

# The Social Tax

## Redistributive Pressure and Labor Supply

Do informal redistributive arrangements distort labor supply, output and earnings?

Eliana Carranza<sup>†</sup>

Aletheia Donald<sup>†</sup>

Florian Grosset<sup>‡</sup>

Supreet Kaur<sup>§</sup>

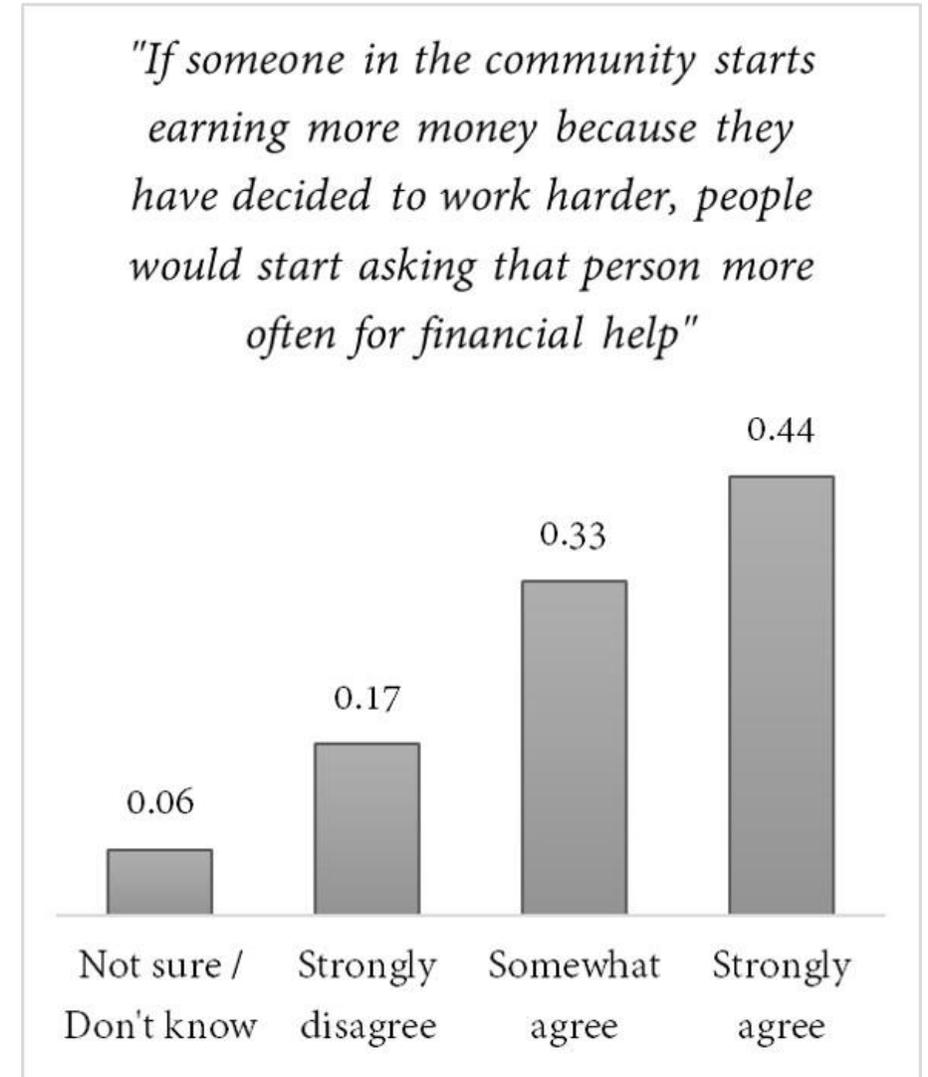
<sup>†</sup> World Bank , <sup>‡</sup> Columbia University, <sup>§</sup> UC Berkeley

# Context

**Motivation:** Welfare benefits of redistributive arrangements could come at an efficiency cost (Lewis 1955, Hoff and Sen 2011)

- A “social tax”

