RCI-POD #25

Understanding financial inclusion: what matters and how it matters

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Motivation

- Economic literature show that higher financial inclusion leads to better socioeconomic outcomes (lower poverty and income inequality; and higher women empowerment and entrepreneurship).

- We show that the significance of financial inclusion and its dimensions on socioeconomic outcomes differ across country income groups.

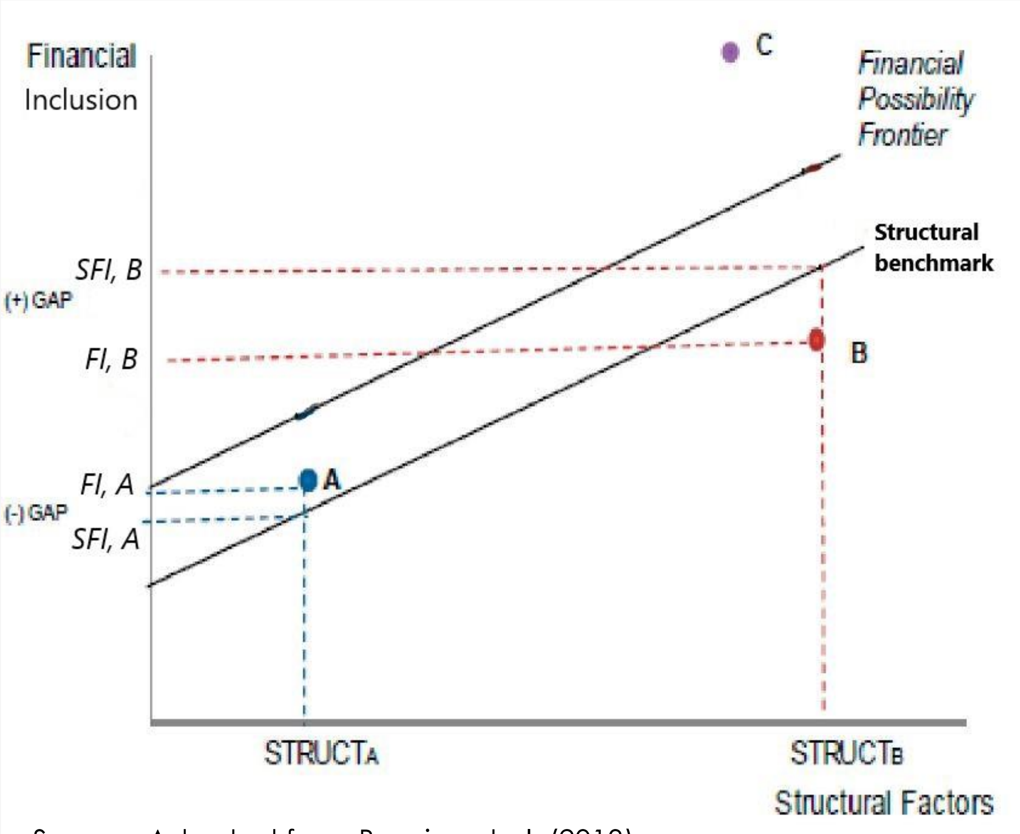
- Innovations: (1) include fintech infrastructure and financial development as dimensions of financial inclusion; (2) account for domestic structural factors in financial inclusion index; and (3) consider the impact of various dimensions across country income groups.

- The focus on dimensions addresses which financial inclusion aspect matter for poverty, income inequality, women empowerment, and entrepreneurship; while considering country income groups implies how these dimensions matter.

