

# IGM annual conference 2020: Test session for presenters

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## **Financial Inclusion, Income and Wealth Inequality: Evidence from Kenya**

By  
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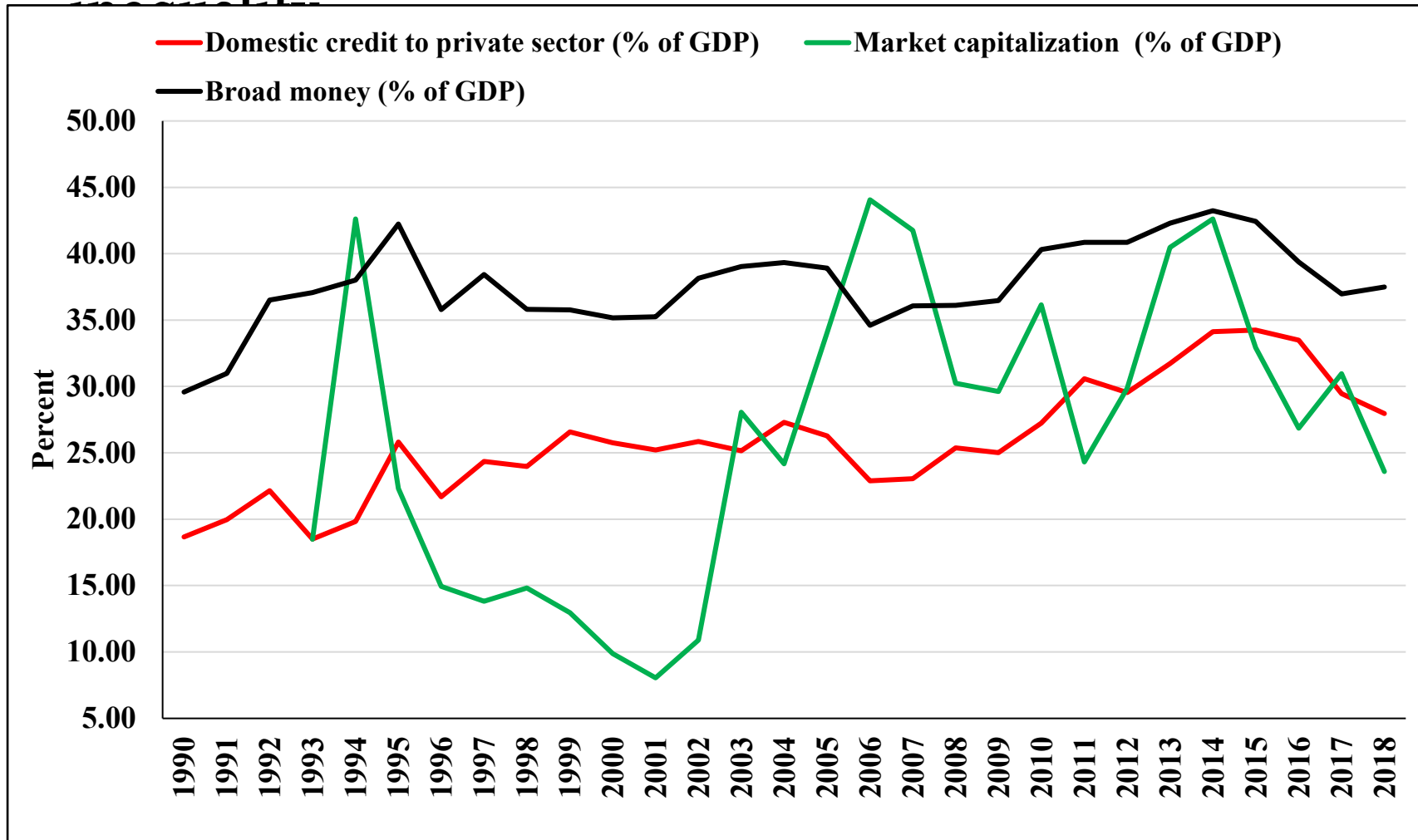
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# Introduction