**Sample:** full-time piece rate factory workers in Cote d’Ivoire



Notes: N=420 cashew factory workers

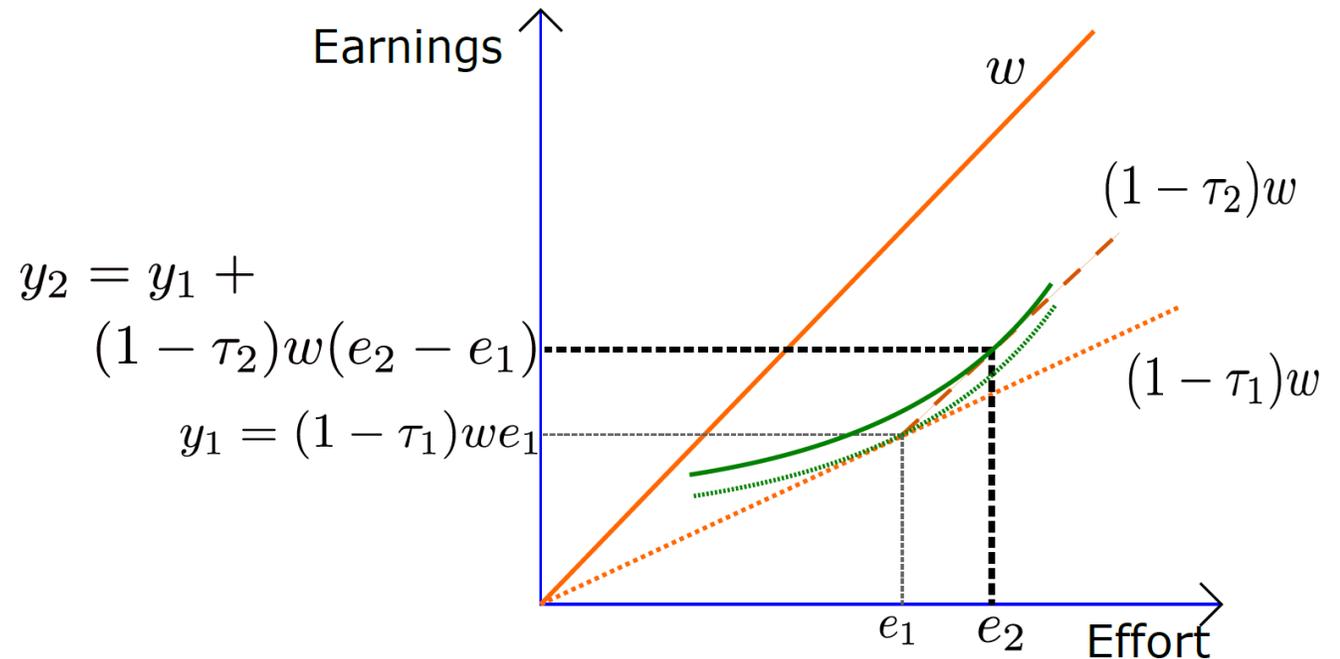
# Design

**Approach:** Lower “social tax” on earnings increases

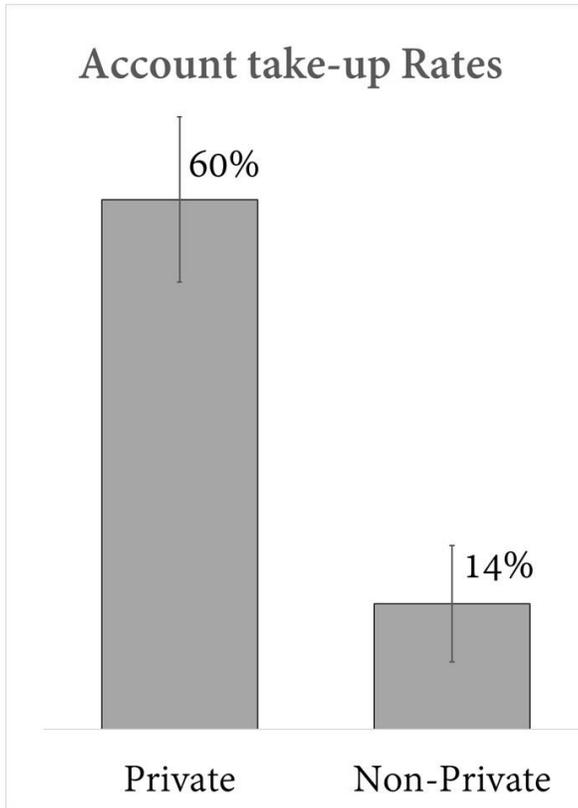
→ Pure substitution effect

**Tool:** Blocked savings account

**Key variation:** whether existence of account is private or known to worker’s network



# Results



Means and 95% CIs. N = 317 workers.  
SEs clustered at the worker level.

	Earnings	Attendance
Private (vs. Non-Private)	227.9*** (60.39)	0.0553** (0.0251)
Control mean	1570	0.60
N: worker-days	38222	38222
N: workers	317	317

Note: Regressions include worker and strata-by-paycycle FE. Standard errors clustered by worker.

- 14.5% ITT effect
  - Cost of foregoing accounts under non-private: ~2.3 days of earnings per paycycle
  - No reduction in transfers to kin
- Implied social tax rate: 26%

# Confounds

- ✓ **Privacy concerns:** SMS placebo exercises show high acceptance of transmitting other messages to kin (including that worker saved in the past)
- ✓ **Morale effects:** no evidence for positive treatment effects during announcement period
- ✓ **Self-control:** very few workers opt out of blocked savings when surprised with the chance (no difference before vs. on payday)

Thank you!

# Maize Price Shock, Agriculture Production and Children Nutritional Outcomes in Tanzania

Mkupete Jaah, Dieter von Fintel, Ronelle Burger

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# Background

- High food prices generates mixed effects on different population sub-groups(Lusting, 2012).
- Children are at higher risk of being affected by high food prices over the short and long run (World Bank, 2008; Bibi et al., 2010).

## Objectives

- Examine the heterogeneous impact of maize price shock on the growth of children from food producers and food nonproducers households.
- Examine the Mechanism through which maize price affect child growth.

