

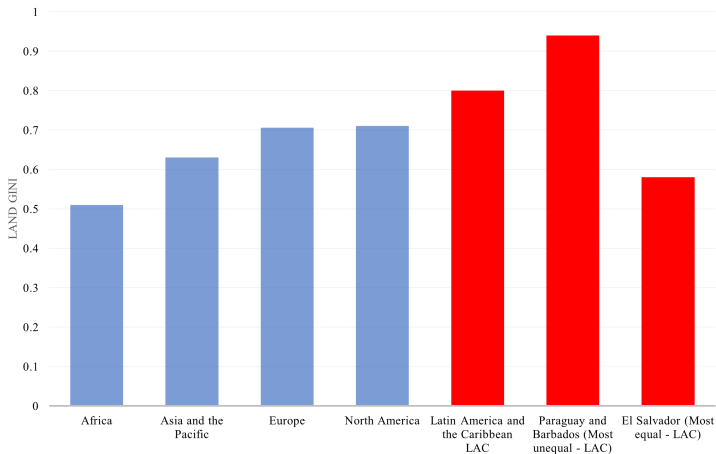
Land and Income Inequality in Latin America

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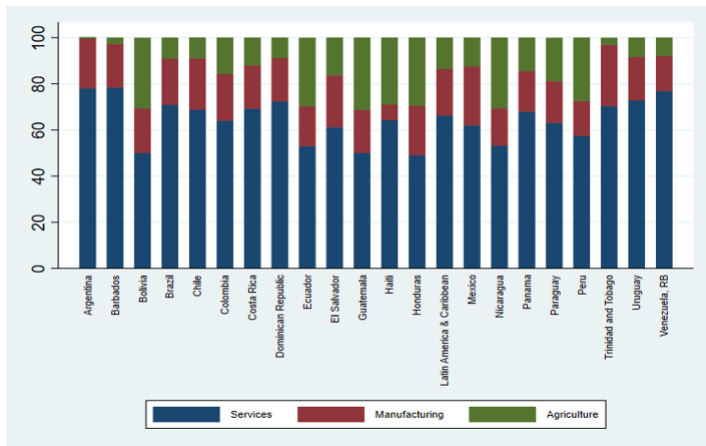
LAC: highest land inequality worldwide

Figure 1: Land Gini by region: unweighted average



Agricultural sector: third employer in the region

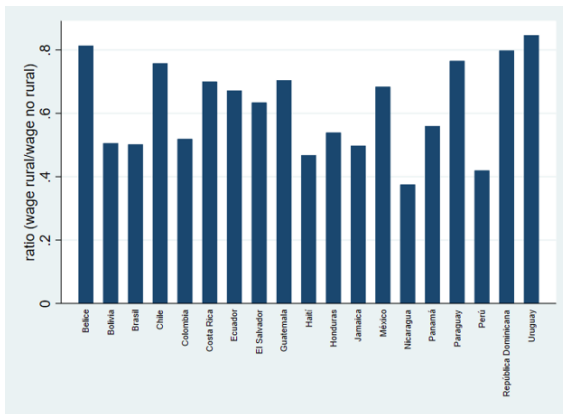
Figure 2: Employment per sector in 2019



Source: World Bank

Large rural-urban income gap

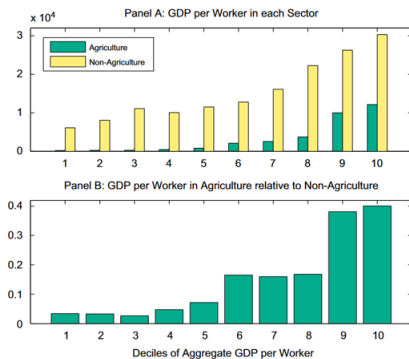
Figure 3: Ratio rural-urban wage per country



Source: ILOSAT, from on average monthly wages per country. Belice (2017), Bolivia (2020), Brasil (2020), Chile(2017),Colombia(2019),Costa Rica (2012), Ecuador (2020), El Salvador(2019), Guatemala (2019), Haití (2012), Honduras (2020), Jamaica (2014), México(2021), Nicaragua(2014), Panamá (2019), Paraguay (2017), Perú (2021), República Dominicana(2020), Uruguay (2020)

Low labor productivity in agriculture

Figure 4: Value added per worker for agriculture vs no. agriculture



Source: Figure 2 in Restuccia et al. (2008) *Journal of Monetary Economics* / Agriculture and aggregate productivity: A quantitative cross-country analysis

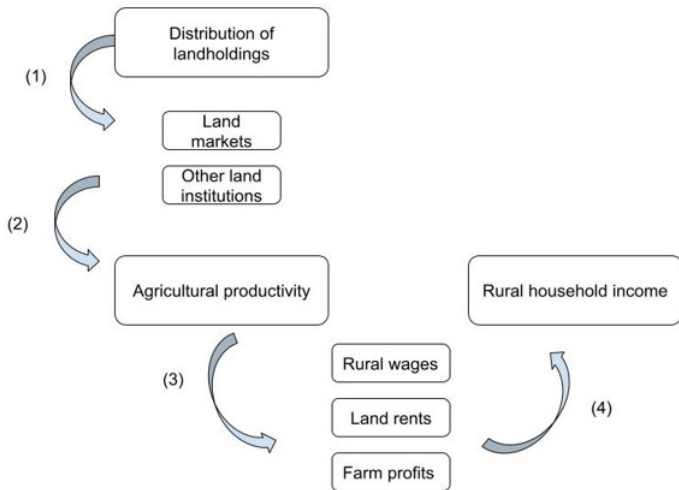
Land inequality, incomplete markets and misallocation

- ① Land inequality → misallocation of land reduces agricultural productivity
- ② Growing evidence of land misallocation in developing countries ([Adamopoulos and Restuccia 2014, 2020](#))
- ③ Concentration on ownership of productive assets can generate market distortions
 - Inefficient investment levels ([Banerjee 2004 and 2009](#))
 - Unequal/suboptimal growth ([Galor and Zeira 1993](#))
 - Land inequality is associated with low agricultural productivity in the long run ([Vollrath 2007](#))
- ④ Incomplete markets of risk management: labor misallocation → less urban migration ([Munshi and Rosenzweig 2016](#))

Is land distribution related to rural
income?

