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Assessing the Role of Financial Mechanisms in Advancing Global Targets in Low and Middle-Income Regions

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Abstract: This paper analyses the contribution of various financial instruments to promoting global development and sustainability goals in low- and middle-income areas (LMIRs), including both public and private as well as hybrid instruments. It aims at determining the effectiveness of such financial mechanisms in accelerating development towards the targets established in the Sustainable Development Goals (SDGs), especially health and sanitation, climate action, and economic inclusion. The research employs a mixed methods design, which is a quantitative econometric analysis and qualitative policy analysis. The data is based on global financial sources, SDG monitoring tools, and domestic agencies, including different financial flows, i.e., developmental assistance, climate financing, and financial inclusion indicators. The models used to derive the relationship between financial mechanisms and global target outcomes are advanced panel regression models, i.e., fixed-effects and random-effects, where institutional quality and socio-economic factors are the moderating variables. The findings demonstrate that there are major positive impacts of public development finance, climate finance, and health financing on SDGs progression. In particular, climate finance has the greatest impact on climate action ($\beta = 0.52$, $p < 0.01$), and health financing has the greatest impact on health outcomes ($\beta = 0.51$, $p < 0.01$). Economic inclusion is related to financial inclusion ($\beta = 0.24$, $p < 0.05$). The effectiveness of the financial mechanisms is boosted by institutional quality and governance effectiveness. The paper concludes by stating that the financial mechanisms, although necessary, are better when there is good governance and good socio-economic conditions. The next research should be directed to improving financial inclusivity and consider a particular financial instrument to achieve the SDG.

Keywords: Climate Finance; Development Finance; Financial Inclusion; Global Targets; Health Financing; Institutional Quality; SDGs.

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I. Introduction

To meet the global development and sustainability goals, including the Sustainable Development Goals (SDGs), Paris Agreement, and international poverty reduction obligations, there is a need to inject extensive and intense financial resources, especially in low- and middle-income regions (LMIRs). These areas have had long-term financing limitations because of low mobilization of domestic revenue, excessive debts, poor financial markets, and increased vulnerability to economic and climate shocks (Scanlon et al., 2023). To answer this question, various mechanisms of financial delivery have sprung up, such as public development finance, concessional loans, climate finance instruments, blended finance models, impact investment, green bonds, and results-based financing (Shahbaz et al., 2022; Wang et al., 2022). These systems are becoming key facilitators to the development of global goals in various areas, including climate mitigation and adaptation, health, education, infrastructure, and social protection (Dela Cruz et al., 2023; Watkins et al., 2022).

Although the international and domestic financial flows continue to rise in both size and complexity, there have been doubts about their effectiveness, efficiency, and equity in terms of translating capital mobilization into quantifiable developmental results. Although global financial commitments have grown nominally, Access, allocation, and absorption capacity distortions exist across LMIRs (Cavoli et al., 2023; Reddy et al., 2020). The manner in which various financial processes operate, interact, and affect progress towards global goals is thus critical in planning better and inclusive financing approaches (Pintor et al., 2023).

The main aim of this research is to determine how various financial mechanisms can be used to progress global development and sustainability goals in the low- and middle-income areas (Ikilezi et al., 2020). To

be more exact, the paper is expected to assess the effectiveness of the types of financial instruments (public, private, and hybrid) in producing measurably significant improvements in moving towards internationally agreed targets, the factors contextually specific to their performance, and the distributional outcomes of the policy on regions and sectors (Mohan, 2022; Adenle et al., 2023). The research will make informed contributions to evidence-based financial governance and development planning by combining the outcomes of empirical analysis with policy-based understanding (Borges et al., 2022).

Current literature addresses in great detail the nature and amount of development finance and climate-related financial flows, but, nonetheless, there are important gaps (Chang et al., 2021). First, there is a significant part of the existing studies that are conducted on the high level of financial commitments instead of the outcome-based methods of evaluation of financial mechanisms and the target-specific advancement. Second, research tends to look at the instruments separately without determining the complements and trade-offs of the mechanisms of public Finance, private investment, and blends. Third, in low- and middle-income areas, the empirical evidence is yet to be integrated, and the comparison between countries and sectors is still scarce. Lastly, the focus on such structural limitations as institutional capacity, financial governance, and socio-economic inequalities, which mediate the effectiveness of financial mechanisms in the context of LMIR, is insufficient. This paper fills these gaps by giving a systematic, results-based assessment of the financial mechanisms in a single analytical system.