# Methods

## Data

- 3 Rounds ILSM Surveys for Tanzania

## Outcome Variables

- Primary outcome variable: Height-for Age z-score (HAZ)
- Secondary Outcome variables: Diet Diversity & Micronutrient Intake

## Identification

- **Control Function + IVs**

$$HAZ_{it}^{(g)} = X_{it}\beta_g + c_{ig} + \mu_{itg}, \quad i = 1, \dots, N; \quad \text{and} \quad t = 1, \dots, T \quad (1)$$

$$HAZ_{it} = X_{it}\beta + h_{it}X_{it}\gamma + \bar{z}_i\rho_0 + h_{it}\bar{z}_i\rho_1 + \delta_0\hat{g}r_{it} + \delta_1h_{it}\hat{g}r_{it} + \mu_{it} \quad (2)$$

# Regression Results

Table: Second Stage Control Function Regression for HAZ

	Full Model	Child Gender		Age of a Child				Season	
		male	female	0-5mo	6-23mo	24-35mo	36-60	Lean	Post harvest
Maize Price	-0.541*** (0.164)	-0.418 (0.270)	-0.558** (0.269)	-0.524 (0.869)	-0.353 (0.358)	-1.069*** (0.279)	-0.308 (0.229)	-0.735*** (0.257)	-0.770** (0.362)
Producer X Maize Price	0.362* (0.185)	0.159 (0.278)	0.475 (0.299)	1.007 (0.971)	-0.102 (0.396)	0.730** (0.326)	0.199 (0.249)	0.684** (0.261)	0.703* (0.398)
Producer	-2.917** (1.350)	-1.237 (2.008)	-3.488 (2.147)	-7.227 (7.118)	0.231 (2.830)	-5.880** (2.403)	-2.021 (1.811)	-1.526 (1.878)	-3.506 (2.242)
Constant	-1.545 (1.262)	-2.719 (1.957)	-2.815 (2.006)	0.447 (6.744)	-3.760 (2.372)	1.053 (2.126)	-2.954* (1.774)	-3.642** (1.759)	-0.906 (2.360)
Observations	6827	3387	3440	524	2151	1429	2723	4110	2717
p-val: $\hat{\beta}_{Maize} + \hat{\beta}_{MaizeXProducer} = 0$	0.040								

None: All specifications include controls, time and community fixed effects. Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table: Second Stage Results: Effect of Maize Price on Diet and Micronutrients Consumption

	(1) HDDS	(2) Maize Calories	(3) Vitamin	(4) Meat and Fish	(5) Nuts and Seeds	(6) Vegetables	(7) Fruits
Maize Price	-1.651*** (0.207)	0.292*** (0.027)	-0.028*** (0.005)	-0.008*** (0.001)	-0.024*** (0.003)	0.001** (0.001)	-0.002* (0.001)
Producer X Maize Price	0.715*** (0.237)	-0.143*** (0.034)	0.015*** (0.005)	0.005*** (0.001)	0.015*** (0.003)	-0.001 (0.001)	-0.003 (0.002)
Producer	-6.051*** (1.705)	1.676*** (0.239)	-0.136*** (0.034)	-0.042*** (0.006)	-0.120*** (0.023)	-0.001 (0.005)	0.018 (0.013)
Constant	-7.560*** (1.507)	-2.220*** (0.215)	0.160*** (0.033)	0.050*** (0.006)	0.166*** (0.022)	0.006 (0.005)	0.008 (0.011)
Observations	6827	6795	6795	6795	6795	6795	6795
p-val: $\hat{\beta}_{Maize} + \hat{\beta}_{MaizeXProducer} = 0$	0.000	0.000	0.000	0.000	0.000	0.062	0.001

None: All specifications include controls, time and community fixed effects. Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

# Conclusion and Policy Implications

- Children from households that produce food are less vulnerable to food price shock than from household that did not.
- Children on transition from breastfeeding to solid food are more vulnerable to high prices
- Food production can offer protection against food price shocks except if food price shocks are caused by climate change.
- Policy could attempt to manage transition from breastfeeding to solid foods – stable micronutrient supply could help to protect growth during this stage.

# The Long-term Effect of French and English Colonization in Africa on Citizens' Trust towards Local Leaders.

Brice Gueyap

BREAD Conference

July 9, 2021

# General Issues Being Studied in this Paper

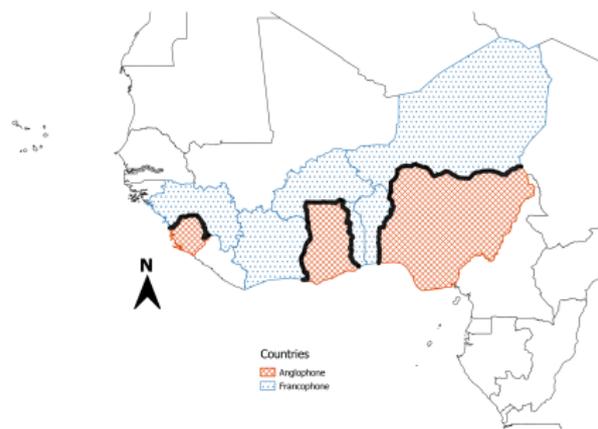
- **Goal:**

- Tries to answer whether English colonization has a persistent effect on trust toward local leaders.
- Examines one of the channels through which this could be possible.