- Advancing financial inclusion has received impetus in many countries, for its impact on economic growth and inequality.
- The impact financial inclusion on wealth and inequality has informed Kenya's financial inclusion policy
- Kenya, has made tremendous gains in financial inclusion but poverty is high and income and wealth inequality is persistently high.
- Empirical evidence on the impact of financial inclusion on income and wealth inequality is scanty and incoherent, and is shown to depend on:
  - The type of financial product or service (e.g. savings vs. credit)
  - Where the country is in the stage of financial inclusion and development
  - Country-specific characteristics
- This paper analyzes the impact of financial inclusion, measured by the dimensions of access and usage, on income and wealth inequality in Kenya.

There diminishing contribution of financial incision to reduction in inequality

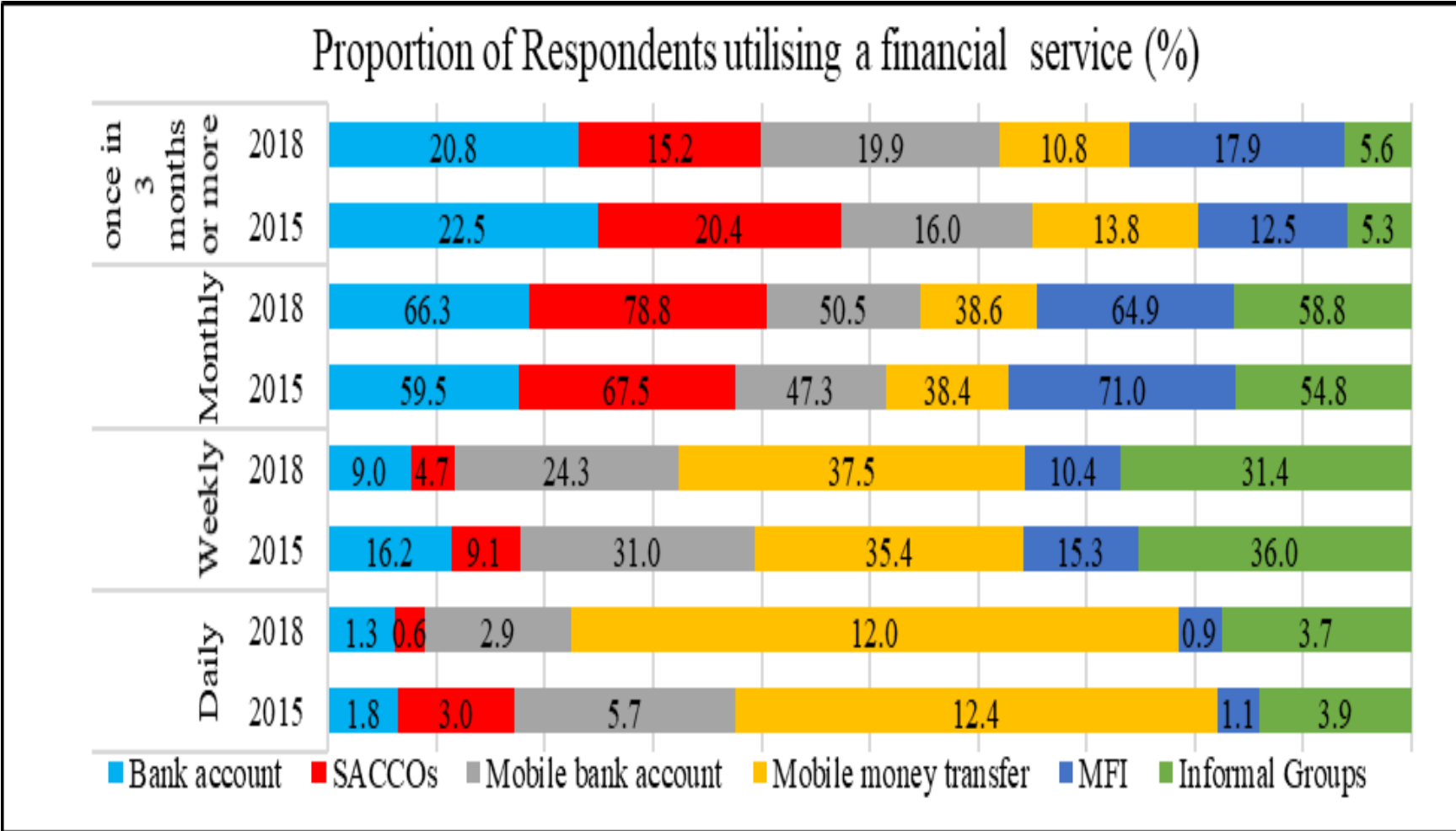
# The Context Financial Sector Deepening, income and