Motivation

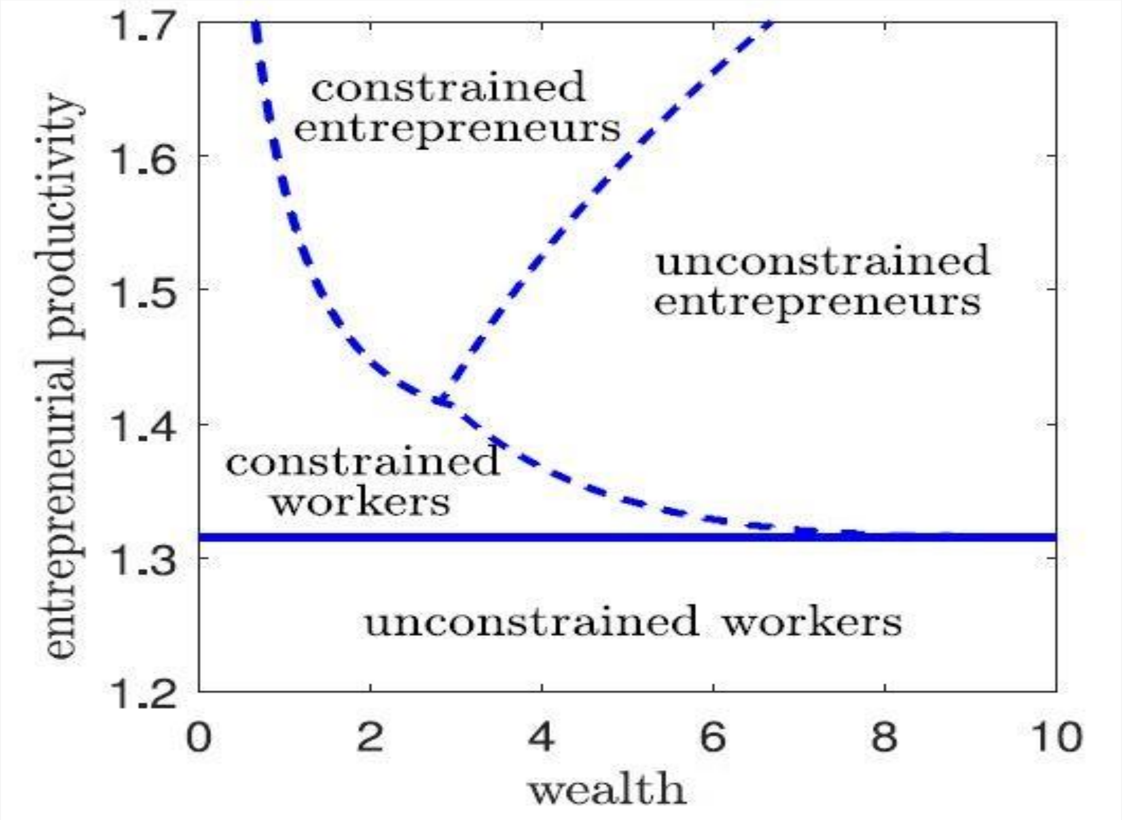
Economies differ in financial inclusion due to structural factors and financial policies (Figure 1); and greater financial inclusion increases output (Figure 2).

Figure 1: Financial Possibility Frontier



Source: Adapted from Barajas et al. (2013).

Figure 2: Occupational Choice with Financial Frictions



Source: Adapted from Dabla-Norris et al. (2021).

Financial Inclusion and Dimension Indicators

Access - includes number of ATMs and bank branches per 100,000 adults, proportion of adult population with bank account, credit card, debit card, and mobile money account.

Financial development - includes ease of getting credit, bank concentration, financial system deposits to GDP, and depth of credit information.

Usage - includes proportion of adult population who borrowed and saved in a financial institution, and depositors in commercial banks per 1,000 adults.

Fintech infrastructure - includes share of adult population who made electronic and digital payments, number of fixed broadband and mobile cellular subscriptions per 100 persons, number of secure internet servers per 1 million people, share of adult population who used the internet to pay bills or buy something online, and internet bandwidth per internet user.

Sources: World Bank's Global Financial Inclusion Database, Global Financial Development Indicators, G20 Financial Inclusion, World Development Indicators, and Doing Business Reports; IMF's Financial Access Survey; and UN's International Telecommunication Union dataset.

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Data set includes 153 advanced, emerging and developing economies from 2011 to 2019.

Socioeconomic Outcome Variables

Poverty refers to headcount ratio at US$5.50 a day, sourced from World Bank's World Development Indicators and PovcalNet.

Income inequality pertains to the gini index, taken from World Bank's World Development Indicators, The World Factbook, and national sources.

Women empowerment is a composite index reflecting inequality between men and women in health, empowerment, and labour market participation. Data sourced from UNDP's Human Development Report.

Entrepreneurship refers to new business registrations per 1,000 persons aged 15 to 64, taken from World Bank's Entrepreneurship Survey.

Data set includes 153 advanced, emerging and developing economies from 2011 to 2019.

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Financial Inclusion - Patterns

Financial inclusion has increased in 2017 across income groups and geographic regions.

