and financial proxies.

### 5.3 Recommendations

Based on the empirical findings, this study strongly recommends that specialized researchers continue to explore the intricate relationships between diverse financial indicators and comprehensive development parameters. Policy-making bodies and regulatory institutions are urged to leverage these insights to formulate targeted policies and regulatory frameworks designed to enhance development indicators while simultaneously fostering a robust and resilient financial ecosystem. Future research endeavors could significantly enrich this domain by incorporating a wider array of both secondary and primary variables, thereby offering more granular and holistic perspectives.

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