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# Saving on the Phone - Evidence from Ghanaian Cocoa Farmers

Annkathrin Possner, Gabriel Rosero, Oliver Musshoff

Department of Agricultural Economics and Rural Development,

Georg-August-University Göttingen,

Platz der Göttinger Sieben 5,

Göttingen, Germany, D-37075

[annkathrin.possner@uni-goettingen.de](mailto:annkathrin.possner@uni-goettingen.de)

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# Saving on the phone: Evidence from Ghanaian cocoa farmers

## Background & Objectives

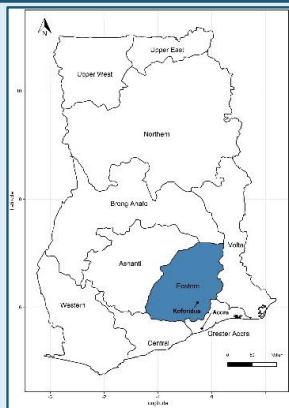
- Vulnerable: 30% of Ghanaian cocoa producers live in extreme poverty (Waarts & Kiewisch 2021)
  - Women particularly affected → Vicious cycle of poverty
- Formal saving → smoothes consumption and increases resilience (Dupas & Robinson 2013)
- Mobile financial services = powerful tool for enhancing marginalized groups' financial inclusion (Suri et al. 2021)
  - Virtuous cycle of saving and prosperity
- Ghanaian government promotes growth of digital banking (Ghana Ministry of Finance 2020)

### Research Questions

What influences a Ghanaian cocoa farmer's decision to save?  
What influences a Ghanaian cocoa farmer's savings amounts?  
→ Special focus on savings instruments

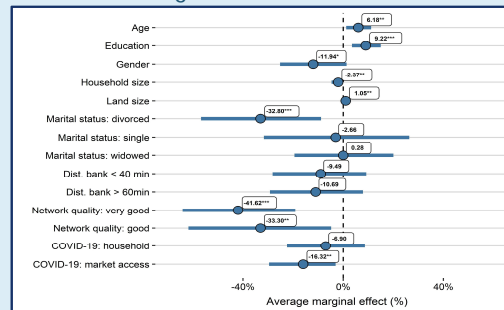
## Data Collection & Methodology

- Data collection in Ghana (Eastern Region)
- April to August 2021
- Telephone interviews
- 405 smallholder cocoa farmers
- 207 farmers: amount between 1 and >10,000 GHS, measured in Intervals (1480€, 1 € ~ 6.75 GHS)
- Analysis: Heckman-two-step model with interval regression



## Results

- Large number of respondents with no savings: Potential sample selection bias
- Probit with marginal effects



### Heckman-two-step model (Heckman 1979)

- (1) Selection: Probit savings yes/no
- (2) Outcome: Interval regression for savings amount



For detailed results & robustness checks please scan the QR code

	Interval regression with sample selection			
	Selection (1)		Outcome (2)	
	Estimate	Std Error	Estimate	Std Error
<b>Savings instrument</b>				
Bank=yes	—	—	0.83**	0.37
Mobile phone=yes	—	—	-0.52	0.53
Susu=yes	—	—	0.17	0.31
Mobile phone x Gender	—	—	0.92*	0.49
Mobile phone x Bank	—	—	-0.76	0.55
<b>Household characteristics</b>				
Gender	-0.29*	0.18	-0.56*	0.30
Age	0.04	0.05	0.07	0.09
Age <sup>2</sup>	0.00	0.00	0.00	0.00
Education	0.26***	0.08	-0.29*	0.15
Education <sup>2</sup>	-0.01**	0.01	0.02*	0.01
Land size	0.04***	0.01	0.10*	0.06
Land size <sup>2</sup>	—	—	0.00	0.00
Household size	—	—	-0.05	0.04
School kids	-0.07**	0.03	—	—
Divorced	-0.55*	0.33	—	—
Single	0.01	0.38	—	—
Widowed	0.05	0.28	—	—
<b>Negative Shocks Covid-19</b>				
Lack market access=yes	-0.62***	0.16	—	—
Intercept	-0.86	1.24	7.14***	2.27
Sigma	1.38***	0.17	—	—
Rho	-0.56**	0.27	—	—
Observations	363		207	
Log-likelihood	1049.99			

Notes: \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Main Takeaways

- Bank account: positive effect on savings
- Mobile financial services: overall negative effect on savings
  - But (!): positive effect for women's savings
- Positive effect for education on the decision to save

## Conclusion & Policy Implications

- Target group: policy decision makers & fintech enterprises
- Formal saving tools are crucial to facilitate accumulation of savings but must be used responsibly to not produce unfavourable effects
- Careful implementation of mobile financial services
- Focus on access to formal financial services for women as well as financial education

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### Presenting Author:

Annkathrin Possner, PhD. Candidate  
Chair of Farm Management  
University of Göttingen, Germany  
[annkathrin.possner@uni-goettingen.de](mailto:annkathrin.possner@uni-goettingen.de)