Figure 3: Financial Inclusion, by Income Group

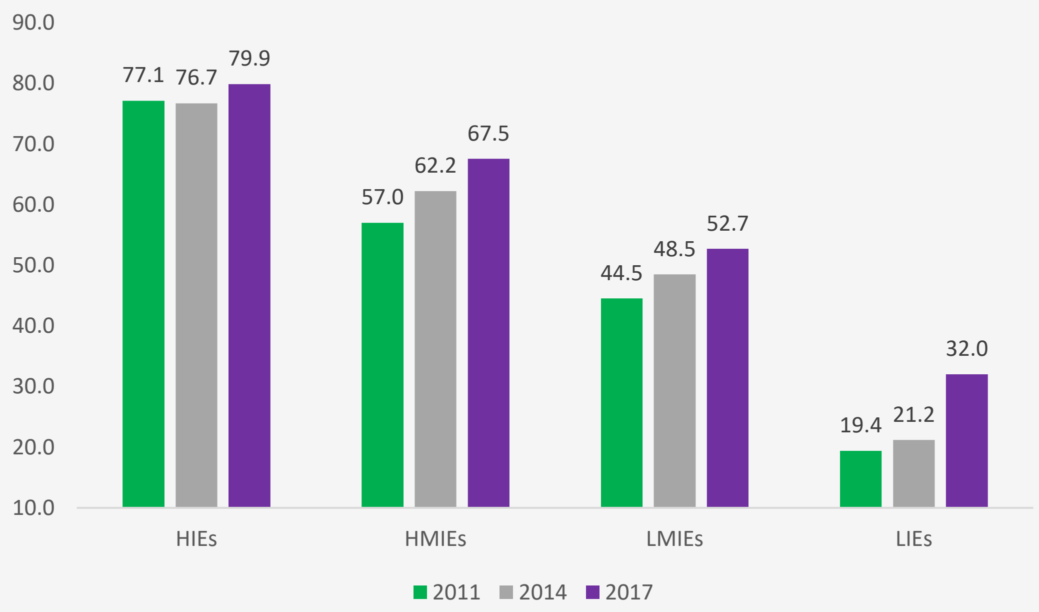
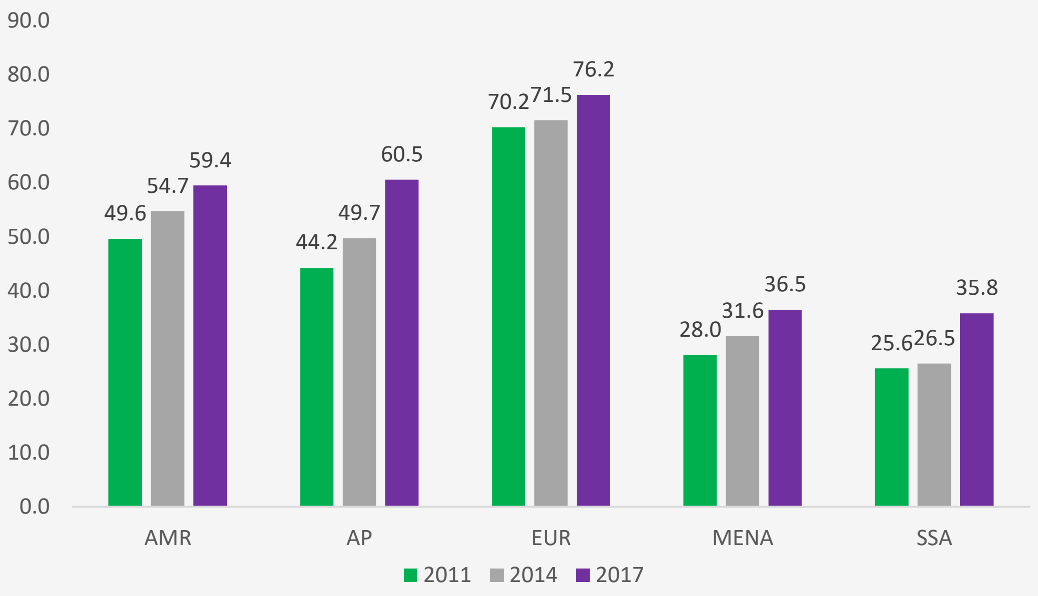


Figure 4: Financial Inclusion, by Region



HIEs = high income economies, HMIEs = high middle income economies; LMIEs = low middle income economies; LIEs = low income economies; AMR = Americas; AP = Asia and the Pacific; EUR = Europe; MENA = Middle East and North Africa; SSA = Sub-Sahara Africa

Source: Authors' calculations.

Financial Inclusion, Per Capita Income, Poverty and Income Inequality

Economies with high per capita income tend to have higher financial inclusion; those with high financial inclusion tend to have lower poverty.

