



# Kinship Ties and the Adoption of Financial Technology

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**April 21<sup>st</sup>, 2022**

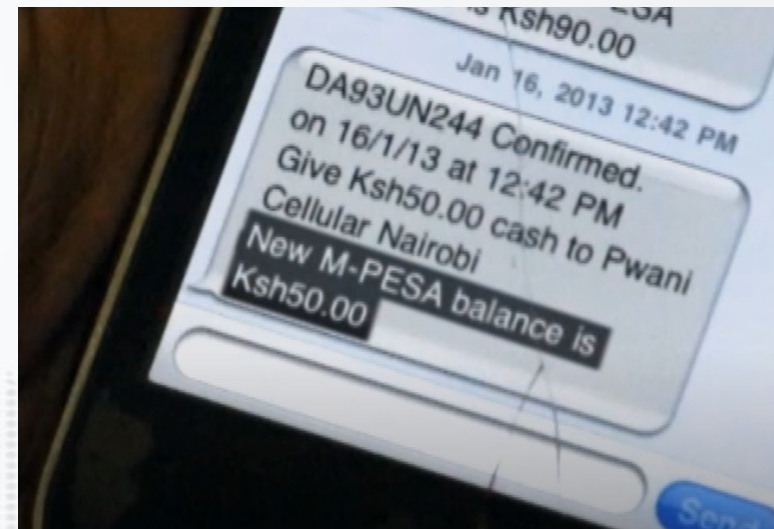
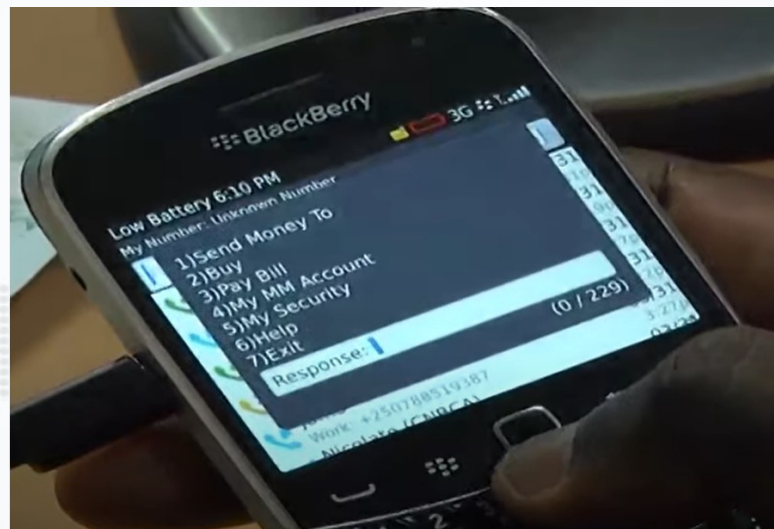
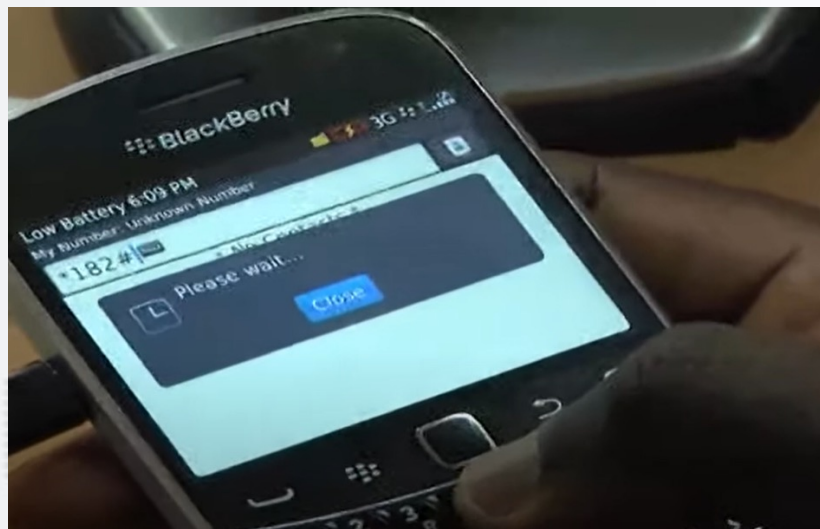
# Summary