Source: NSE, CBK

- Financial sector has deepened – e.g. credit, capital markets
- There is increased utilisation of financial services on aggregate

# Financial Inclusion - Usage



- More than one-third of mobile money users use their account on at least a weekly basis
- 76 percent of bank users use banking services on at least a monthly basis

# Poverty and Inequality

2015/2016 Kenya Integrated household  
Budget survey

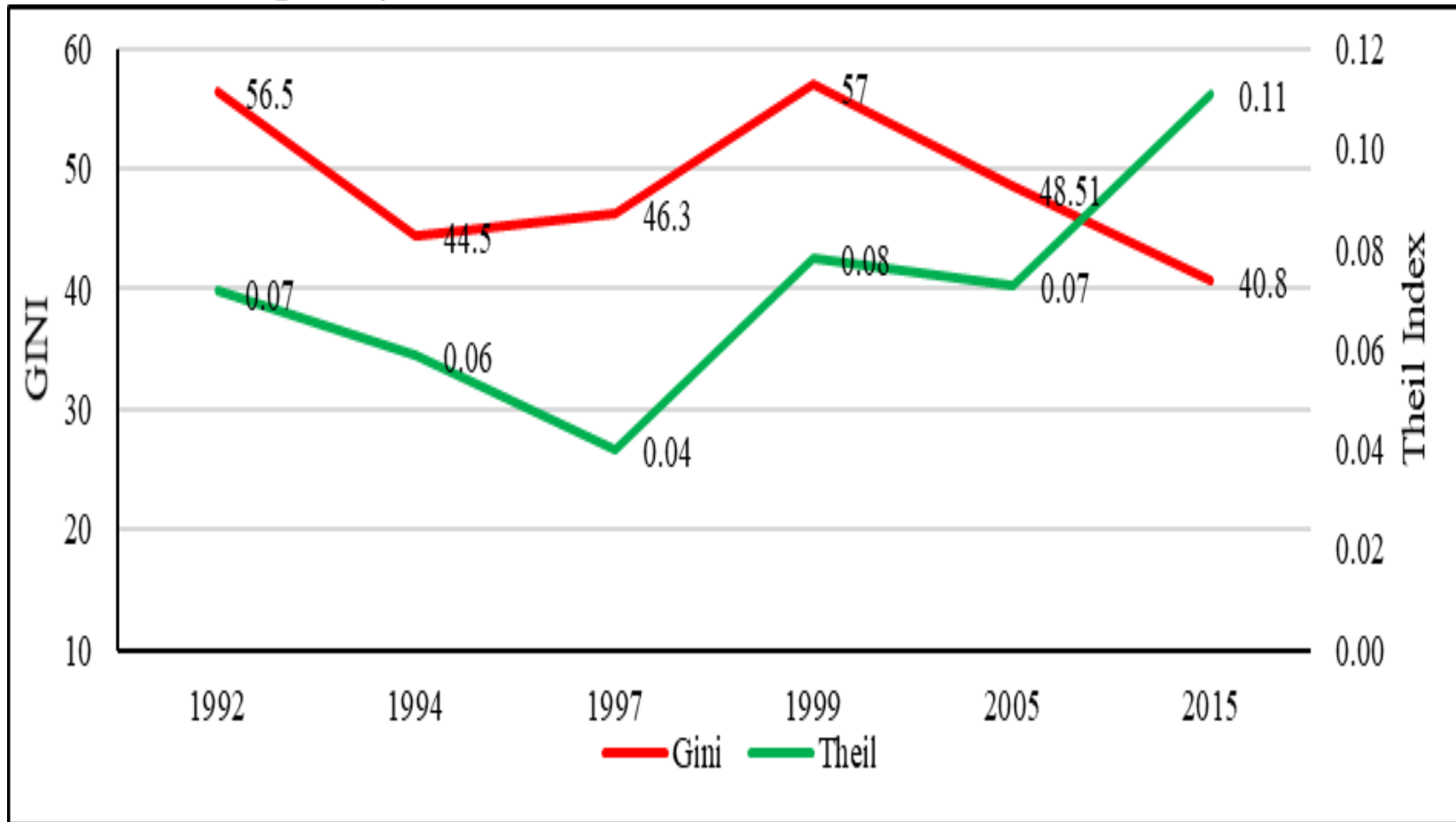
Poverty changes in the region

	2005/06	2015/16	Change	Country comparison	Survey Year	National Poverty rate (%)	Survey year	National Poverty rate (%)	Per Capita GDP
Overall Poverty Rate (%)	46.8	36.1	-10.7	Ethiopia	2004	38.9	2010	29.6	5.5
Population Living in overall poverty	16.6	16.4	-0.2	Tanzania			2011	28.2	2.9
				Kenya	2005/6	46.8	2015/16	36.1	2.8
				Uganda	2009	24.5	2012	19.5	3.1

- Overall poverty rate has reduced drastically, population in poverty has reduced marginally
- Countries in the region with strong growth have lower poverty levels

# Income Inequality

Income Inequality



- Inequality remains high, with a Gini of 0.485 as of 2005, as compared to an average of 0.44 across Africa (UNECA).
- The Theil Index has increased from a low of 0.04 in 1997 to more than 0.11 in 2017.
- The share of bottom 40 percent of the population is 10.2, while share of upper 60 percent is 89.8 (KIBHS, 2018)