Figure 5: Financial Inclusion and Per Capita Income

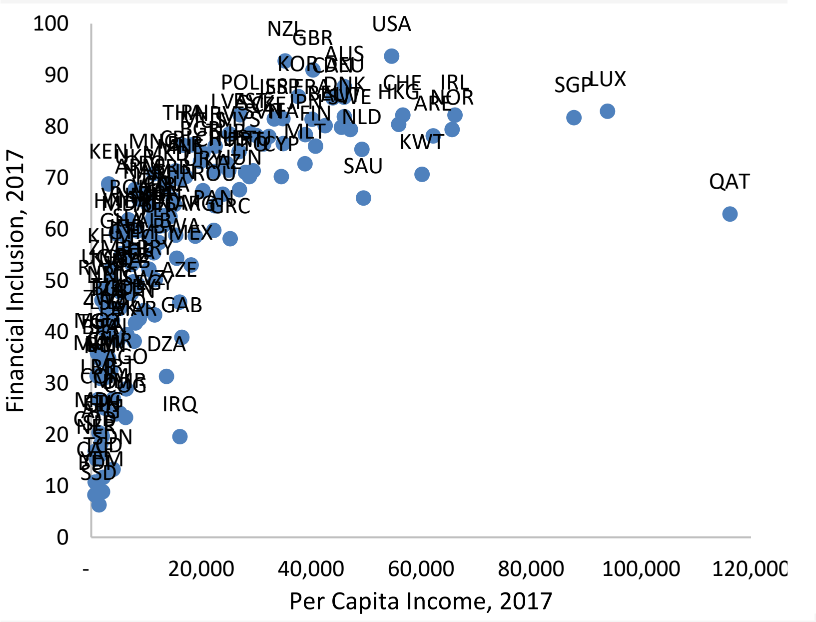


Figure 6: Poverty and Financial Inclusion

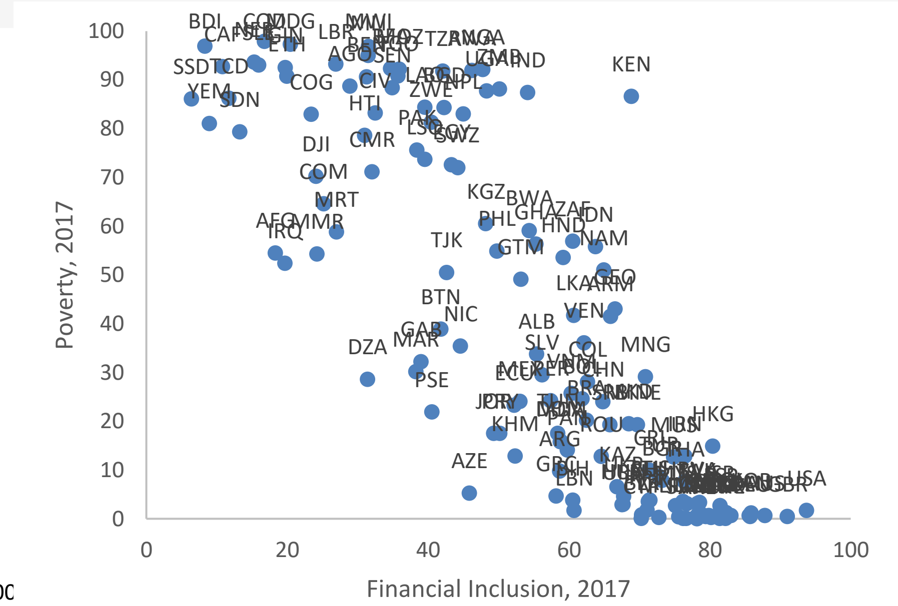
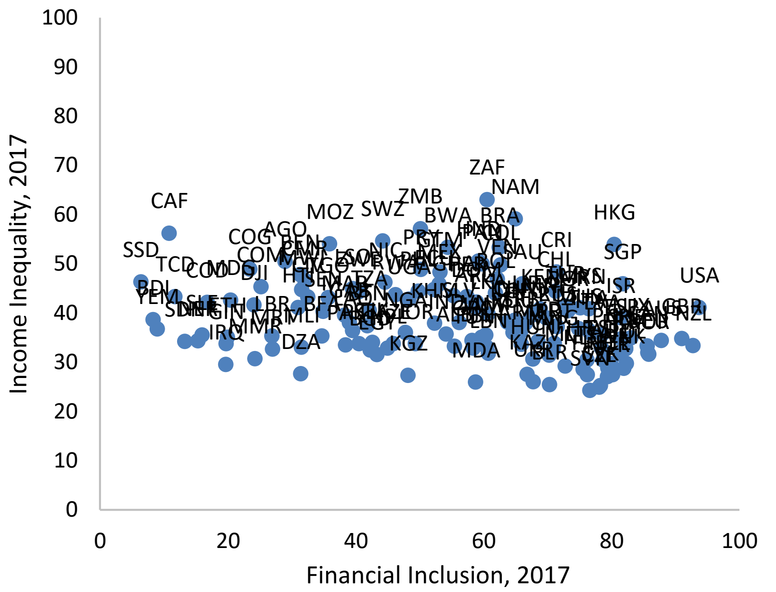