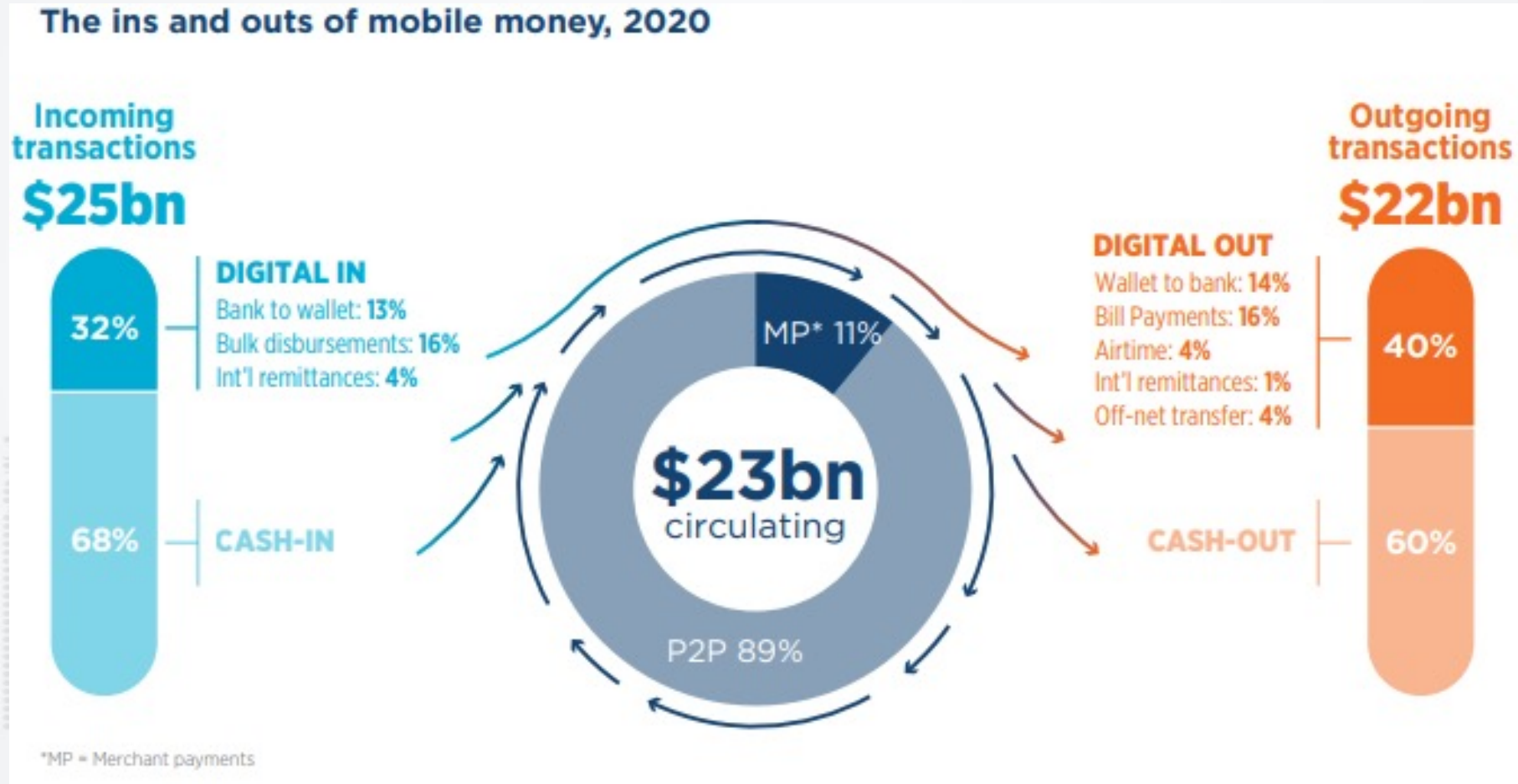
- Mobile money facilitates economic development through a dramatic reduction in transaction costs and improvements in transaction security and efficiency.
- However, adoption still lags in many places.
- We investigate what holds adoption back and show kinship tightness plays an important role.

# Mobile money: How it works?

- Mobile money is a payment account that operates through a menu on sim card and allows users to engage in a variety of financial transactions.