## Relevant literature: financial inclusion and inequality

### ■ Inequality-Narrowing Hypothesis

- Broad financial inclusion can reduce income inequality in the long term (Banerjee et al, 2015; Beck, 2016; Dupas et al, 2012, Clarke et al., 2006, Levine 2005). The effect is shown to be dependent on the *type* of financial product/service:
  - Savings – positive impact on welfare (Karlan et al, 2014)
  - Credit – “modestly positive, but not transformative, effects” (Banerjee et al, 2015)
  - Microfinance – minimal effects on income redistribution (Buera et al, 2012; Kaboski, 2011, 2012)

### ■ Inequality-widening Hypothesis

- Financial inclusion simply increases ability of the rich to invest more and therefore erects barriers for the poor to increase income and wealth (Rajan and Zingales, 2003)

### ■ Inverted U-Shape Hypothesis

- Financial inclusion initially leads to a widening of income inequality, and then a subsequent decline as markets mature and become more inclusive (Greenwood and Jovanic, 1990)

## Empirical Framework: Propensity Score Matching

- The basic equation to estimate impact of financial inclusion on income and inequality can be specified as

$$IQ_{ijk} = \beta_1 FU_{ijk} + \beta_2 X_{ijk} + \varepsilon_{ijk}$$

- IQ inequality, FU a financial service, X is vector of controls (e.g. gender, age, education, amenities),  $\varepsilon$  is the error.
- Challenges in establishing the impact of using financial services on inequality:
  - Wealthy household heads afford financial services, but financial services influence income, wealth and investment in education
  - Household heads self select whether or not to use financial services.