Figure 7: Income Inequality and Financial Inclusion



Notes: Financial inclusion index computed by the authors. Per capita income refers to real GDP per capita in US$ 2011 PPP. Income inequality refers to Gini Index.
Source: Authors' calculations.

Financial Inclusion, Women Empowerment and Entrepreneurship

Economies with high financial inclusion tend to have greater women empowerment.

Figure 8: Women Empowerment and Financial Inclusion

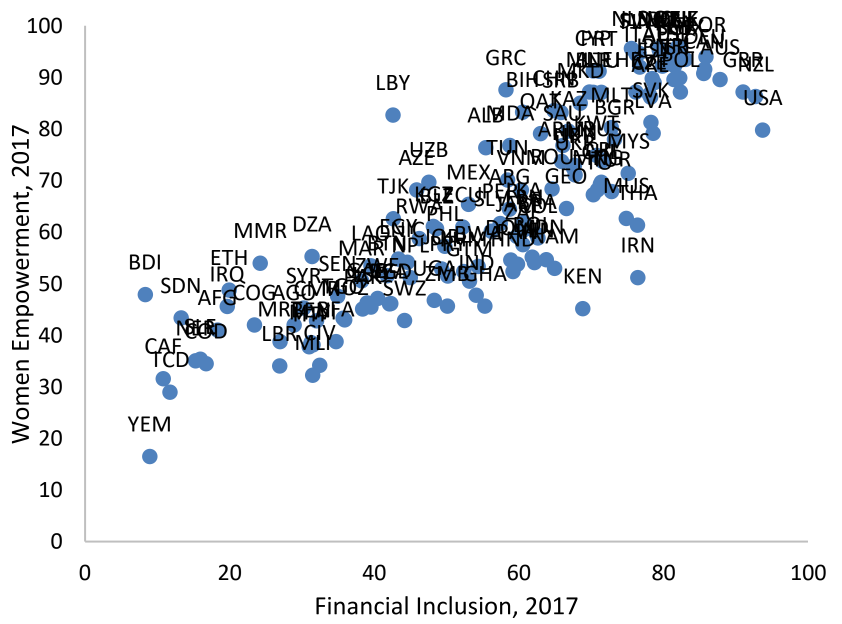
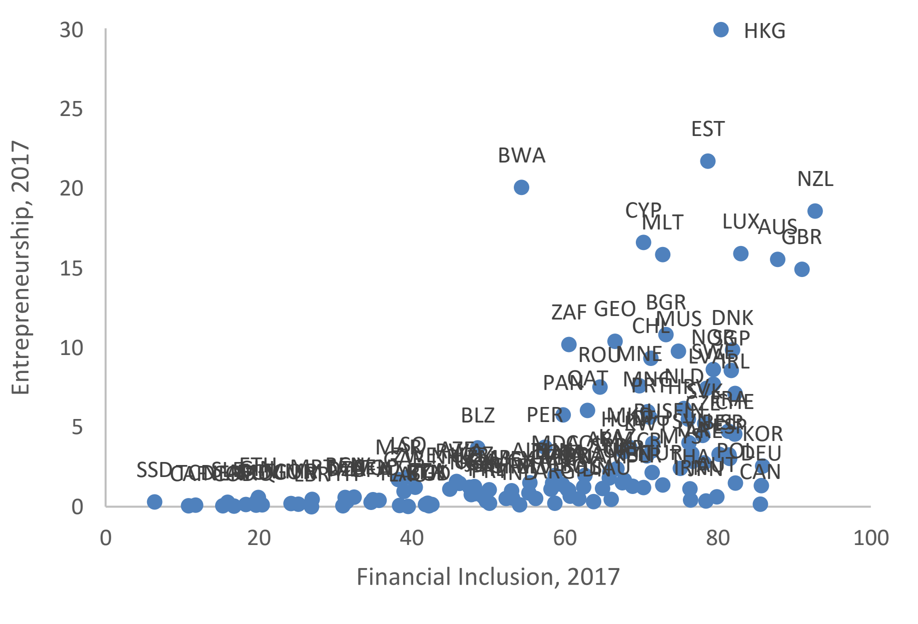