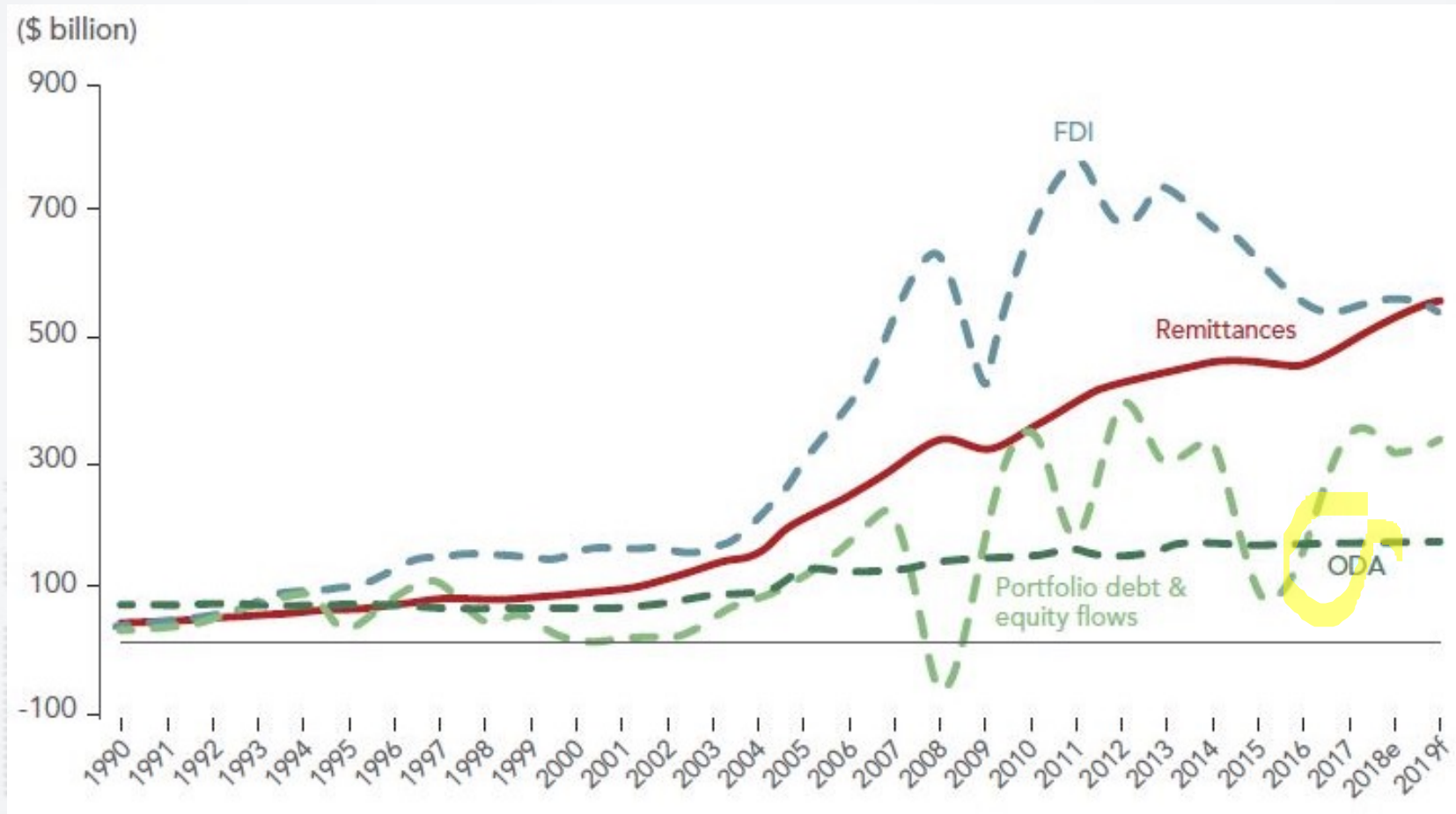
# Mobile money: Market size



Source: GSMA (2021)



# Mobile money: Market size



Source: Migration and Remittances Data (2020)