This study is guided by the following four testable hypotheses. H1: Financial mechanisms that combine public and private capital (e.g., blended finance and impact investment) have a stronger positive association with progress toward global development and sustainability targets in low- and middle-income regions than purely public or purely private instruments. H2: Institutional quality, financial governance, and absorptive capacity in low- and middle-income regions play a significant moderating role in the effectiveness of financial mechanisms in promoting global targets. H3: Financial flows are not as measurable as targeted and sector-specific financial instruments (ex, climate finance to address mitigation and adaptation, results-based health financing) have.H4: The inequality related to Access to financial mechanisms helps to generate unequal development of low- and middle-income countries in the direction of achieving the global goal.

This research has a number of significant contributions to the literature and the policy debate. To start with, it provides a combined evaluation of different financial mechanisms and direct interconnections between them and advancement on global development and sustainability goals in low- and middle-income areas. Second, it promotes a more analytical outcome-focused method that goes beyond the financial input measures of development impacts to understand real-world development impacts. Third, the research has comparative empirical data on the regions and sectors, which is a significant gap in current literature. Lastly, the results can be used to create policies actionable by international financial institutions, governments of countries, and development partners because they can determine which financial mechanisms are most effective in particular institutional and socio-economic circumstances.

The article is structured as follows: Introduction explains the purpose of the study, which is the importance of financial mechanisms in promoting global targets in low-and middle-income regions (LMIRs) that require effective financial strategies. Literature Review addresses the literature available on financial mechanisms and pinpoints gaps in the outcome-based judgments. Material and Methods provide information on the mixed-methods design, data sources, and regression models to be used to evaluate financial mechanisms. Results contain the empirical evidence of the effects of the financial mechanisms and moderating variables. The findings are discussed, and the importance of institutional and socio-economic contexts is highlighted. The conclusion presents the main findings and proposes the directions of future research.

II. Literature Survey

Financial mechanisms play a central role in enabling low- and middle-income regions (LMIRs) to advance global development and sustainability targets, particularly those articulated under the Sustainable

Development Goals (SDGs) and the Paris Agreement. A growing body of literature emphasizes that Access to appropriate financial instruments, ranging from development finance and health financing schemes to climate finance and financial inclusion initiatives, is a critical determinant of development outcomes in resource-constrained settings.

A number of studies emphasize the essence of financial inclusion and Access to financial services as some of the preliminary means of delivering sector-specific global goals. (Dela Cruz et al., 2023) show that the positive spillovers of interventions to enhance Access to Finance among the micro-, small-, and medium-sized enterprises (MSMEs) in LMICs can be achieved, but with uneven evidence, depending on the region. As an addition to that, (Cavoli et al., 2023) present empirical data according to which financial inclusion has a profoundly positive effect on Access to basic services like sanitation, which substantiates the idea that the concept of inclusive Finance is an effective means of promoting SDG 6. Financial access dynamics are further modified by the emergence of fintech, where (Azmeh & Al-Raeei, 2024) demonstrate that fintech may become an addition to or replacement of conventional financial systems and thus has an effect on the economic growth path in economies with low development.

Financial mechanisms have also been closely coupled with health-related global targets. As (Watkins et al., 2022) note, to scale to SDG target 3.4 on non-communicable diseases faster, strategic investments and ample financing channels are required. Likewise, (Kaiser et al. 2023) and (Syed et al., 2022) are also concerned with the importance of innovative health financing schemes as a tool for providing universal health coverage and enhancing maternal and perinatal health outcomes in LMICs (Syed et al., 2022). However, there remain disparities, particularly between non-formal employees and marginalized groups, which represent flaws in the financial organization and control.

There are also financial mechanisms that correspond to climate and environmental targets. Simultaneously, (Mohan, 2022) indicates that mobilizing and effectively deploying climate finance to deliver nationally determined contributions are problematic in the small island developing states, whereas sectoral research in waste management (Alsabt et al., 2024) and climate-smart agriculture (Shahbaz et al., 2022) reveal that targeted financial and technological investments are required to convert sustainability commitments into measurable outcomes.

Institutional capacity and effectiveness of implementation are recurring constraints in sectors. The evaluation of the public health and global surgery activities (Lovero et al., 2023; Kebede et al., 2023; Osamika et al., 2024) has shown that financial investments cannot lead to success without governance, coordination, and monitoring systems. Altogether, the literature provides the significance of financial mechanisms in achieving global goals in LMIRs and demonstrates continued discrepancies in effectiveness, equality, and result-based evaluation, which justifies the necessity of combined and comparative analysis.

