

# Modernizing Markets, Small Farmers, and Food Security

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Agricultural and Consumer Economics

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## Research Question

How does modernization of the marketing system in developing countries impact poverty and food security?

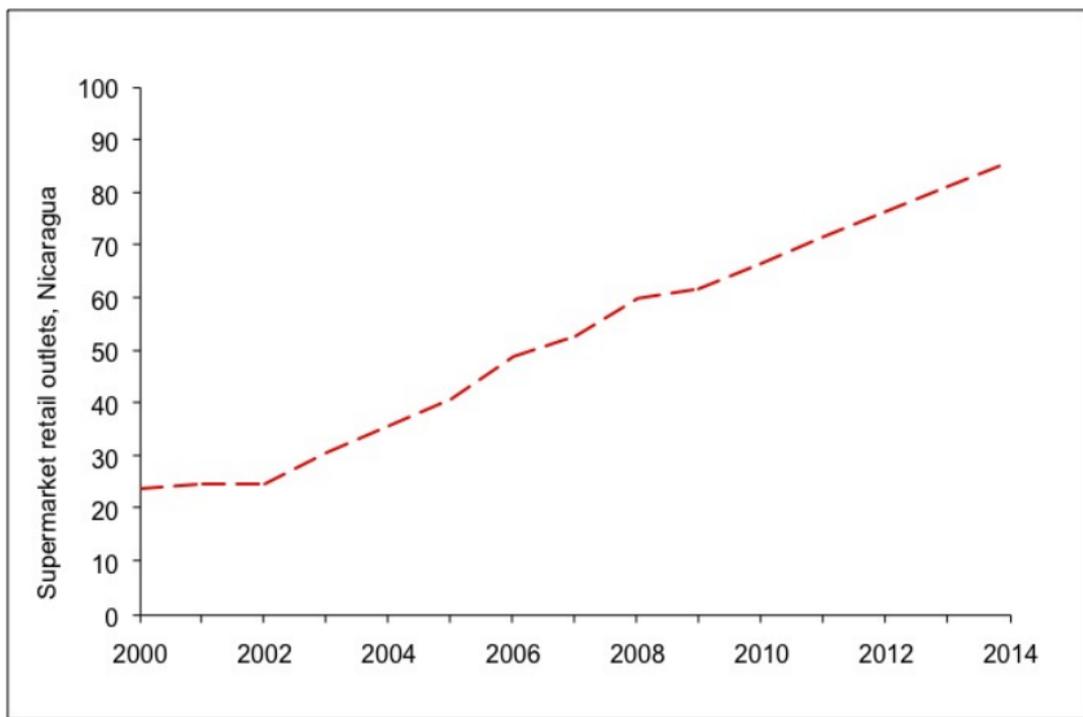
Two primary threads:

- Small farmers in Nicaragua:  
What are the effects on small farmer assets and incomes?
- New intermediaries in the Chinese food system:  
What is the role of new supply chain intermediaries in organizing production and marketing?

# Supermarkets' Global Reach: Walmart 2014



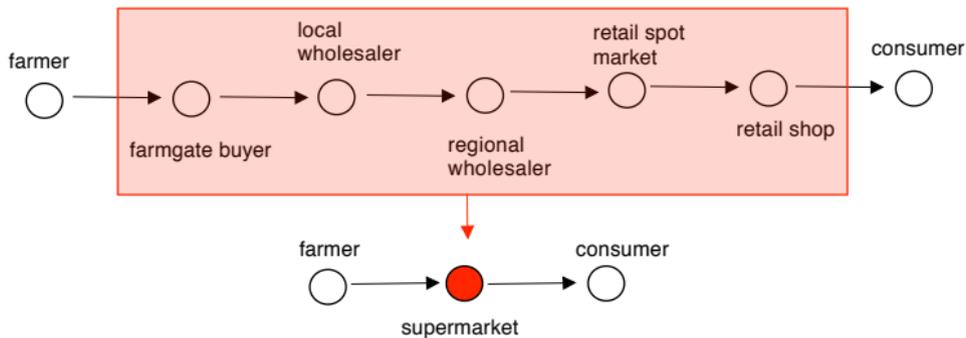
Walmart retail locations in 15 developing countries