# Mobile money & economic development

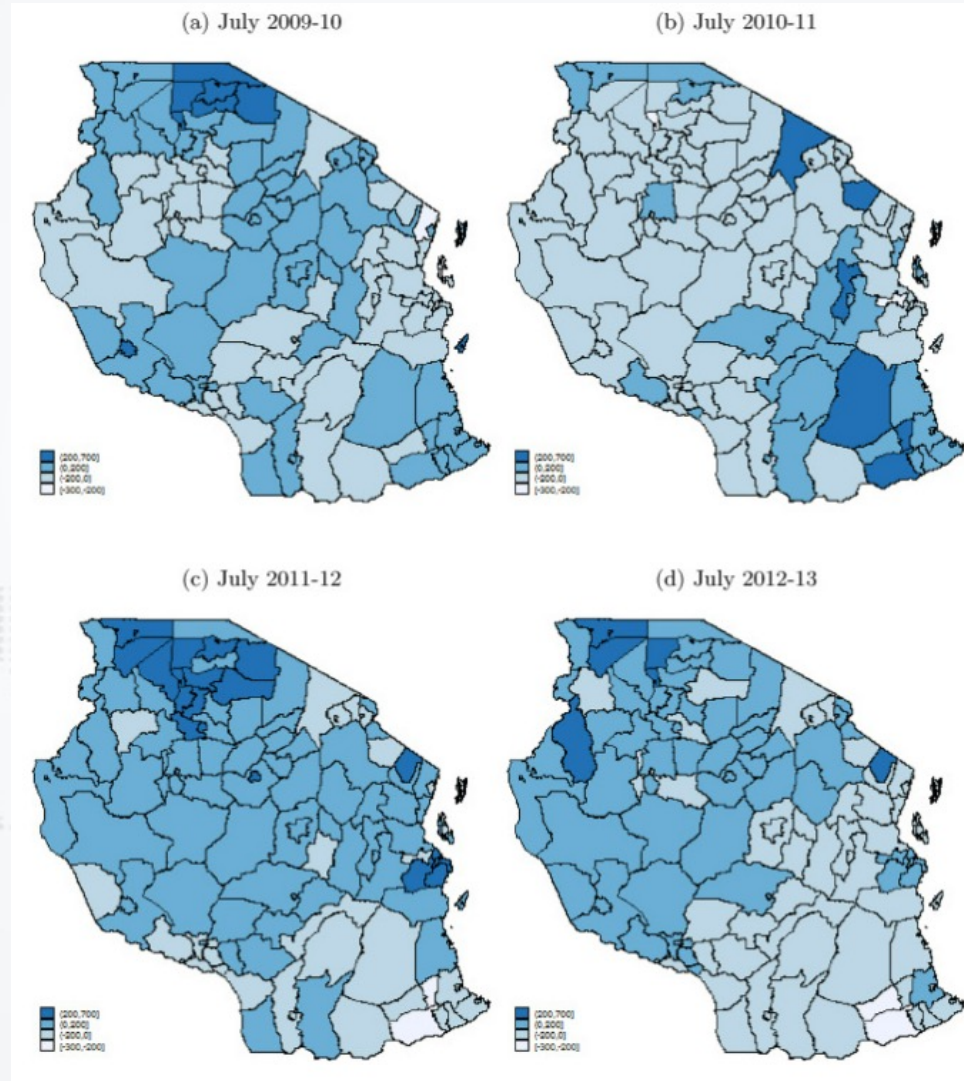
- Mobile money provides a dramatic reduction in costs and improvements in convenience, security and time taken for two types of transactions:
  - Transactions across distant spaces;
  - Transactions where the opportunity cost of holding cash may be high (e.g., crime).
- These benefits enable better:
  - Risk sharing/negative shock coping;
  - Savings/investments;
  - Urban migration/structural change since the cost of migration reduces.

# Mobile money & economic development



Source: Suri (2012)

# Mobile money & economic development



Source: Riley (2018)