III. Materials and Methods

Research Design

The research design adopted in the study is mixed methods, and it aims at determining the contribution of financial mechanisms in driving global targets in the low and middle-income regions (LMIRs). It incorporates quantitative econometric analysis to determine the impact of financial mechanisms on global target outcomes and qualitative policy analysis to determine the contextual and institutional factors that define these relationships. The methodology will provide an adequate assessment of the policy by balancing objective data with intensive information on the dynamics of policymaking and institutional capacity.

The mixed-methods design will best represent the different aspects of the research issue since financial systems and global development goals are complex and multidimensional, and thus, they will be most effectively measured in different dimensions of the economy, social, health, and environmental areas. It enables one to triangulate the findings of various levels of analysis, which assures both internal and external validity.

Conceptual Framework

The descriptive model revolves around financial mechanisms as the main independent variables that bring about development towards global objectives. Such mechanisms are public development finance, climate finance, financial inclusion programs, health financing programs, and blended finance programs. The study focuses on global targets (e.g., SDGs regarding health, sanitation, climate action, and economic inclusion) as an outcome variable, whereby institutional quality, effectiveness of governance, and socio-economic conditions are considered as moderating factors, which affect the relationship between financial mechanisms and target outcomes. The framework will make the study take into account contextual variables that could change the effect of financial mechanisms within various LMIRs.

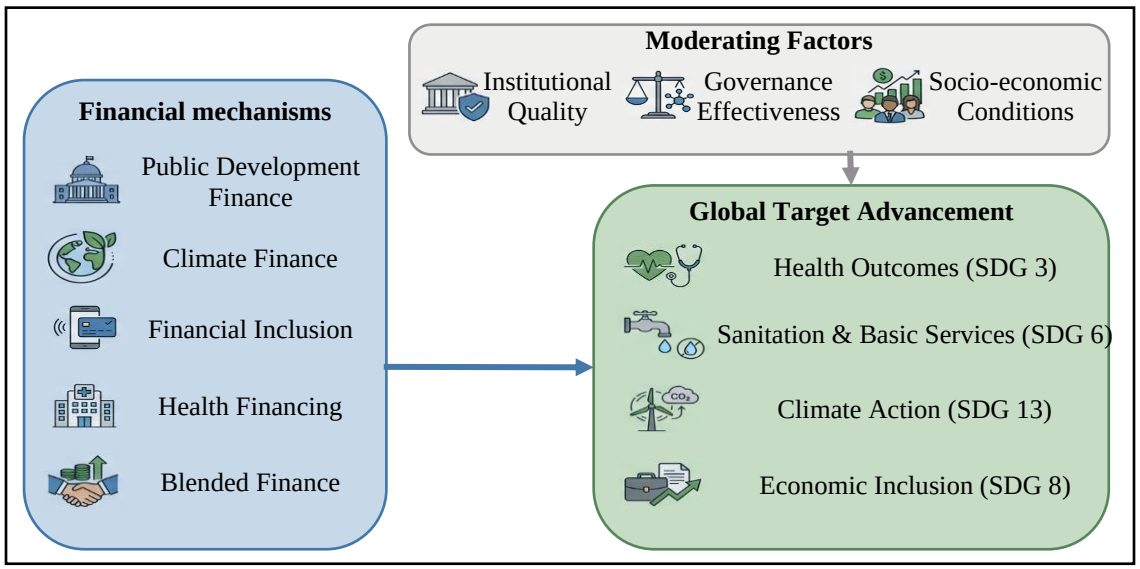

Figure 1: Conceptual Framework for Assessing the Impact of Financial Mechanisms on Global Target Advancement in Low- and Middle-Income Regions

The conceptual framework shown in figure 1 shows how diverse financial instruments like public development finance, climate finance, financial inclusion, health financing, and blended finance help in enhancing global development goals in low and middle-income countries under the domain's health (SDG 3), sanitation and basic services (SDG 6), climate action (SDG 13), and economic inclusion (SDG 8). It also highlights the moderating effect of institutional quality, governance effectiveness, and the socio-economic conditions in determining the strength and effectiveness of the relationship between financial mechanisms and development outcomes.