Figure 9: Entrepreneurship and Financial Inclusion

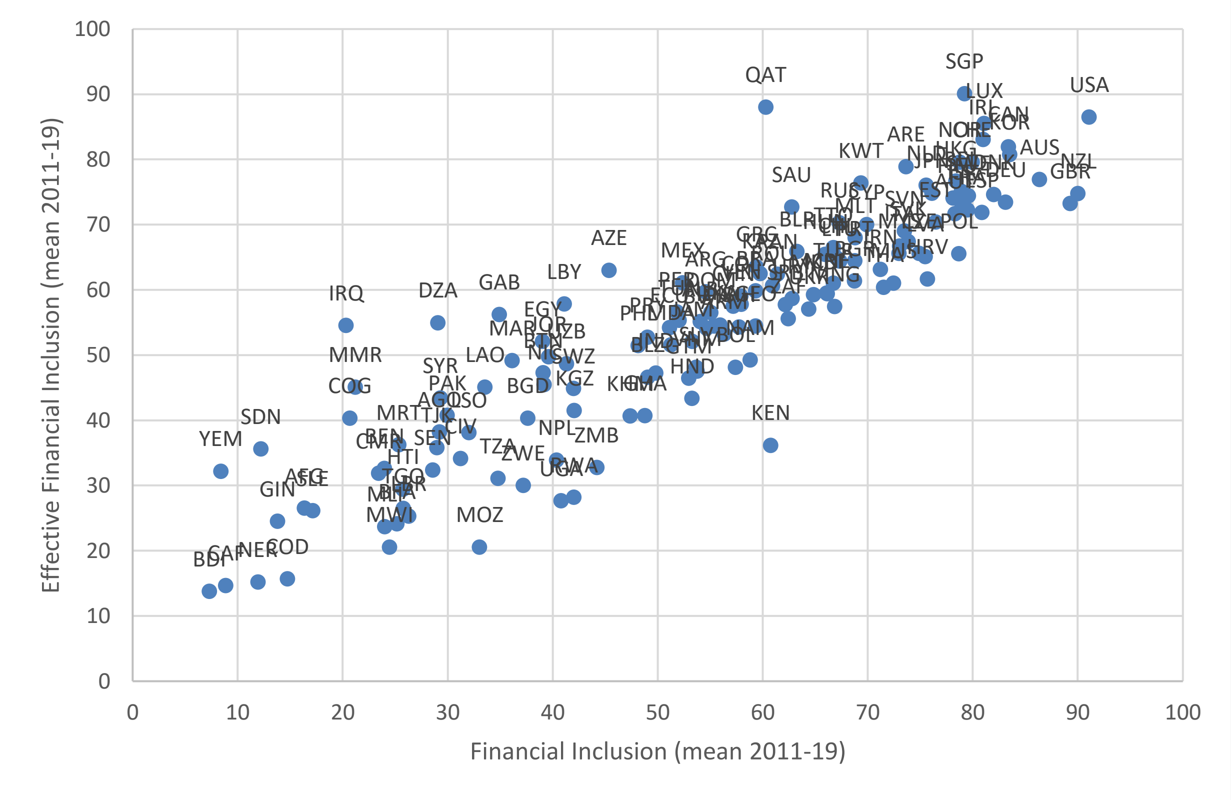


Notes: Financial inclusion index computed by the authors. Women empowerment index recomputed from Gender Inequality Index. Entrepreneurship refers to new business density per persons.
Source: Authors' calculations.

Financial Inclusion

Effective financial inclusion – account for varying levels of economic development and financial constraints (income level, education attainment, demographic structure, and financial constraints such as collateral, access, and efficiency).