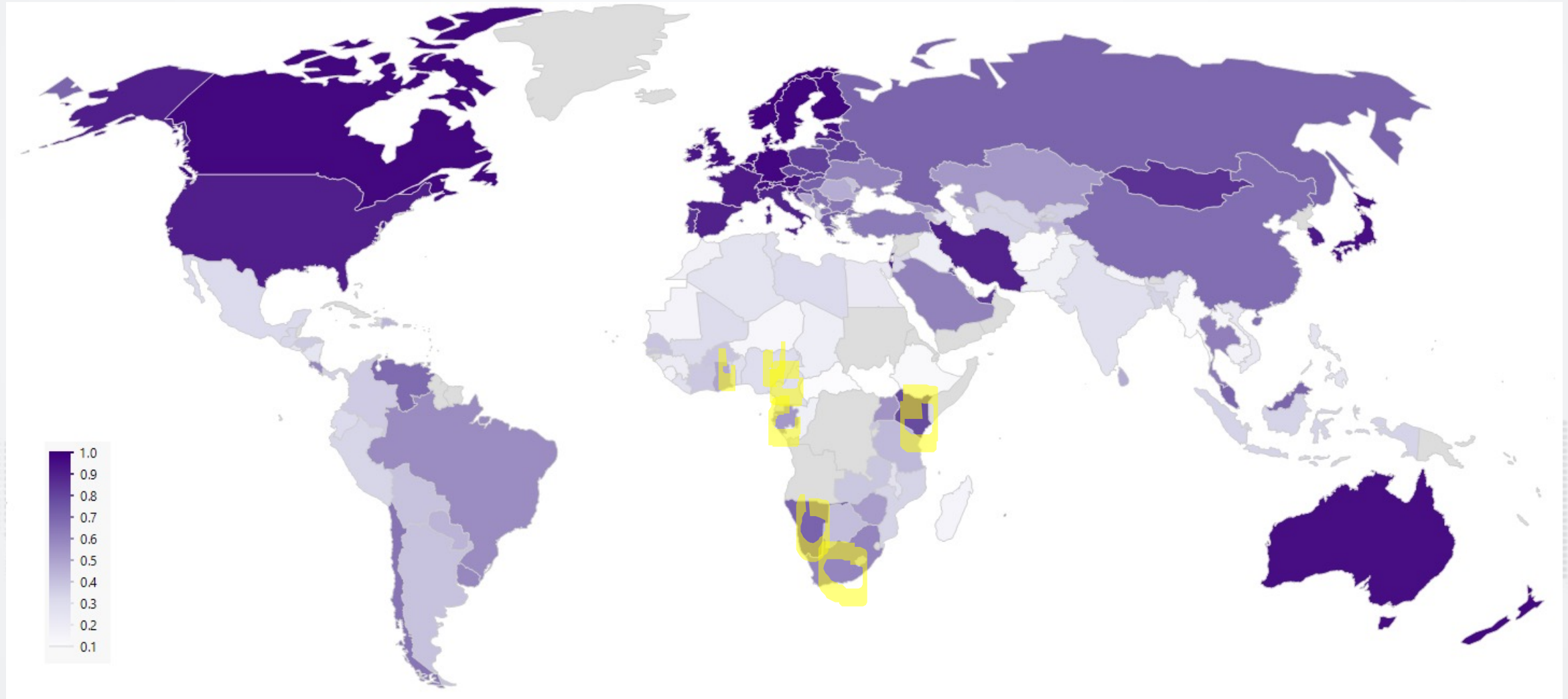


# Mobile money & economic development

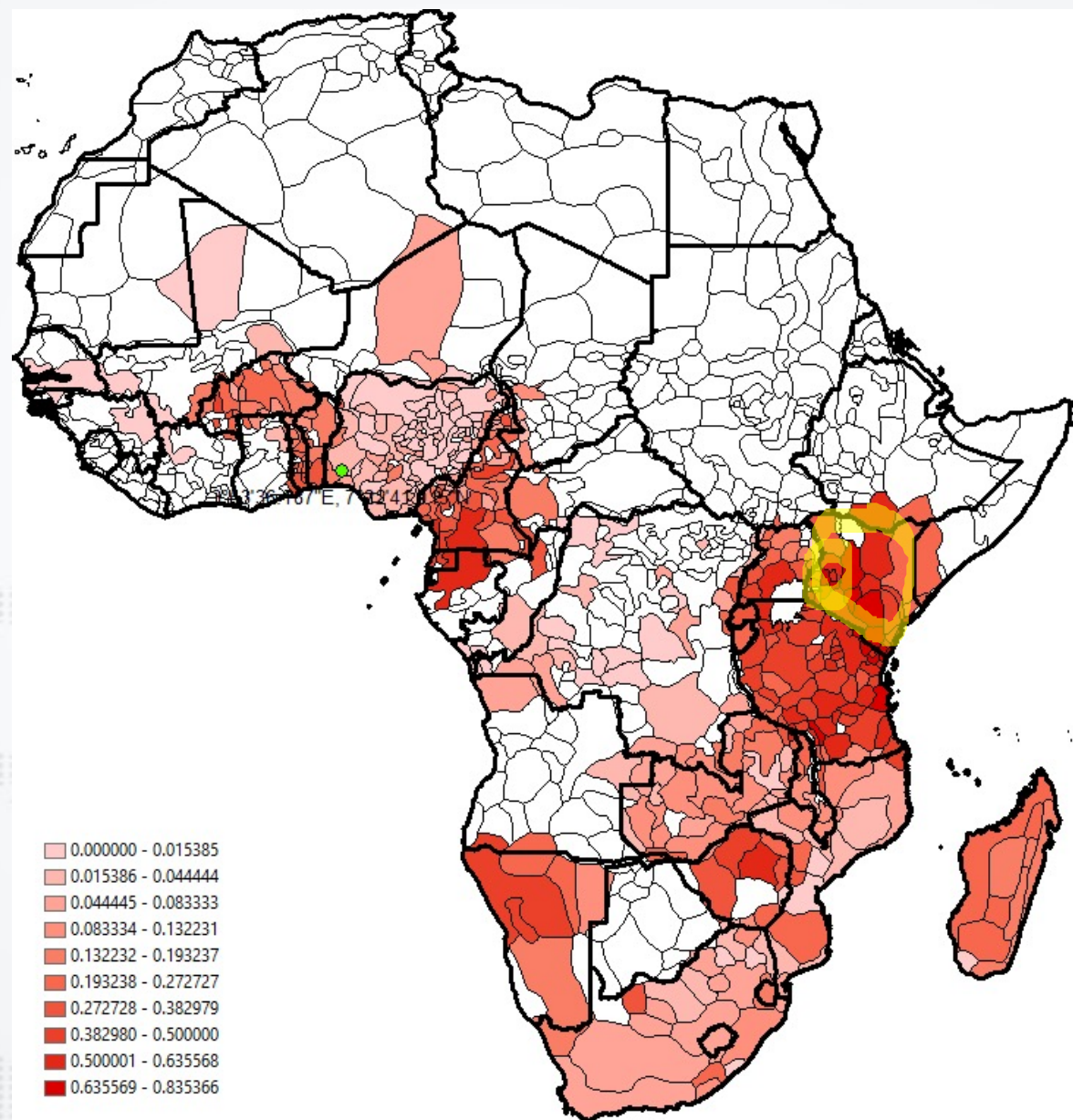
	Dependent variable: Log consumption per capita			
	Self-reported shock		1 sd rainfall shock	
	(1)	(2)	(3)	(4)
<b>Rain shock</b>	-0.064** (0.029)	-0.205 (0.164)	-0.068*** (0.020)	-0.040 (0.144)
<b>Shock*MM use</b>	0.088* (0.051)	0.042 (0.058)	0.121*** (0.041)	0.139*** (0.045)
<b>Mobile money use</b>	0.005 (0.026)	0.005 (0.026)	-0.003 (0.026)	-0.007 (0.027)
<b>Shock*MM spillover</b>	-0.057 (0.049)	-0.072 (0.052)	0.005 (0.040)	-0.012 (0.040)
<b>Mobile money spillover</b>	0.002 (0.027)	0.003 (0.027)	0.005 (0.025)	-0.012 (0.025)
<b>Observations</b>	9281	9281	9281	9281
<b>Number of households</b>	3807	3807	3807	3807
<b>R-squared</b>	0.194	0.198	0.196	0.202