- **Historical Background**

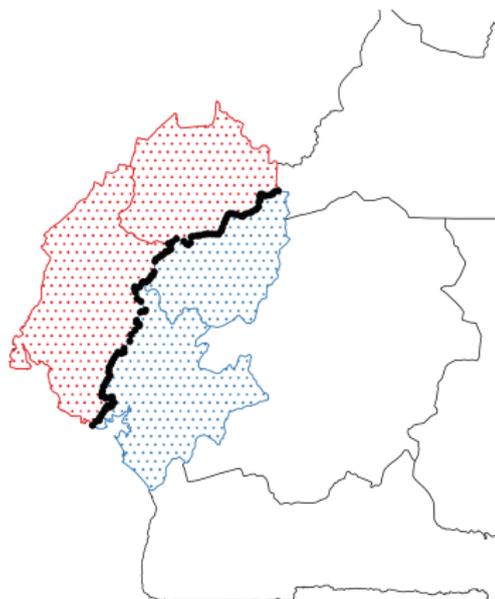
	Bristish	vs.	French
Legal systems	Common law	vs.	Civil law
Labor policies	Paid	vs.	Forced
Nature	Indirect	vs.	Direct

- **Data:** Individual data from Afrobarometer survey rounds 6 and 7.
- **Controls:** Distance to the coast, Distance to the capital city, ELF index....
- **Main Result:** The level of trust of local leaders is higher among anglophone respondents.



# Case of Cameroon

- Colonized by the Germans in 1884.
- Britain and France each controlled portions of Cameroon and split it into two parts in 1919.
- After independence in 1960, the two parts of Cameroon reunited in 1961.
- **Main Result:** The results from the Cameroon sample are similar to the previous results from the Western Africa sample.



# Mechanism and alternative explanation

- The lack of forced labor and the indirect rule gave British colonies more vital local level institutions.
  - The form of traditional ruling style had not been banned by the British.
  - British assigned or created the roles of local chiefs.
- In contrast, the French colonization changed the African culture.
  - Local chiefs lose all their power

# Urban Public Works in Spatial Equilibrium: Experimental Evidence from Ethiopia

Simon Franklin (QMUL)   Clement Imbert (Warwick)  
Girum Abebe (World Bank)   Carolina Mejia-Mantilla (World Bank)

BREAD AFRICA, July 2021

# Motivation

- ▶ A full evaluation of any anti-poverty program should take into account indirect/equilibrium effects as well as direct effects on beneficiaries.
  - ▶ Cash transfers affect consumption of non-beneficiaries and prices ([Angelucci and Giorgi, 2009](#); [Cunha et al., 2019](#); [Egger et al., 2019](#))
  - ▶ Public works provide local amenities and affect private sector wages ([Imbert and Papp, 2015, 2020](#); [Muralidharan et al., 2017](#)).
  - ▶ Likely to be even more relevant in a dense urban context.
- ▶ Estimating equilibrium effects is challenging:
  - ▶ Need randomized partial roll-out but at scale. .
  - ▶ Effects may spillover across units of randomization.
  - ▶ Especially in strongly connected urban areas.
- ▶ This paper evaluates an urban public works program using its randomized roll-out at scale ([Muralidharan et al., 2017](#)) combined with a spatial equilibrium model ([Heblich et al., 2020](#)).

# This paper

- ▶ Comprehensive evaluation of Ethiopia's UPSNP – Urban productive safety net program – (public works) in Addis Ababa.
- ▶ Exploit randomized roll out across local areas of the city.
- ▶ Leverage rich survey data: panel of eligible and non-eligible households with commuting flows, rents, and neighbourhood quality.
- ▶ Provide reduced form evidence on the effects of the program on public and private employment and local amenities.
  - ▶ Program reduces labor supply of direct beneficiaries (equivalent to a labor supply shock of 12%)
  - ▶ Estimate improvements in local amenities equivalent.
- ▶ Develop a spatial equilibrium model which enables us to:
  - ▶ Identify the spatial spillovers of the program across neighbourhoods through the commuting network.
  - ▶ Quantify the welfare effects of the program including direct benefits from participation, local amenities and equilibrium wages.

## How to Estimate Labor Market Spillovers?

The reduced form estimation of wage effects would regress  $w_i$ , wages of workers who reside in  $i$ , on treatment status of that neighborhood  $T_i$ :

$$\log w_i = \beta T_i + \gamma \mathbf{X}_i + \varepsilon_i$$

From the model, we derive a reduced form expression for wages at destination labor markets  $j$  as a function of exposure:

$$\log w_j = \delta \text{Exposure}_j + \gamma \mathbf{X}_j + \varepsilon_j$$

Exposure to treatment is defined as:

$$\text{Exposure}_j = \left[ \sum_i \lambda_{ij} T_i - \frac{1}{R} \sum_{0 \leq r \leq R} \sum_i \lambda_{ij} \tilde{T}_i^r \right]$$

where  $\lambda_{ij}$  is the share of workers in  $j$  that come from  $i$  (at baseline),  $T_i$  is treatment status of neighborhood  $i$ , and  $\tilde{T}_i^r$  is re-randomized treatment status.

