Temperature Shocks, Labor Markets and Migratory Decisions in El Salvador

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Motivation

Evolution of global mean surface temperature

Source: IPCC (https://www.ipcc.ch/sr15/graphics/)
This Paper: Research Question

**Extreme temperature in Salvador**

- High international migration to the U.S.
- Mostly subsistence agriculture
- Highly dependent on the rain cycle

**International migration**

**Agricultural production**

- Labor demand of agricultural workers

**Migrant networks**

- Asset ownership
- Access to financial markets
Temperature shocks: temporal and geographic variation

Figure 1: Number of hot weeks per municipality during main harvest season
Effects on Agricultural Productivity and Total Yield

-0.054***

Log(Corn Production per Hectare)

-0.028**

Log(Total Production)
One additional week with a temperature shock:

- **-1.9%**\(*)\)** in hired workers in agriculture
- **-0.82%**\(*)\)** in all workers
- **+1.65%** in household workers
One additional week of temperature above 2sd increased the likelihood of migration by 0.2% points or 25% relative to baseline
Access to Migrant Networks: Likelihood of Migration

Impact on likelihood of migration is lower in regions with higher share of migrants and remittances.

Receiving remittances might help to alleviate the negative temperature shock and stay in the place of origin.

Credit-constrained households and non-landowners are more likely to migrate.

Results are robust to alternative measures of temperature shocks.
Conclusions

- **Crop yield**: decreased
- **Non-household workers**: decreased
- **Likelihood of migration**: increased
- **In municipalities with highest migration**: increased
Discussion

Two types of migration may emerge from this relation:

i. Migration as a strategy to survive and compensate for income losses

ii. Migration as a way out of poverty in regions with untenable conditions (changing climate)
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i. Migration as a strategy to survive and compensate for income losses

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    (changing climate)
Thank you!

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