Source: Riley (2018)

# Variation in mobile money adoption: Cross-country



# Variation in mobile money adoption: Within country



An and Lin (2022)



# Research question

- If mobile money brings benefits to the society, then why do we see so much variation in its adoption?
- We conjecture and provide evidence that culture, kinship tightness in particular, plays a key role in mobile money adoption.
- We focus on Africa, because the formal financial institutions are weak.
- We show that the empirical pattern is also observed globally.



# Kinship network

- Kinship network, or kin-based institution, has been the fundamental structure for organizing social life in most societies (Schulz et al., 2019).
  - Kinship structure also shapes our moral values, such as those related to loyalty, desire to punish defectors, guilt and shame, etc. (Enke, 2019).
- Kinship intensity/tightness depends, to a large extent, on exogenous factors, such as agriculture and the disease environment.
  - Intensive agriculture, cousin marriage, clans, and co-residence.
  - “Pathogen stress hypothesis”, traveling risky, highly localized interactions.
- Theoretical linkages with mobile money adoption.

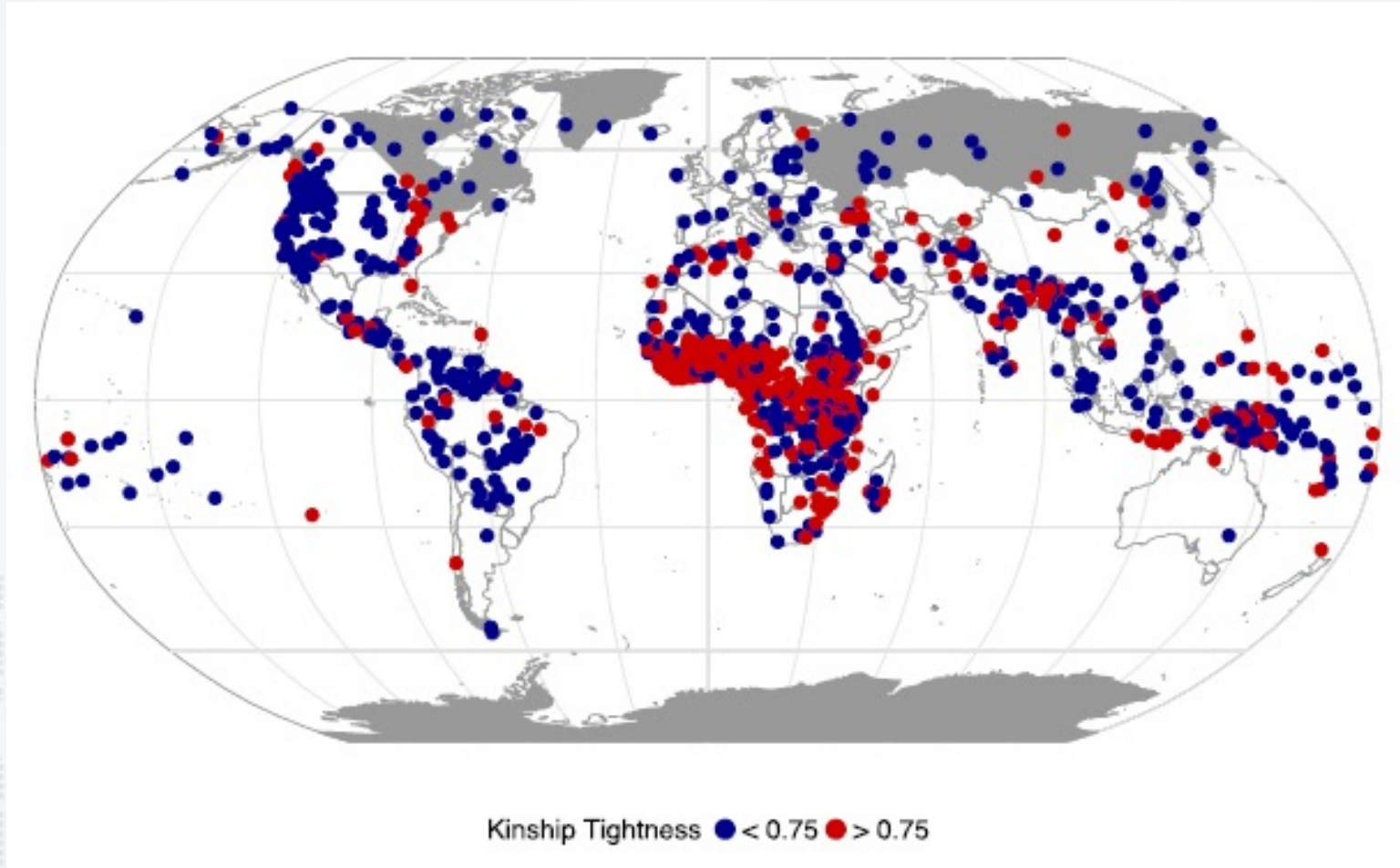
# Hypotheses development

- Strong kinship ties promote mobile money adoption (“risk-sharing”).
  - Informal risk-sharing networks (e.g., transfers within kin networks) are used extensively to pool risk in developing economies (e.g., Kinnan, forthcoming).
  - Mobile money facilitates risk-sharing (e.g., Jack and Suri, 2012, 2014; Riley, 2018).
- Tight kinship generates a high “kin tax”.
  - People are willing to reduce their income in order to keep it hidden (e.g., Jakiela and Ozier, 2015, 4%; Dillon et al., 2021, 8.7%; Dupas and Robinson, 2013, 66%).
- Kinship network substitutes financial institutions (Chen, Ma, and Sinclair, 2021) (“substitution”).

# Measurement

- Outcome variables on mobile money adoption cross- and within- country.
- Kinship tightness score is constructed based on information on local family structures and descent systems (e.g., Enke, 2019):
  - The presence of extended family systems (nuclear family);
  - Post-marital residence with parents (couples living either by themselves or flexibly);
  - The presence of lineages (unilateral or bilateral);
  - The presence of segmented communities and localized clans.