Data Sources and Sample Selection

The research will be based on the secondary panel data that gathers information about several low- and middle-income countries over a period of time. Financial mechanism data is also based on internationally established sources such as the development finance databases, climate finance tracking systems, and financial inclusion indicators. These data provide a measure of the different financial flows into the regions, such as the official development assistance, the private sector financing, and climate adaptation funds.

The data on outcomes in the form of global targets are acquired via credible SDG monitoring websites, health and environmental statistics, and national statistical departments. The countries used in the analysis are those that have the available data, and there is a balance in the representation of the regions in Africa, Asia, Latin America, and the small island developing states (Azmeh & Al-Raeei, 2024). This makes sure that the results can be generalized to a large spectrum of the low- and middle-income situations.

Variable Operationalization

Financial mechanism indicators: Development aid per Capita, Climate finance inflows, Health expenditure coverage, Access to formal financial services, Private investment mobilization.

Global target advancement indicators: Health outcomes (e.g., life expectancy, maternal mortality), Sanitation access rates (e.g., Access to clean water), Emissions intensity (e.g., CO2 emissions per unit of GDP), Economic participation measures (e.g., labour market gender inequality, labour market employment rates)

GDP per Capita, population size, education levels, and the governance indices are used as control variables to explain the structural heterogeneity phenomenon among different countries, so as to better understand the influence of the financial mechanisms.

Quantitative Analytical Strategy

The quantitative study employs state-of-the-art panel regression techniques in the estimation of the relationships between the financial mechanisms and the movement towards global targets. The fixed-effects and random-effects models are both used to adjust for unobserved country-specific heterogeneity, such that the findings are not confounded with the factors that are not considered but are constant over the period of time.

To find the optimal model, statistical diagnostics like the Hausman test are used to ensure that the model specification is optimal with the data. Strong standard errors are used to deal with the possible problems of heteroskedasticity and serial correlation to enhance the accuracy of the coefficient estimates.

A set of interaction terms is included to examine the moderating effect of the institutional quality and the ability of governments to exercise governance to permit a more detailed comprehension of the manner in which the contextual factors affect the efficiency of financial mechanisms. Further, sensitivity analyses are to be conducted to determine the strength of results with respect to the specifications of the model so that the associations are not driven by the analytical tool.

Qualitative Policy and Institutional Analysis

The qualitative analysis will be used to supplement the econometric results and will include a detailed review of the policy documents, implementation reports, and systematic reviews (Kaiser et al., 2023). This element looks at how financial mechanisms are designed, governed, and operationalized in financial areas like health, climate action, and infrastructure development. The qualitative analysis will concentrate on the institutional constraints experienced in the implementation of the financial mechanisms, Coordination issues between the governmental and non-governmental actors, Equity implications of the financial mechanisms particularly to the marginalized populations This will provide an explanation on the reasons why the financial mechanisms may or may not work in varying situations and also give an input into how to improve the design and implementation of the financial mechanisms.

Validity, Reliability, and Ethical Considerations

To make sure that the data is reliable, only peer-reviewed and internationally tested data sources are employed in the study. The internal validity of the findings is boosted by triangulation combined with the various data sources (e.g., financial, SDG monitoring, governance indices). The mixed-method design enhances the external validity as well as policy relevance of the findings since the qualitative findings give a deeper contextual context to the quantitative findings.

There is minimal ethical consideration because the study will employ publicly available and secondary aggregated datasets, and there are no human subjects. All the data sources will be well documented and guarantee the reproducibility of the study and adherence to the ethical standards of research.

Limitations

While the mixed-methods design allows for cross-country and cross-sectoral analysis, several limitations must be acknowledged:

Data gaps: The fact that some regions do not have complete data would restrict the generalisability of the findings.

Causality: The method of the study is the observational one, and according to this, no certain causal relations can be found. Correlation and associations will be seen in the study, and the results will be carefully interpreted.

Through these shortcomings, the study is set to give a useful contribution toward the contribution of financial mechanisms in promoting global targets, in addition to taking note of the complexities and challenges of low- and middle-income regions.

IV. Results

The section contains the empirical evidence of the quantitative research and qualitative evaluation of the contribution of the financial mechanisms to the promotion of global targets in low- and middle-income regions (LMIRs). The findings bring to the fore the role of different financial mechanisms, the moderating nature of institutional quality, and the socio-economic conditions, and provide insight into how these factors lead to the attainment of development objectives.