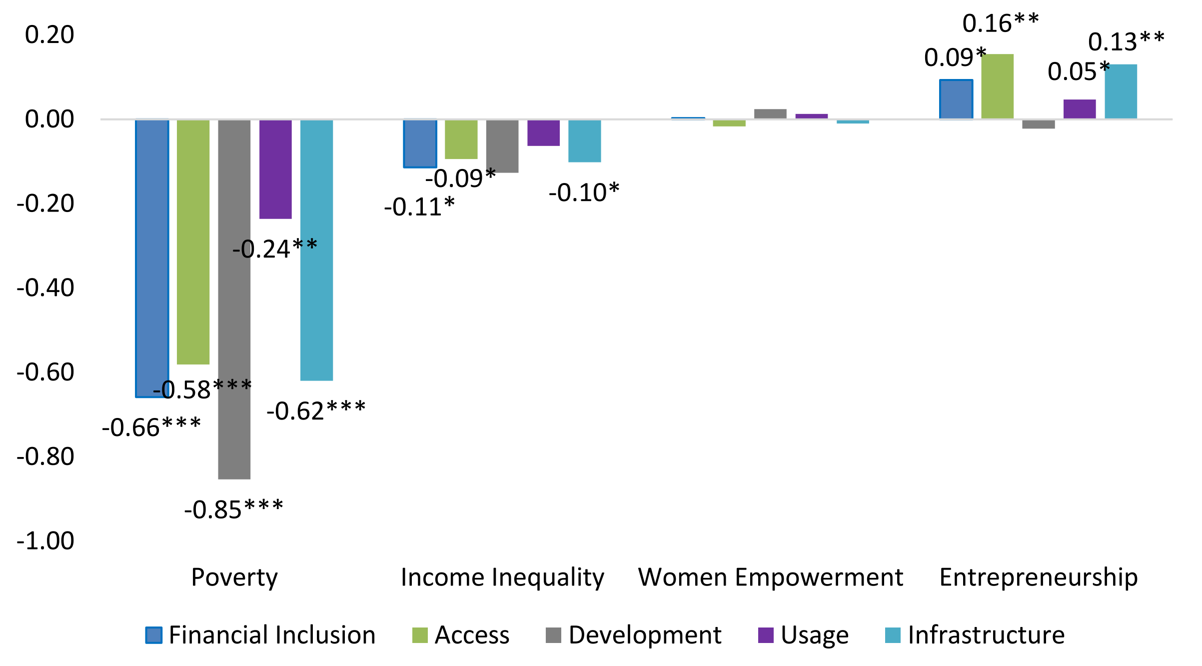
Figure 10: Actual vs Fitted Financial Inclusion



Key Findings

The findings are (i) the impact of effective financial inclusion and its dimensions is largest for poverty; (ii) not all dimensions are significant for specific socioeconomic outcomes (Figure 11); and (iii) there is varying significance and impact across economic income groups (Figure 12).

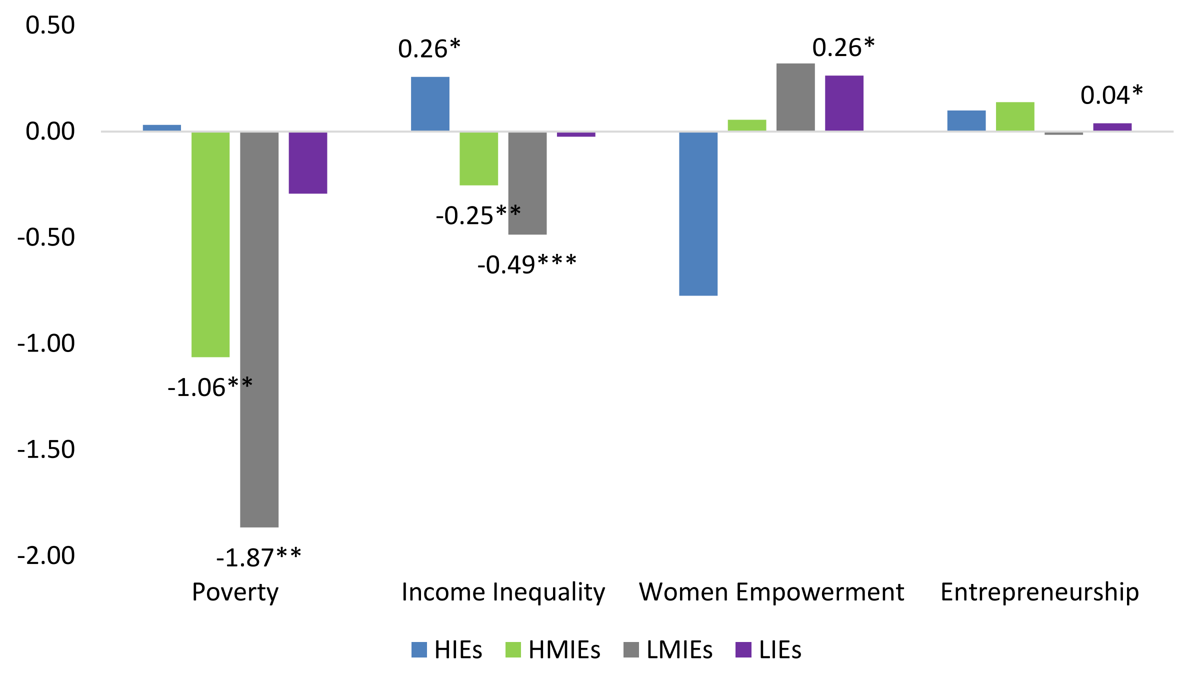
Figure 11: Financial Inclusion and Socioeconomic Outcomes



