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History, Culture and Contract Farming in West Africa

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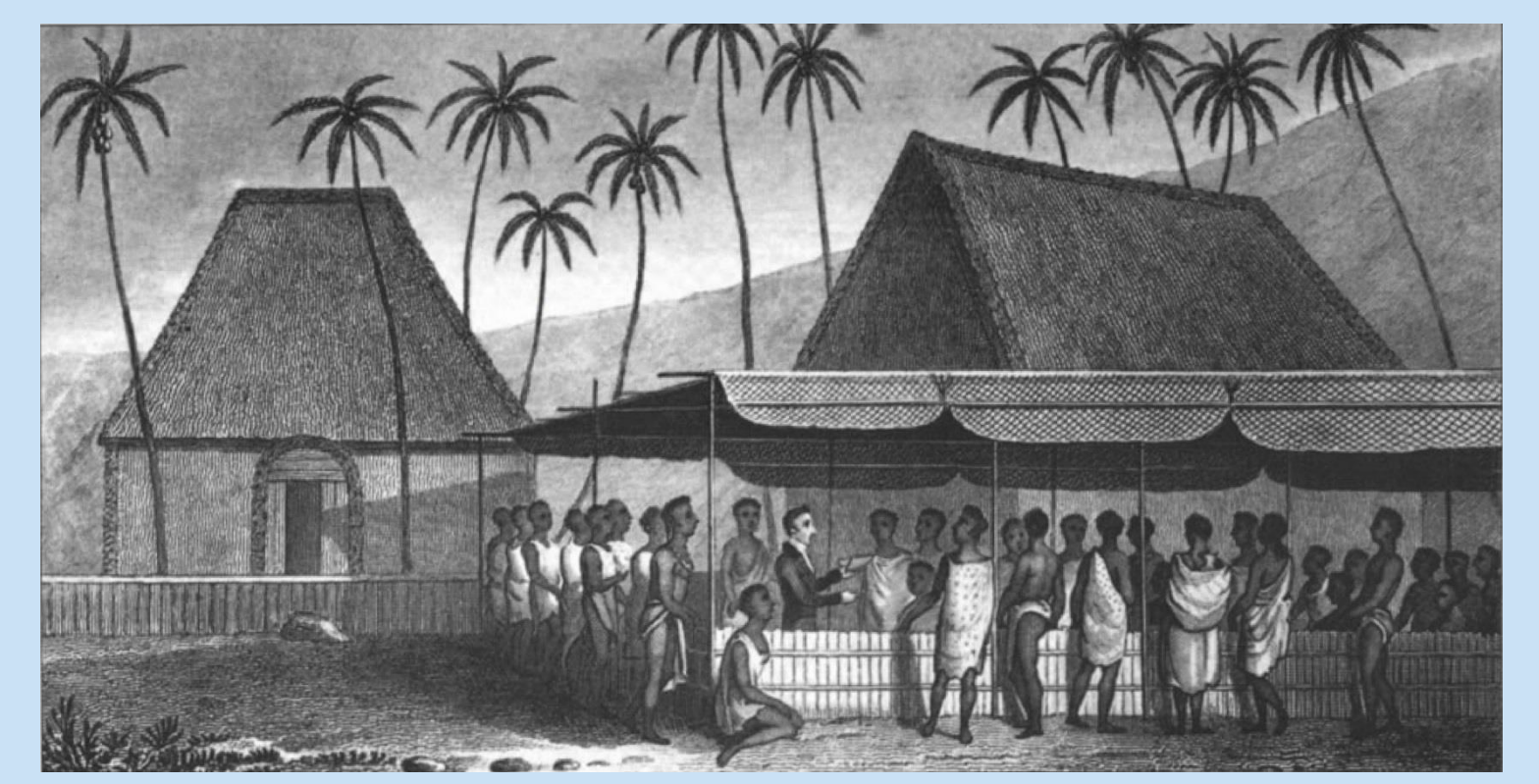
Introduction

- Thus far, pineapple contract farming performance in Ghana has been heterogeneous in time and space.
- However, some companies and farmers have apparently figured out how to make contract farming function, as indicated by the reliability and profitability of their contract agreements.
- We investigate whether colonial experiences in the Gold Coast still affect the performance of contract farming in Ghana today.
- To this end, we surveyed 400 pineapple farmers in Ghana and connect this new dataset to existing data on
 - a) the locations of Christian missionary schools (19th and early 20th centuries) and
 - b) the performance of colonial cocoa cooperatives (early 20th century).