# Labor Market Spillovers

	Log wages at origin	Log wages at destination
	(1)	(2)
Treatment at Origin	0.111 (0.040)	
Exposure of Destination		0.204 (0.075)
RI p-values	0.0125	0.019
Observations	90	90

- ▶ Mean exposure in treatment is 75% versus 16% in control.
- ▶ Hence wages increased by 15.3% in treatment and 3.3% in control.

## Welfare: summary

- ▶ We use the structure of the model to quantify the total welfare effects of the program = direct + amenity + wage effects.
- ▶ Equilibrium effects are large relative to the direct transfers.
- ▶ At full-scale these equilibrium wages effects are further magnified.
- ▶ We benchmark welfare effects against an cash transfer that gives equivalent utility without work requirements (nor wage effects).
- ▶ Welfare gains from public works are 4x larger when we include indirect effects and 2.5x larger than cash.

# OPTIMAL ASSIGNMENT OF BUREAUCRATS: EVIDENCE FROM RANDOMLY ASSIGNED TAX COLLECTORS IN THE DRC

Augustin Bergeron<sup>1</sup> Pedro Bessone<sup>2</sup>  
John Kabeya Kabeya<sup>3</sup> Gabriel Tourek<sup>2</sup> Jonathan Weigel<sup>4</sup>

<sup>1</sup>Harvard University <sup>2</sup>MIT <sup>3</sup>Direction Générale des Recettes du Kasai Central

<sup>4</sup>London School of Economics

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# Improving The Assignment of Public Sector Employees

- ▶ **Assignment of workers to tasks and teams:** important margin through which firms can raise productivity
  - ▶ Could be important in the public sector due to constraints on raising performance through incentives (Bertrand et al. 2020)
- ▶ **Field experiment** randomly assigning collectors to postings and teams
  - ▶ Property tax campaign in Kananga, DRC, run by Prov. Govt. in 2018
  - ▶ Tax collectors register properties and make door-to-door appeals



- ▶ Two-step randomization (monthly):
  1. Collectors assigned to a teammate
  2. Teams assigned to 2 neighborhoods
- ▶ 35 collectors, 184 neighborhoods (N=19,992)
- ▶ Admin data and surveys: tax compliance and revenues, bribes, views govt.

- ▶ **Question:** Can improving collectors' assignment increase revenues?

# Empirical Framework

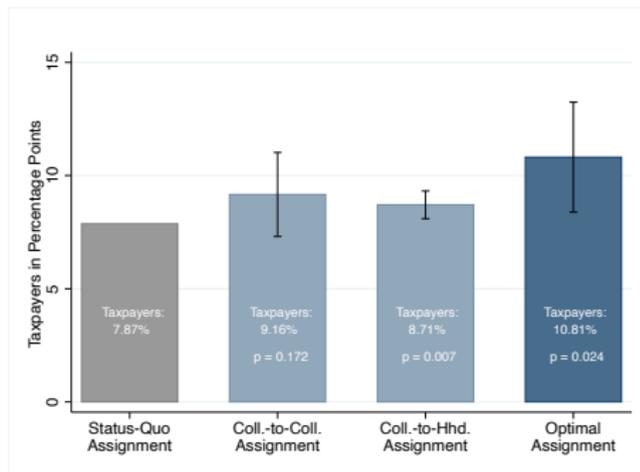
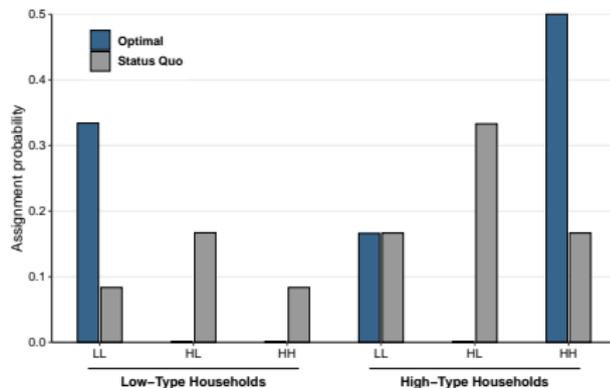
- ▶ **Household types:**  $v \in V = \{l, h\}$ 
  - ▶ From baseline ability to pay reported by third party (local elite)
- ▶ **Collector types:**  $a_1, a_2 \in A = \{L, H\}$ 
  - ▶ From average collector compliance (shrunk) across teams
- ▶ **Optimal assignment:**

$$\hat{f}^* \equiv \arg \max_f \sum_{v \in V} \sum_{a_1, a_2 \in A^2} f(a_1, a_2, v) Y(a_1, a_2, v)$$
$$\sum_{a_1, a_2 \in A^2} N_h \cdot f(a_1, a_2, v) = N_v^{SQ} \quad \forall v \in V$$
$$\sum_{v \in V} N_h \left[ 2f(a, a, v) + \sum_{a' \neq a} (f(a', a, v) + f(a, a', v)) \right] = N_a^{SQ} \quad \forall a \in A$$