Notes: Values refer to estimated coefficients of financial inclusion and dimensions of regressions for poverty, income inequality, women empowerment, and entrepreneurship. Estimates include economy fixed effects and use clustered errors at economy level. *** p<0.01, ** p<0.05, * p<0.1.

Source: Authors' estimates.

Figure 12: Financial Inclusion Outcomes, by Income Groups



Notes: HIEs = high income, HMIEs = high middle income, LMIEs = low middle income; and LIEs = low income. Values are estimated coefficients of financial inclusion of regressions for poverty, income inequality, women empowerment, and entrepreneurship by income group. Estimates include economy fixed effects and use clustered errors at economy level. *** p<0.01, ** p<0.05, * p<0.1.

Source: Authors' calculations.

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Key Findings

Table 1: Dimensions and Outcomes, by Income Groups

	Poverty	Income Inequality	Women Empowerment	Entrepreneurship
Dimension: Access				
HIEs	(-)	(+)	(-)	0.37*
HMIEs	-1.24**	(-)	(+)	(+)
LMIEs	-1.23*	-0.32***	(+)	(+)
LIEs	(-)	(-)	0.16*	(+)
Dimension: Financial Development				
HIEs	(+)	0.56*	(+)	-0.50**
HMIEs	-0.94*	-0.21*	(+)	(+)
LMIEs	-1.81**	-0.42*	(+)	(-)
LIEs	(-)	(-)	0.38***	0.04**
Dimension: Usage				
HIEs	(+)	0.30*	(-)	(+)
HMIEs	-0.29*	-0.10*	(+)	(+)
LMIEs	(-)	-0.36**	(+)	(-)
LIEs	(-)	(-)	0.24***	0.04***
Dimension: FinTech Infrastructure				
HIEs	(-)	(+)	(-)	(+)
HMIEs	-1.17**	-0.25*	(+)	(+)
LMIEs	-1.38**	-0.34***	(+)	(+)
LIEs	(-)	(-)	0.17**	(+)

The impacts of effective financial inclusion and its individual dimension vary across different country income groups. For low middle-income economies, access, financial development, and fintech infrastructure significantly lower poverty; but usage doesn't seem to have significant effect.

The impact of financial inclusion dimensions is also significant for women's economic empowerment.

The results using interaction effects show that higher effective financial inclusion, access, financial development and fintech infrastructure lower poverty more for middle income economies, compared to other income groups.

Notes: HIEs = high income, HMIEs = high middle income, LMIEs = low middle income; and LIEs = low income. Values are estimated coefficients of financial inclusion dimensions of regressions for poverty, income inequality, women empowerment, and entrepreneurship by income groups. Estimations include economy fixed effects and use clustered errors at economy level. *** p<0.01, ** p<0.05, * p<0.1.
Source: Authors' calculations.

Policy Considerations

Consider new dimensions of financial inclusion – financial inclusion is a complex phenomenon linked to multiple underlying factors and evolving conditions. Apart from traditional supply (access) and demand (usage) dimensions, fintech infrastructure and financial development should be considered as they both contribute to financial inclusion.

The impact of financial inclusion varies depending on country income levels – national income levels are suggestive of the level of development of individual countries. The varying significance and impacts of financial inclusion and its multiple dimensions across income groups suggest the importance of such country characteristics for effective policies to promote financial inclusion as a part of national development strategies.

Policies can prioritize some aspects of financial inclusion for greater effect on socioeconomic outcomes -- the results suggest the effect of financial inclusion and its dimensions, e.g. access, usage, financial development and fintech infrastructure is not universal across all countries. Some aspects of financial inclusion may be more important than others in achieving positive socioeconomic outcomes depending on country specific situations proxied by different income levels.

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Thank you.

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