Hypotheses

- Our first hypothesis is that the observed variation in contract farming performance can be partially explained by cultural differences.
- In particular, we hypothesize that two cultural variables play an important role:
 - self-efficacy and social capital.
- Our second hypothesis is that these cultural traits can be partially explained by historical developments that occurred during the 19th and 20th centuries close to today's farm locations. These developments were the establishment of Christian missionary schools and that of colonial cocoa cooperatives.



	(1)	(2)	(3)	(4)	(5)	(6)
2nd stage:	cf_income	cf_income	cf_income	cf_income	cf_income	cf_income
Model	2SLS	2SLS	Contr-F. GLM	Contr-F. GLM	2SLS	2SLS
coop. sr	0.164* (0.0843)	0.102 (0.0785)	2.422** (1.026)	1.463 (1.173)	0.485** (0.204)	0.354 (0.276)
Schools	-0.169* (0.0864)	-0.109 (0.0806)	-1.872** (0.934)	-1.302 (0.921)	-0.441** (0.198)	-0.340 (0.259)
self-efficacy		0.101*** (0.0173)		0.766*** (0.198)		
self-efficacy_alt						0.111*** (0.0232)
social capital		0.0478*** (0.0168)		0.760** (0.296)		0.0582*** (0.0214)
1st stage:	coop. sr	coop. sr	coop. sr	coop. sr	coop. sr	coop. sr
model	2SLS	2SLS	OLS	OLS	2SLS	2SLS
rainfall1931	0.709*** (0.0512)	0.706*** (0.0512)	0.711*** (0.0513)	0.709*** (0.0512)		
cocoa_soil1931	0.487*** (0.0465)	0.487*** (0.0468)	0.462*** (0.0434)	0.464*** (0.0435)		
neighbor_SR_5	0.102*** (0.0178)	0.1000*** (0.0178)	0.102*** (0.0178)	0.0996*** (0.0178)		
dist_railroad1931					-0.245*** (0.0547)	-0.229*** (0.0550)
wider_SR_20					0.232*** (0.0727)	0.223*** (0.0720)
all controls	yes	yes	yes	yes	yes	yes
N	398	398	398	398	398	398
2nd stage (P)R2	0.49	0.57	0.41	0.51	0.34	0.47
1st stage R2	0.97	0.97	0.97	0.97	0.92	0.92
1st stage F instr.	122.74	120.81	122.74	120.81	12.32	10.88

Identification Strategy

- We representatively surveyed 400 pineapple farmers in the south of Ghana in 2013 and augmented this dataset with data from other researchers as well as GIS information.
- To capture self-efficacy, we asked the farmers about their past income determinants and coded the answers according to whether income was perceived to be rather determined by the individual or external factors.
- To capture social capital, we asked about the participation of social events
- To identify the causal chain from historical variables on culture on economic outcomes, we
 - 1) individually regressed each step alone and instrumented endogenous variables (not shown).
 - 2) Then, we tested for the effect of the historical variables on the economic outcome and whether this effect becomes insignificant once we include the hypothesized causal channel (the cultural traits, as displayed on the left).
 - 3) Finally, having established that history affects the performance of contract farming through the evolution of cultural traits, we instrumented the cultural traits with history and show that historically determined cultural traits are important to explain the variation in contract farming performance in Ghana (not shown).

Results

- We find a robust pattern that is consistent with our hypotheses:
 - a) The experiences with the colonial cocoa cooperatives changed the beliefs of the farmers of whether they have the ability to achieve business success (self-efficacy); the effect is more pronounced on the positive side (positive experiences -> higher SE)
 - b) The Christian missionary schools lowered social capital (possibly because they divided communities)
 - c) Both self-efficacy and social capital are persistent over generations and important for the performance of contract farming

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