## ...Data and Variables

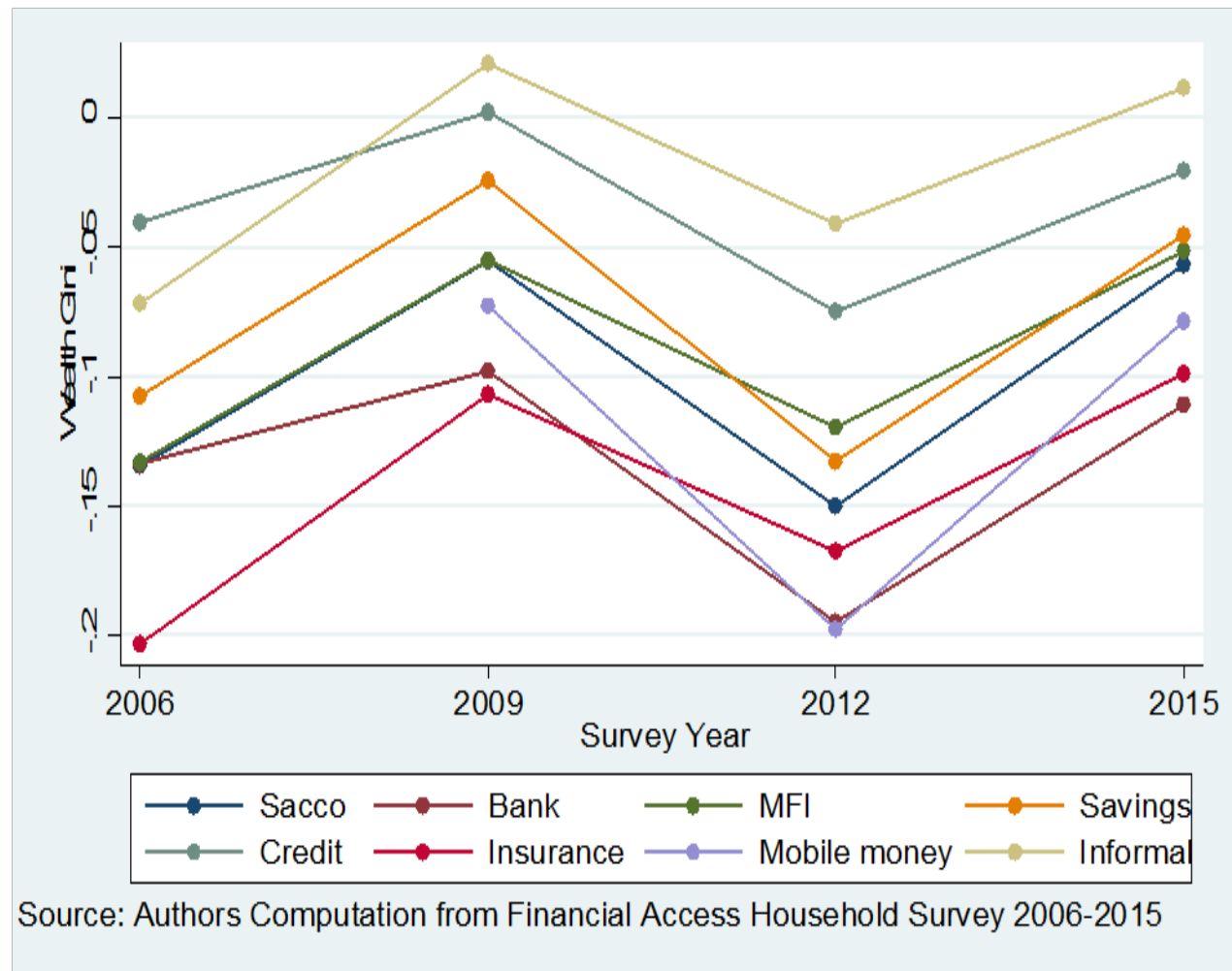
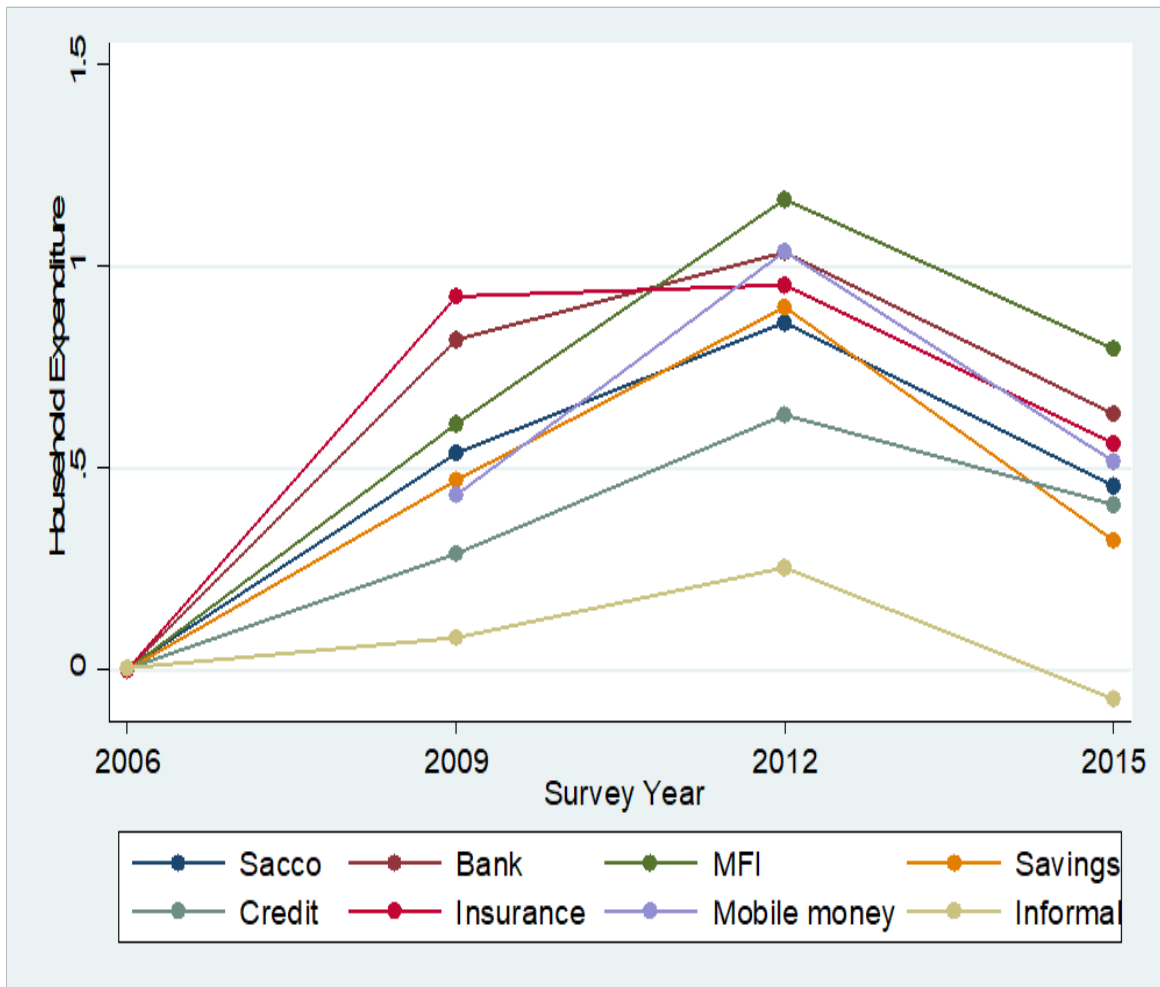
- **Data:** 2006-2016 FinAccess Household Data (4 waves – 2006, 2009, 2012, 2015)
- **Key variables:**
  - Financial Inclusion
    - Use of financial products and services: insurance, credit, savings, mobile money
    - Use of financial institutions: Bank, MFI, SACCO, informal (family, friends, shylock)
  - Income/expenditure Inequality
    - Average Gini coefficient computed from monthly income
    - Weaknesses: subject to short-term fluctuations, self-reported so issues with accuracy
  - Wealth Inequality
    - Gini coefficient from wealth index
    - Used principal component analysis
    - Wealth index-constructed from broad basic household assets (different based on urban/rural)
    - More accurate measure because assets are accumulated over time, no short-term fluctuation