With  $f$  the assignment function,  $Y$  the expected compliance function,  $N_h$  the number of households,  $N_v$  the number of type- $v$  households,  $N_a$  the number of households assigned to type- $a$  collectors

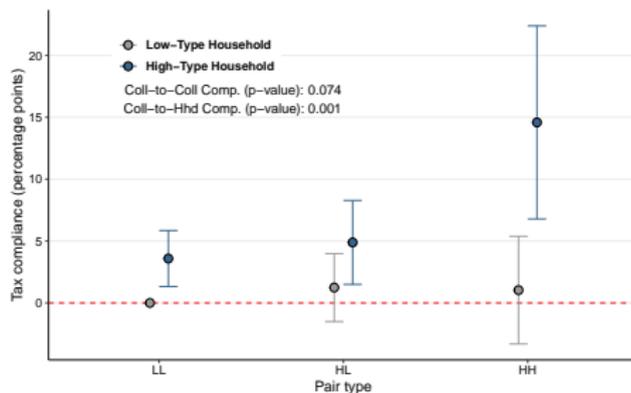
# Optimal Assignment: Positive Assortative Matching

- ▶ Assign **H** collectors to other **H** collectors (and L-types to other L-types)
- ▶ Assign **H-H** teams to **h** nbhds (and L-L-teams to l neighborhoods)
- ▶ Optimal assignment would  $\uparrow$  compliance by **37%**
- ▶ Benchmarks:
  - ▶ Replacing 62% of L coll. with H coll.
  - ▶  $\uparrow$  collector wage by 69% (but would  $\downarrow$  revenue by 6%)



# Why Positive Assortative Matching?

- ▶ **Mechanisms:**
  - complementarities in coll-to-coll and coll-to-hhd
    - ✗ collector messaging
    - ✓ conditional effort
    - ✓ skill transmission



- ▶ Other *downsides* to the optimal assignment?
  - ▶ Bribes: ↑ in bribe payments (but 26% of the ↑ in tax revenue)
  - ▶ Payment of other taxes and views of govt: no backfiring
  - ▶ Distributional impacts: larger increases in tax compliance among wealthier property owners
- ▶ **Improving public sector employees' assignment:** important margin for revenue mobilization in resource-constrained settings

# **Time delays at the border: Macroeconomic consequences for African economies**

By: Idossou Marius Adom

Supervisor: Immo Schott

Université de Montréal

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# Introduction

*“As a manufacturer, one of our biggest headache is with the supply chain. We have a situation where we have to order materials three months or six months ahead because of clearing delays.”<sup>1</sup> (Jude Abalaka, Nigeria).*

- ▶ Important proportion of inputs is imported in Africa: For 37 SSAC between 2009 and 2018: proportion ranges 14% - 63%;
- ▶ It takes long time to clear inputs through customs.
  - ▶ Avg. 3 to 7 days in Germany, Ireland, Greece, and Thailand.
  - ▶ SSAC: Avg. delays of 4 to 33 days.
- ▶ Question: how do border delays affect economic development ?
- ▶ In this paper: I show that border delays can relate to the supply capacity of firms in the economy.

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<sup>1</sup><https://www.thebusinessyear.com/nigeria-2018/jude-abalaka-managing-director-tranos/vip-interview>

## The framework

- ▶ Competitive firms supply a homogenous good using labor, and a CES aggregation of local and foreign inputs.
- ▶ Foreign inputs may be disrupted, due to border delays.

$$k_{l,t+1} = (1 - \delta_l)k_{l,t} + i_{l,t},$$

$$k_{f,t+1} = (1 - \delta_f) \underbrace{[k_{f,t} + z_{t+1}(O_t + i_{f,t})]}_{\tilde{k}_{f,t}},$$

$$O_{t+1} = (1 - z_{t+1})(O_t + i_{f,t})$$

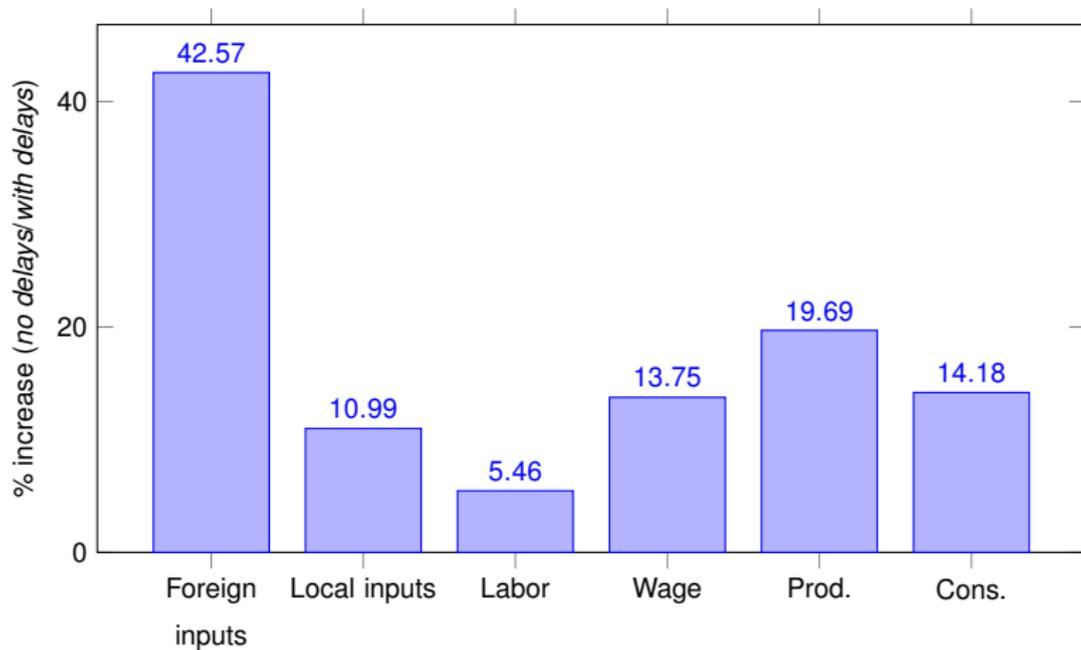
$\forall t: z_t \in \{0; 1\}$  with  $\mathbb{P}(z_t = 1) = \theta$ .