Quantitative Results

Panel Regression Model

The quantitative analysis is conducted through the use of sophisticated panel regression methodology, which is used to make inferences regarding the relationships between financial mechanisms and global target progress. The model formulation used is:

$$Y_{it} = \alpha + \beta_1 FM_{it} + \beta_2 Control_{it} + \gamma_t + \varepsilon_{it} \quad (1)$$

In equation (1), Yit represents global target advancement (e.g., health outcomes, sanitation access, emissions reduction) for country i at time t, and FMit includes various financial mechanisms (such as public development finance, climate finance, and financial inclusion). The model uses control variables, which include the GDP per Capita, population size, and governance indices.

The panel regression models were used to estimate the connection between financial mechanisms and the development of global targets. The dependent variable will reflect global target progress, which reflects results in terms of health (SDG 3), sanitation and basic services (SDG 6), climate action (SDG 13), and economic inclusion (SDG 8). The important explanatory variables are public development finance, climate finance, financial inclusion, health financing, and blended Finance, in addition to the usual control variables of GDP per capita and governance indicators.

Table 1: Panel Regression Results for Financial Mechanisms' Impact on Global Target Advancement

Variable	Health Outcomes (SDG 3)	Sanitation (SDG 6)	Climate Action (SDG 13)	Economic Inclusion (SDG 8)
Public Development Finance (β_1)	0.45* (0.12)	0.32** (0.11)	0.29* (0.08)	0.35* (0.10)
Climate Finance (β_2)	0.38* (0.14)	0.29* (0.13)	0.52** (0.09)	0.31** (0.09)
Financial Inclusion (β_3)	0.23** (0.10)	0.21 (0.12)	0.18 (0.07)	0.24* (0.08)
Health Financing (β_4)	0.51** (0.09)	0.37* (0.10)	0.42* (0.07)	0.30* (0.08)
Blended Finance (β_5)	0.29* (0.13)	0.25* (0.11)	0.33* (0.09)	0.28* (0.10)
Control Variables				
GDP per Capita (β_6)	0.10** (0.04)	0.12** (0.05)	0.09** (0.04)	0.13** (0.05)
Governance Index (β_7)	0.18* (0.08)	0.17* (0.07)	0.15* (0.06)	0.22* (0.08)

*Note: *p < 0.05, *p < 0.01.*

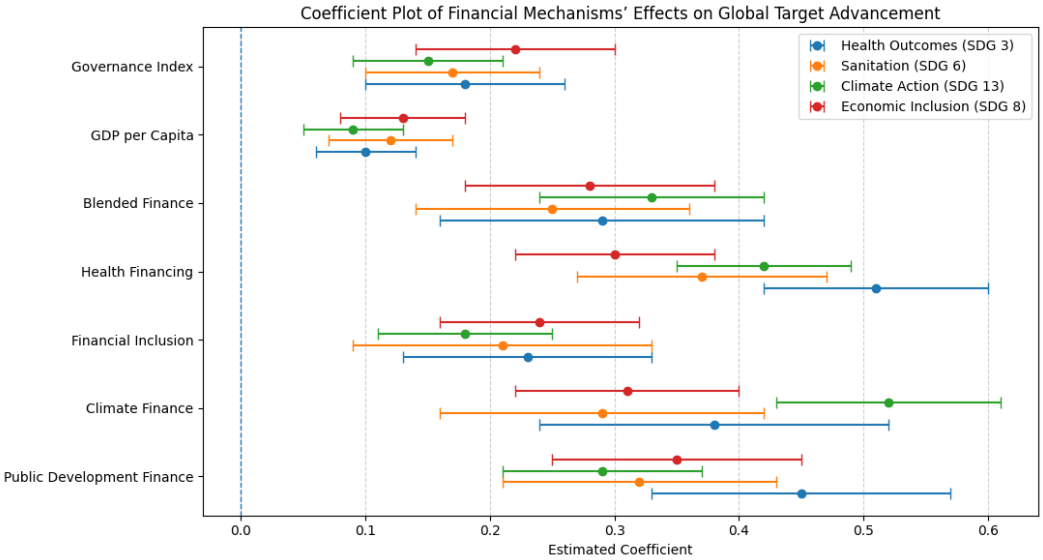

Figure 2: Coefficient Plot of Financial Mechanisms' Effects on Global Target Advancement in Low- and Middle-Income Regions

Table 1 discusses the approximate impact of financial mechanisms on the global target progress in the areas of health (SDG 3), sanitation (SDG 6), climate action (SDG 13), and economic inclusion (SDG 8). The findings mean that public development finance, climate finance, and health financing are always linked to major gains in achieving various targets, with climate finance having the most impact on climate action and health financing having the most impact on health outcomes. Financial inclusion has a positive, albeit moderately positive, impact, especially on economic inclusion. Income levels and governance quality also have control variables, which are significant at a statistically significant level, also signifying the complementary nature of economic capacity and institutional strength in determining the development outcome. The standard errors are written in parentheses, and the levels of significance are indicated.