# Results: Impact of Financial inclusion on wealth and income

	Model(1)	Model(2)	Model(3)	Model(4)	Model(5)	Model(6)
	OLS	OLS	OLS	IV	IV	IV
	Wealth	Income	Expenditure	Wealth	income	Expenditure
FU	0.429** (0.014)	0.300** (0.010)	0.275** (0.008)	1.142** (0.120)	0.312** (0.068)	0.371** (0.058)
Remittance	0.623** (0.094)	0.369** (0.065)	0.378** (0.054)	-0.092 (0.148)	0.367** (0.084)	0.290** (0.071)
<b>Location characteristics</b>						
Urban	-0.704** (0.041)	0.283** (0.028)	0.344** (0.024)	-0.969** (0.069)	0.282** (0.039)	0.305** (0.033)
Amenities	-0.129** (0.016)	-0.000 (0.011)	-0.019* (0.009)			
<b>Household characteristics</b>						
Size	-0.171** (0.008)	-0.024** (0.006)	0.049** (0.005)	-0.118** (0.013)	-0.024** (0.008)	0.056** (0.006)
Household head Gender	0.068 (0.052)	-0.228** (0.036)	-0.005 (0.030)	0.063 (0.063)	-0.228** (0.036)	-0.007 (0.030)
Married /living partner	-0.182** (0.057)	0.209** (0.039)	0.213** (0.033)	-0.299** (0.070)	0.209** (0.040)	0.199** (0.033)
education	0.133** (0.010)	0.036** (0.007)	0.013* (0.006)	-0.016 (0.026)	0.035* (0.015)	-0.009 (0.013)
<b>Main source of income</b>						
Employed	0.761** (0.048)	0.036 (0.033)	0.036 (0.028)	0.447** (0.079)	0.046 (0.044)	0.007 (0.038)
Pension	0.272 (0.274)	0.147 (0.191)	-0.077 (0.158)	-0.342 (0.352)	0.168 (0.199)	-0.161 (0.168)
Investments	0.829** (0.192)	0.730** (0.131)	0.320** (0.111)	0.192 (0.259)	0.752** (0.145)	0.234 (0.124)
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.26	0.32	0.31	.	0.32	0.29
N	21,433	21,327	16,721	21,433	21,327	16,721
Estimated bias	1.642	1.104	0.961	1.615	0.890	1.153

- financial inclusion is associated with high wealth income and expenditure
- engaging in employment, undertaking investment is associated with higher household wealth and income compared to deriving livelihood from agriculture

# ...inequality in wealth



Source: Authors Computation from Financial Access Household Survey 2006-2015

## Financial Inclusion and investment education

	2006	2009	2012	2016
<b>Financially excluded (yes=1)</b>	<b>-0.570**</b>	<b>-0.276*</b>	<b>-0.442***</b>	<b>-0.204*</b>
	(0.149)	(0.158)	(0.126)	(0.132)
<b>Control variables</b>	Yes	Yes	Yes	Yes

Financially excluded: Have not used any financial service

Control variables: access to social amenities, education level of household head, household wealth, age of the household head marital status

- In 2006, households that were financially excluded spent about 7.4 times less on education, as compared to households that have access to financial services
- In 2016, the financially excluded 1.866 times less in education compared to the household that accessed and used financial services.
- Using financial services increased investment in education between 2006 and 2015, though incremental effect reduced