- ▶ Firms are heterogenous because they have different experience of the border delay.
- ▶ Household problem is standard.

## Analytical results

- If  $\beta < 1$ , then:
  - (i) the net present value of an investment is lower when it is subject to delays than when it is not.
  - (ii) the more likely the delays the less the NPV of investments.
  - (iii) the *NPV* is increasing in the discounting factor (so decreasing in the interest rate).
  - (iv) the optimum **local** input is lower under the delivery delays if local and foreign capital are complements, and higher if they are substitutes.
- If the discounting factor is  $\beta = 1$ , then delays do not matter whatever the probability distribution of the delays.

## Quantitative results



**Figure 1:** Macroeconomic effects of removing border delays in steady state (Cameroon economy).

# **The Social Norms and Tax Compliance in an Informal Economy Setting: Artefactual Experimental Evidence from Nigeria**

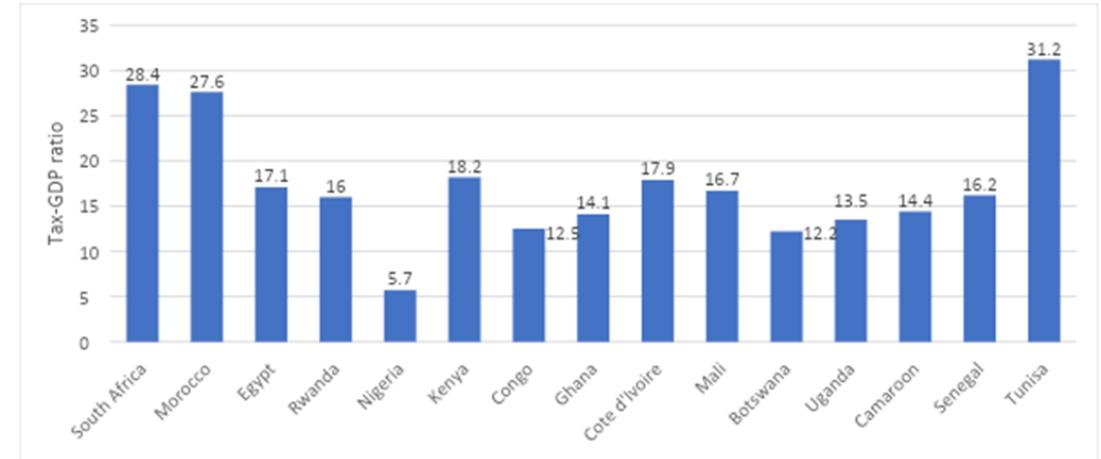
**Authors: Adedeji Adeniran,  
Mma Amara Ekeruche and  
Chukwuka Onykwena**