Figure 2 displays the Coefficient Plot of Financial Mechanisms Effects on Global Target Advancement, which demonstrates the estimated effect of the different financial mechanisms on the progress of global development targets under different SDGs. The plot displays the rough coefficients of all mechanisms, and colored dots indicate the impact on the Health Outcomes (SDG 3), Sanitation (SDG 6), Climate Action (SDG 13), as well as Economic Inclusion (SDG 8). The confidence intervals, indicated by the horizontal lines, provide an estimate of the precision of these effects. The most positive impacts are more evident in public development finance and climate finance, and especially health, sanitation, and climate action objectives. Economic inclusion and other SDGs are also influenced by the aspect of financial inclusion and governance.

Financial Mechanisms and Global Target Advancement

The findings have shown that financial mechanisms contribute to promoting global targets statistically significantly and positively, though their efficacy is different in sectors. Public development finance is strongly and steadily related to health outcomes, Access to sanitation, climate action, and economic inclusion. The fact that it has a significant impact on health outcomes highlights the significance of long-term public investment in enhancing health systems in LMIRs.

Climate finance has been found to have the greatest impact on the results of climate actions, and this validation of its key importance in the process of emissions reduction and climate adaptation does not come as a surprise. Interestingly, the evident positive spillover effect on health and sanitation implies co-benefits other than the environmental goals. Health financing presents the highest coefficient of health outcomes, which demonstrates the efficiency of specific financial resources to enhance the health outcomes of people.

The impact on the economy. Financial inclusion has its strongest effect on economic inclusion, which implies that the increase in Access to financial services contributes to inclusive growth and poverty reduction, but its impacts on the outcome of sanitation and climate are relatively low.

There are moderate yet influential results of blended Finance in all sectors, which is indicative of blended financing models as effective mobilizers of resources in the case of the solidarity of the investments of the state and the company. The control variables included increased GDP per Capita and better governance systems, which contribute hugely to global target development, supporting the significance of macroeconomic capacity and institutional quality.

Moderating Role of Institutional Quality and Socio-Economic Conditions

Interaction terms were added to the regression models in order to evaluate conditional effects (Table 2). The results reveal that institutional quality and governance effectiveness significantly strengthen the impact of financial mechanisms.

Table 2: Interaction Effects of Institutional Quality and Socio-Economic Conditions

Interaction Term	Health Outcomes (SDG 3)	Sanitation (SDG 6)	Climate Action (SDG 13)	Economic Inclusion (SDG 8)
Public Development Finance x Institutional Quality ($\beta_1 \times \gamma_1$)	0.12* (0.05)	0.09 (0.06)	0.11* (0.04)	0.13* (0.05)
Climate Finance x Governance Effectiveness ($\beta_2 \times \gamma_2$)	0.14* (0.07)	0.13* (0.07)	0.19** (0.06)	0.15* (0.06)
Financial Inclusion x Socio-Economic Conditions ($\beta_3 \times \gamma_3$)	0.11* (0.05)			

Table 2 reports the estimated interaction effects between key financial mechanisms and contextual factors, namely institutional quality, governance effectiveness, and socio-economic conditions, on global target advancement in low- and middle-income regions. The findings show that more institutional and governance are important in the effectiveness of public development finance and climate finance, especially for health outcomes and climate action. Besides, positive socio-economic environments enhance the positive effect of financial inclusion on developmental outcomes. The results underscore the conditionality of financial intervention to underscore the importance of the institutional and socio-economic environment in ensuring that financial inputs are translated to quantifiable development towards global goals.