# Conclusion

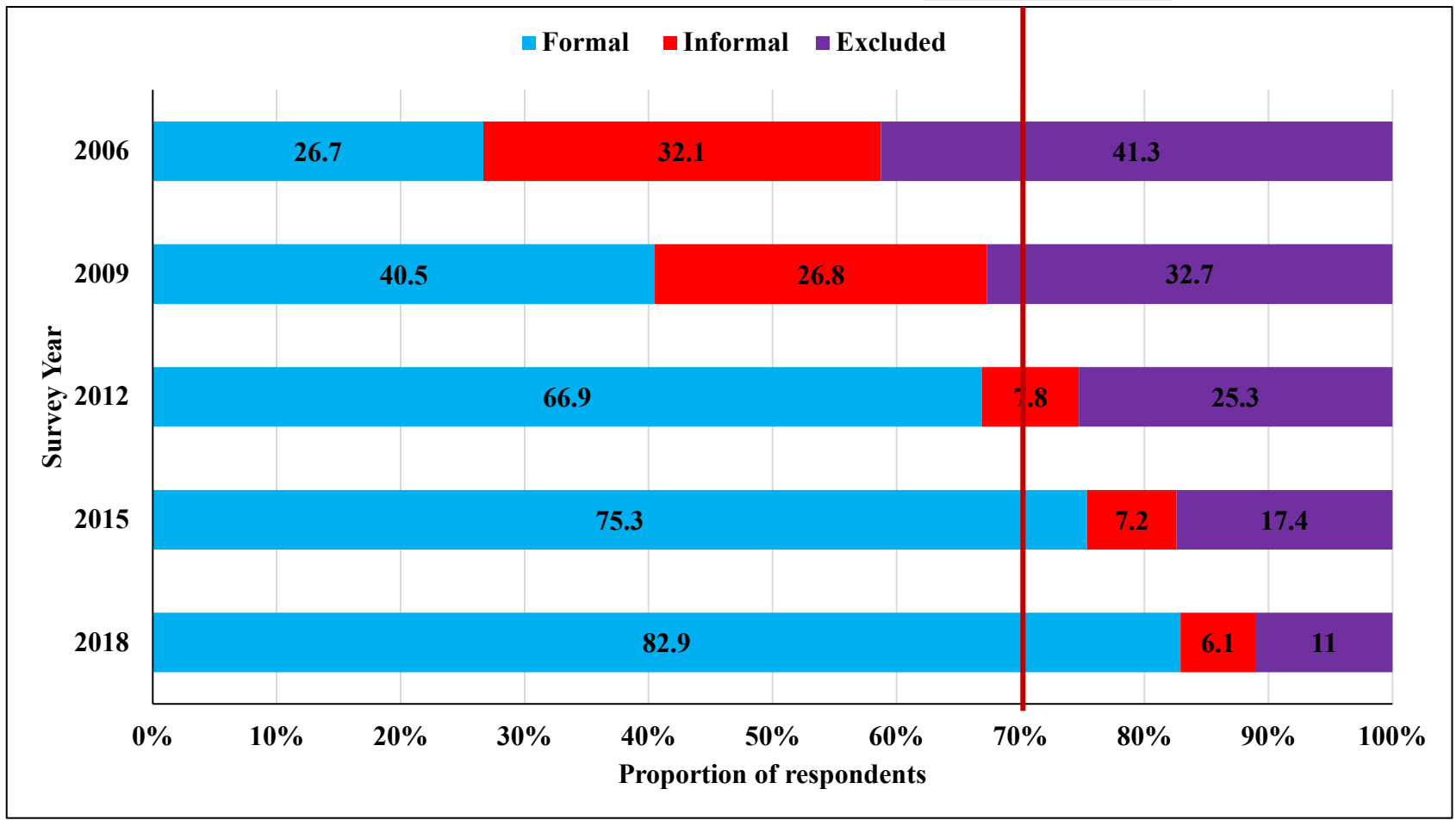
- Using financial services increases household expenditure, investment in education
- Using financial services initially increases inequality, but as the intensity of using financial services increases, inequality reduces at a decreasing rate.
- Financial inclusion relaxes households' financing constraints, enabling them to invest in education, build their businesses, and make occupational choices that are independent of generational wealth endowment
- As result, poor households augment their earnings and wealth accumulation at a faster rate than wealthy households, thereby reducing the income and wealth gap

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**THANK YOU**

# Financial Inclusion - Access

Vision 2030  
Target Achieved



- Not only deep, but also more inclusive
- Access to formal financial services grew from 26 to 75 percent between 2006 and 2016

## Results...Income Inequality

- Increased access to all financial products and services results in a decline in income inequality for households that have access to and use financial services.
- However, the increases are minimal, suggesting that the effect on income inequality is not very strong.