What is the role of agricultural
productivity and agricultural labor
markets?

Our argument



Our paper

Descriptive evidence for

- ① Relation between distribution of landholdings and agricultural productivity
 - No analysis on the **causes** of land distribution or its **consequences** on land markets and other land institutions
- ② Relation between land distribution and household income in rural areas

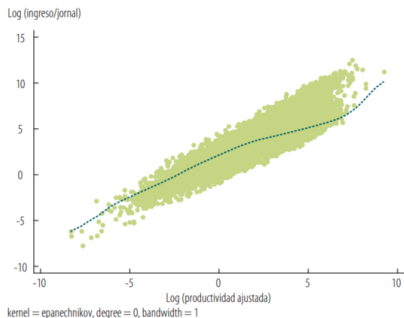
Our paper

Descriptive evidence for

- ① Relation between distribution of landholdings and agricultural productivity
 - Agricultural census data
 - Farm size: total operational land, cultivated land
 - Production function and revenues: worker days of permanent and seasonal workers, farm revenue, and farm revenue net of intermediate inputs use (value added)
 - Agricultural productivity: agricultural TFP and factor returns at the farm level
 - Estimate correlations between
 - Farm size, productivity measures, and factor returns (at the farm level—evidence of misallocation)
 - Farm productivity and measures of distribution of land holdings (with regional aggregates)
- ② Relation between land distribution and household income in rural areas

Suggestive evidence of misallocation in Colombia

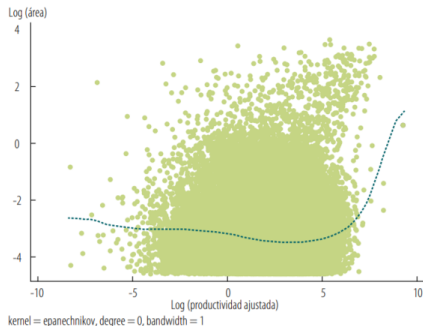
Returns to labor and agricultural income



Returns to labor and farm productivity +

Source: Hamann, et al. (2020)

Farm TFP and farm size



Farm TFP and farm size: Null relationship

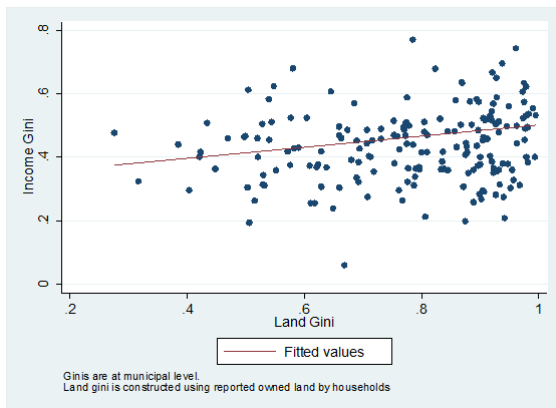
Our paper

Descriptive evidence for

- ① Relation between distribution of landholdings and agricultural productivity
- ② Relation between land distribution and household income in rural areas
 - Use of agricultural census data and LSMS household survey
 - Measures of rural wages, farm profits and rural household income
 - Estimate the correlation between land inequality and income inequality
 - Estimate the correlation between income measures with farm productivity, revenue per worker, revenue per hectare.

Land distribution and household income in rural areas: Guatemala

Figure 5: Household income and household land ownership: unconditional relation



Two options

Option 1

Countries with Ag. census data+ LSMS surveys

- Broader analysis across countries: more heterogeneity across countries
- Core group of questions in censuses and surveys is limited:small group of variables

Option 2

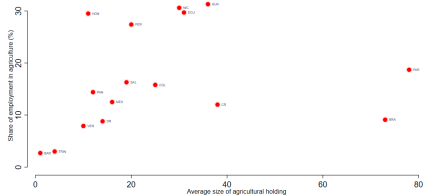
Small group of countries - maximize differences

- Broader analysis across variables
- Lower heterogeneity
- Conclusions are context-specific

Clusters of countries

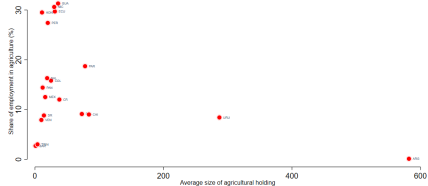
Average farm size and share of employment in agriculture

Without Argentina and Uruguay



Source: FAOSTAT (2014) and FAO (2014). Country codes: ARG, AUS, BEL, CAN, CHL, COL, DNK, DEU, ESP, FRA, GBR, IND, ITA, PER, USA, URU.

With Argentina and Uruguay



Source: FAOSTAT (2014) and FAO (2014). Country codes: ARG, AUS, BEL, CAN, CHL, COL, DNK, DEU, ESP, FRA, GBR, IND, ITA, PER, USA, URU.

Available Agricultural Census Data

Country (last year available)
Argentina (2002)
Bolivia (2008)
Brazil (2006)
Chile (2007)
Colombia (2014)
Costa Rica (2014)
Ecuador (2000)
El Salvador (2008)
Guatemala (2003)
Mexico (2007)
Nicaragua (2011)
Paraguay (2008)
Peru (2012)
Uruguay (2011)
Venezuela (2007)