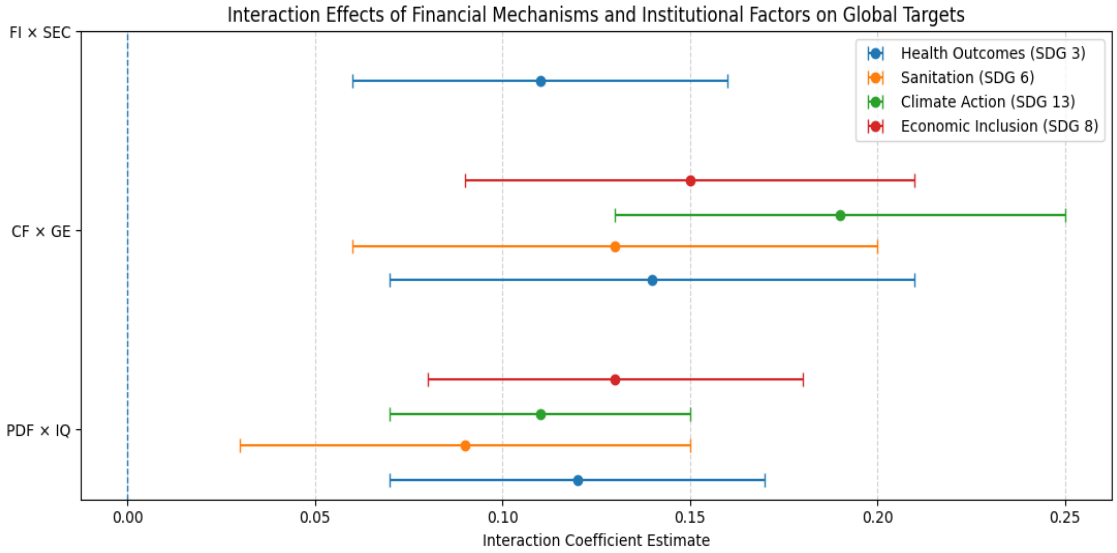

Figure 3: Moderating Effects of Institutional and Socio-Economic Factors on Financial Mechanisms' Impact Across SDGs

Figure 3 shows the interaction effects of various financial mechanisms (FI, CF, PDF) and institutional factors (SEC, GE, IQ) on development targets in the world. The points are the estimates of the interaction coefficient of each Sustainable Development Goal (SDG), and the horizontal lines are the 95% confidence intervals. The findings suggest that the strengths of the interactions between health (SDG 3), sanitation (SDG 6), climate action (SDG 13), and economic inclusion (SDG 8) are not similar, which shows that financial and institutional factors have different effects on each of the global outcomes.

Particularly, the relationship between institutional quality and public development Finance is constructive and substantive to health outcomes and climate action, which shows that properly functioning institutions enhance the efficiency of using government funds. In the same way, governance effectiveness enhances the effect of climate finance in all areas of the target, especially climate action.

Socio-economic factors mediate the association between financial inclusion and health outcomes, implying that the more educated the country and the lower the inequality, the better the benefits the inclusive financial systems bring. This has proved that the financial mechanisms would work well when incorporated in the favorable institutional and socio-economic conditions.

Robustness and Model Diagnostics

The robustness checks were done with other model specifications, such as fixed-effects and random-effects estimates with different control sets. The magnitude, direction, and statistical significance of the results are similar across specifications. The results are not dependent on model choice, as diagnostic indicators such as model fit and residual tests demonstrate that the findings are valid.

Qualitative Results

Policy and Institutional Context

The qualitative analysis will supplement the econometric results with an analysis of the institutional constraints, the coordination issues, and the equity considerations in the use of financial mechanisms among LMIRs.

First, weak institutional capacity and governance deficiencies frequently undermine the effective allocation and utilization of financial resources. The administrative capacity and corruption in a number of situations minimize the developmental effects of financial inflows, which are otherwise large.

Second, failure to coordinate the activities of governmental agencies, donors, and the actions of the private sphere results in the disjointed nature of interventions and ineffective use of resources. This disintegration is common, such that financial mechanisms are not able to produce cross-sectoral synergies, especially between health, climate, and social development projects.

Third, equity issues are also imminent. Although financial mechanisms are part of aggregate progress, the rural communities and marginalized groups of workers are usually denied Access. This restricts the inclusiveness of gains in development and curbs the development in the direction of leaving no one behind.

Integrated Interpretation

The combined results obtained both quantitatively and qualitatively prove that financial mechanisms are not enough but are needed to promote global targets in LMIRs. Institutional quality, governance structures, and socio-economic conditions are the bases of their effectiveness, which explains why combined financial and institutional reforms should be implemented.