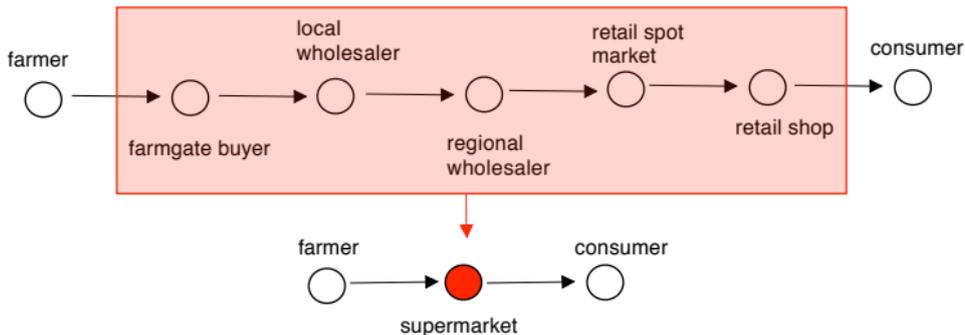
More Walmarts now per capita in Nicaragua (one per 7000 people) than the United States (one per 7600 people).

## Retail expansion transforms agricultural production and marketing

- Supermarkets source fresh fruits and vegetables in-country
- Modernization of agricultural supply chains
- Governments and the private sector emphasize “direct farm” sourcing - eliminating middlemen



## Why direct farm sourcing?



- Government goals: reduce rural poverty and improve rural sector food security, decrease prices for urban consumers
- Supermarkets: save money on procurement, establish control of sourcing, traceability
- Farmers: improve prices, decrease marketing costs

Will small farmers be included? Will they benefit?

# Nicaragua - small farmers



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### 3 *How do they benefit?*

A Walmart contract is a form of price insurance but farmers may “pay” too much in the form of a reduced mean price. And the relationship introduces new risks. (Michelson, Reardon, Perez, *World Development* 2012)

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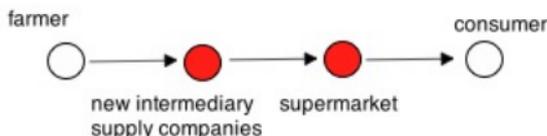
4 Ongoing: effects on food security, dietary diversity, pesticide use

# China - modern intermediaries



Is Walmart “direct farm” sourcing in China?

## China - modern intermediaries



A different sourcing model for a very different context:

- Fragmented landholdings, limited logistics infrastructure
- Supermarkets cut out traditional intermediaries
- But rely on new intermediaries to purchase from farmers

Role of intermediaries largely absent from the supermarket literature

- Focus on small farmers or country-level trends
- Our study offers a first look at these meso-level actors
- Just completed survey of 198 intermediary supply companies working with or managing 460 farm bases

## China - modern intermediaries

Intermediate supply companies are critical, determine:

- How Chinese farmers participate in supermarket supply chains
- Potential channels of impact on rural households
- Whether and how the agri-food sector can deliver on food safety
- Benefits (prices, safety) to urban consumers

Activities:

- organize production
- consolidate land
- handle logistics
- invest in cold chain

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- Large scale operations
  - Mean farm size is 5184 mu (about 850 acres)

## Ongoing work

- Studying the production models used by Chinese supply companies
- More focus on supply chain intermediaries
  - response of traditional intermediaries to exclusion
  - robustness of the modern system to perturbations (role of intermediaries)
  - emergence of new intermediaries in other countries
  - NGOs as intermediaries in some contexts
  - effects on urban consumers - price levels and variance
- Transition at a nascent stage - need studies on small farmer participation and welfare dynamics

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