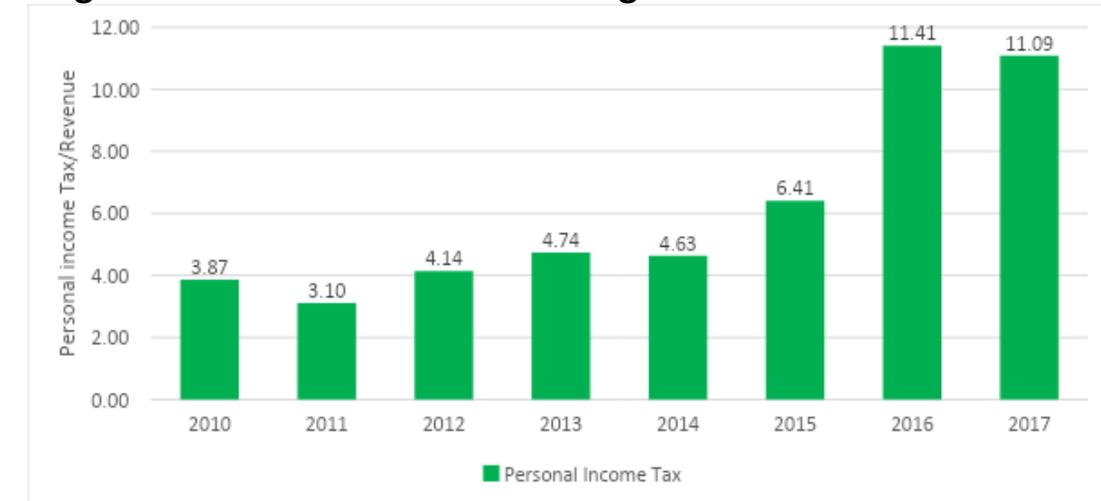
# Nigeria has a Revenue Problem

- ❖ Despite its large economic size and population, Nigeria's tax revenue and compliance level remain among the lowest in Africa (Figure 1).
- ❖ Nigeria received NGN802 billion in personal income tax in 2017, while South Africa with less than a third of the Nigerian labour force, had a personal income tax of about NGN9.7 trillion over the same period.
- ❖ High level of informality drives the low compliance level and there is limited role for economic incentive mechanism in this setting.
- ❖ Social influence and norms can enhance voluntary compliance in this regard.

**Figure 1: Nigerian Tax to GDP ratio against other African Countries**



**Figure 2: Personal Income Tax in Nigeria**



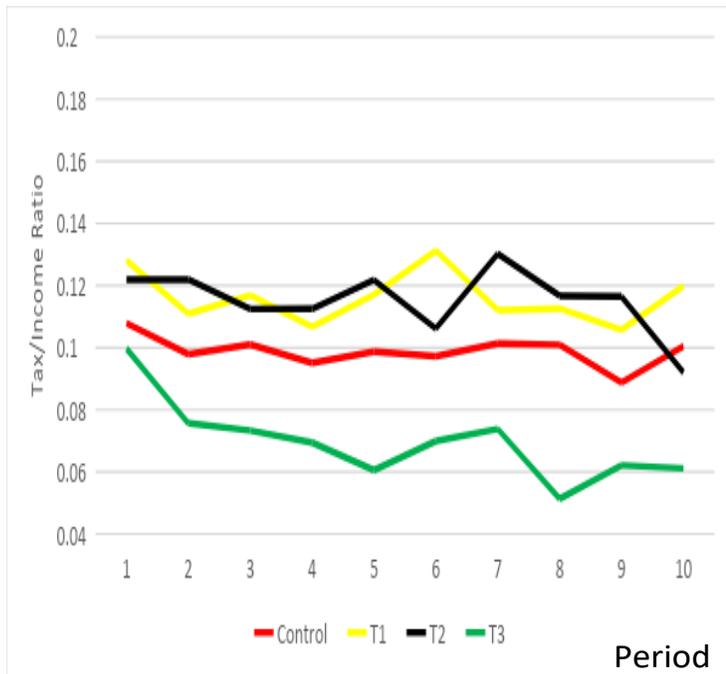
# Propositions

- Proposition 1: An increase in the psychic factor, a measure of social norms, has an ambiguous effect on the probability of filing a tax return and the amount of reported income, when all information are exposed (T3)
- Proposition 2: With an intervention exposing information only on the highest taxpayers, an increase in the psychic factor will lead to an increase in the amount of reported income of an individual who files a return, although its effect on the probability of filing a tax return remains ambiguous. (T2)
- Proposition 3: With an intervention exposing information only on defaulters, an increase in the psychic factor, has an ambiguous effect on the probability of filing a tax return, but increases the amount of reported income among those who files a return. (T1)
- Proposition 4: The tax complaint and the role of peer effect varies across group size, with psychic factor,  $\pi$  higher, among small groups than large groups.

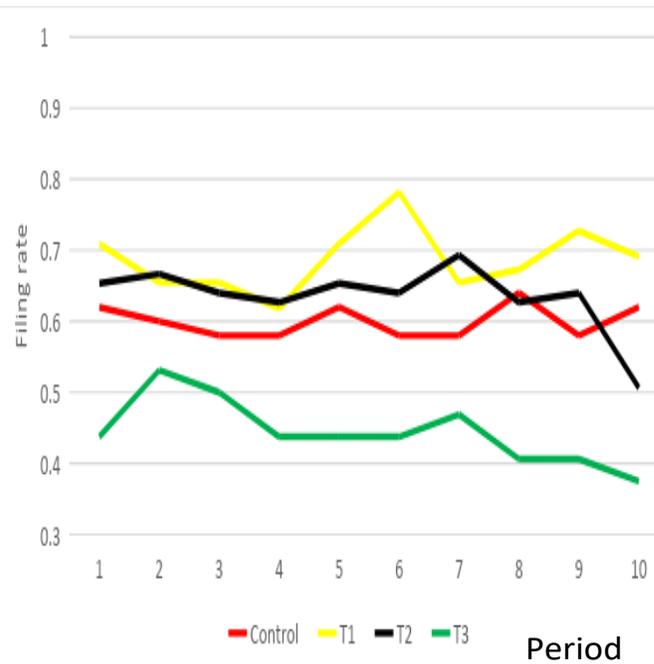
# Results

- ❖ Providing partial information (T1 and T2) yields better results than providing all information. However, this only relatively outperforms treatment with no information at all.

Tax Compliance rate among participants



Filing rate



Reporting rate