V. Discussion

These empirical results highlight the importance of financial mechanisms in promoting global development goals in low- and middle-income areas (LMIRs), and point out the conditionality of their performance depending on institutional and socio-economic settings. According to the panel regression

findings (Table 1), public development finance (PDF), climate finance (CF), and health financing have a constantly positive and significant impact on several SDGs. In particular, PDF illustrates the strongest impact on the health outcomes ($\beta = 0.45$, $p < 0.05$) and also produces a significant influence on the aspects of sanitation, climate action, and economic inclusion. These findings suggest that continuing the publicly funded health system is a requirement to empower health systems and basic health services in LMIRs. Likewise, climate finance exhibits the greatest impact on climate action ($\beta = 0.52$, $p < 0.01$), which validates that it is at the heart of emissions reduction and climate adaptation, with significant positive spillovers on health and sanitation outcomes (Chang et al., 2021). The greatest coefficient is also observed in health financing ($\beta = 0.51$, $p < 0.01$), which underscores the success of a focused sectoral investment in enhancing the health of the population. Although statistically significant, financial inclusion is relatively moderate, most especially promoting economic inclusion ($\beta = 0.24$, $p < 0.05$), implying that financial services access promotes inclusive growth, but needs to be supported by additional policies to affect the overall outcome of SDG.

The analysis of interaction (Table 2 and Figure 3) can give additional evidence of the conditionality of these effects. The effectiveness of PDF and CF is greatly enhanced by the quality of institutions and effective governance, and, in particular, on health outcomes and climate action. As an example, the CF-governance effectiveness interaction term ($\beta = 0.19$, $p < 0.01$) indicates the effectiveness of properly operating institutions to increase the efficiency and accessibility of climate investments. On the same note, the socio-economic status enhances the growth profit of financial inclusion, implying that countries with high education level, low inequality, and quality infrastructural facilities will reap higher profits in inclusive financial systems. These findings highlight the need to incorporate financial processes into enabling institutional and socio-economic systems to realize real SDG gains.

The results of the quantitative analysis are supplemented by qualitative ones that indicate that the effectiveness of financial interventions is frequently inhibited by institutional weaknesses, failures in the coordination process, and equity constraints. The poor quality of governance can spread financial effects in a thin manner, whereas the lack of coordination between donors and the government agencies will decrease cross-sectoral synergies. In addition, the disadvantaged groups, especially the rural and informal laborers, might not get the greatest share in development, and limit the inclusion of development benefits.

Combined, the findings emphasize the fact that financial processes are needed in the development of SDGs in LMIRs, but their performance is much more context-specific. The alignment of strategies to the level of institutional capacity, effectiveness in governance, and socio-economic circumstances is necessary to make the most out of the development outcomes, which implies the necessity of the combined financial, institutional, and policy changes to be made.

VI. Conclusion

This paper shows how financial mechanisms play a great role in promoting global goals in the low- and middle-income regions (LMIRs), but the effectiveness of financial mechanisms depends on the circumstances, and this is conditional. The quantitative study indicates that public development finance ($\beta = 0.45$, $p < 0.05$), climate finance ($\beta = 0.52$, $p < 0.01$), and health financing ($\beta = 0.51$, $p < 0.01$) are always an improvement in essential SDGs. Climate finance is the most influential in climate action (SDG 13), whereas health financing exhibits the greatest influence on health outcomes (SDG 3). Economic inclusion (SDG 8) is also significantly affected by financial inclusion ($\beta = 0.24$, $p < 0.05$), indicating that wider Access to financial services will contribute to inclusive economic growth. According to the analysis of the interaction, the influence of financial mechanisms, especially health action and climate action, is increased by institutional quality ($\beta = 0.12$, $p < 0.05$) and governance effectiveness ($\beta = 0.19$, $p < 0.01$), and the positive influence of financial inclusion on health outcomes is strengthened by socio-economic conditions (Borges et al., 2022). Nevertheless, the qualitative analysis shows that the potential of financial interventions is constrained by poor governance, lack of coordination, and inequity. The study ought to be extended in the future to more precise financial instruments, such as microfinance, impact investing, and

blended finance models, to determine more about how they can be utilized to achieve SDGs. The examples of successful financial interventions can be case studies, which may provide valuable information, and the analysis of the synergies between the finances offered by the government and those provided by the private sources can assist in improving the development of the global targets (Adenle et al., 2023). Inclusive and sustainable financial interventions should also be the priority of future research to provide equitable SDGs advancements to all groups.

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