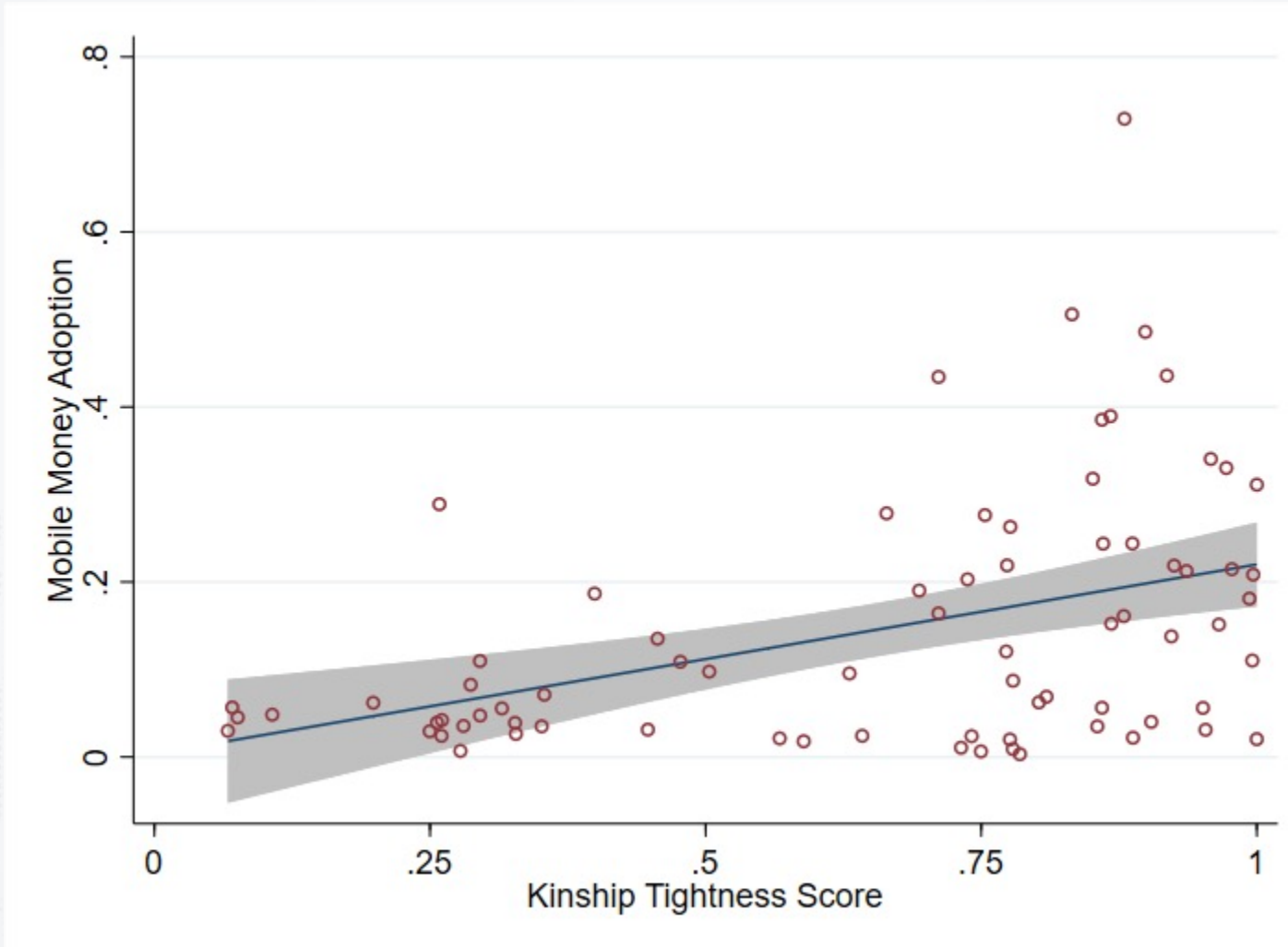
# Measurement



Source: Enke (2019)



# Cross country evidence



# Within country evidence



	Adoption of mobile money (0, 1)					
	All			Mobile ownership = 1		
	(1)	(2)	(3)	(4)	(5)	(6)
Kinship tightness	0.081*** (0.031)	0.064** (0.032)	0.078** (0.034)	0.089** (0.036)	0.073** (0.035)	0.084** (0.041)
Individual controls & FEs	No	Yes	Yes	No	Yes	Yes
Ethnicity-level controls	No	No	Yes	No	No	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of ethnic groups	193	174	147	192	173	146
Observations	74,338	69,592	62,652	91,442	85,548	73,102
R-squared	0.251	0.355	0.355	0.229	0.318	0.301

# Within district evidence

	Adoption of mobile money					
	(1)	(2)	(3)	(4)	(5)	(6)
Kinship tightness	0.199*** (0.062)	0.109** (0.044)	0.134** (0.054)	0.129** (0.057)	0.133** (0.062)	0.126** (0.062)
Individual controls & FEs	No	Yes	Yes	Yes	Yes	Yes
Ethnicity FE	Yes	Yes	No	Yes	No	Yes
Interviewer FE	No	No	Yes	Yes	Yes	Yes
District FE	No	No	No	No	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	23,539	23,539	18,485	18,461	18,450	18,426
R-squared	0.050	0.102	0.137	0.143	0.168	0.170

# Channels



	Money transfer			Withdraw & Deposit		
	(1)	(2)	(3)	(4)	(5)	(6)
Kinship tightness	0.164*	0.195**	0.187**	0.119	0.153*	0.045
	(0.097)	(0.093)	(0.076)	(0.090)	(0.090)	(0.093)
Individual controls & FEs	No	Yes	Yes	No	Yes	Yes
Ethnicity-level controls	No	No	Yes	No	No	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
No. of ethnic groups	85	72	61	155	142	122
Observations	13,196	12,961	11,521	22,728	21,951	17,614
R-squared	0.576	0.592	0.638	0.148	0.170	0.175



# Thanks for listening!