‘Land Grab’ or Development Opportunity?
The Effect of Transnational Farmland Investments on the Ghanaian Economy

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Transnational Farmland Investments (TFIs)

- Transnational Farmland Investments (TFIs)
  - Foreign Direct Investments (FDIs) in Farmland
  - Foreign investors bring in capital from outside, lease domestic land and employ domestic workers to engage in agricultural production.
  - Biofuel and Food projects
- Macroeconomic Implications
  - Advanced Technology + Capital Investment
  - Increased GDP ↔ Repatriation of Profits
  - Job Creation ↔ Dislocation of Local Farmers

What is the effect of TFIs on the host country economy in terms of growth, income, and household welfare?

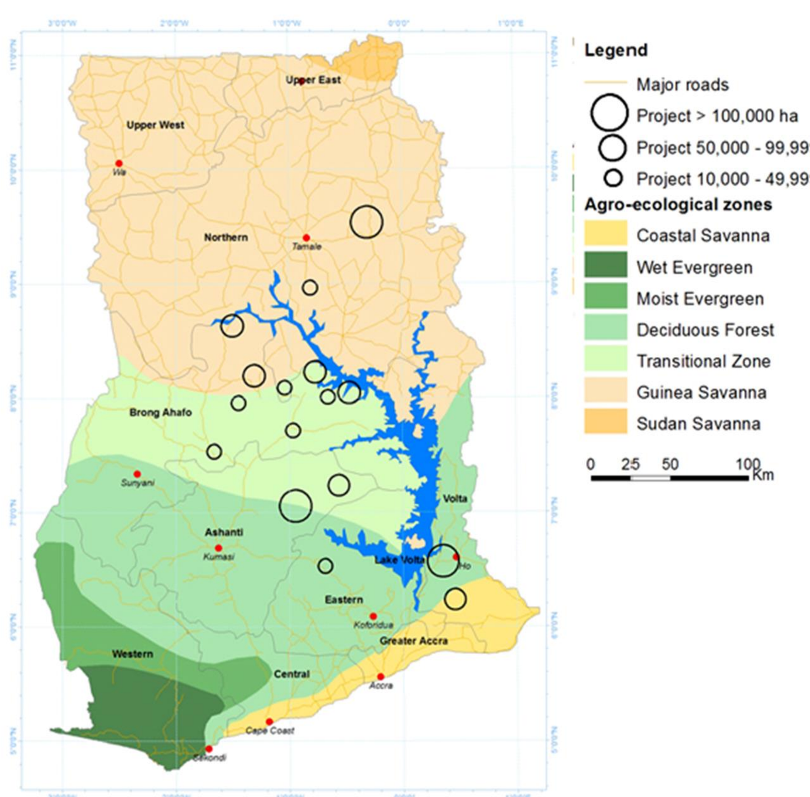
Select Facts about TFIs

- Long-term and renewable leases, rather than purchase
  ⇒ Land use compensation: fixed rent or profit sharing
- Lands under some form of use, rather than empty or abandoned lands
  ⇒ Farmland transfer, rather than farmland expansion.
- Little evidence of knowledge transfer to local farmers (Asiedu 2006, Kleeman et al. 2013)[3]
  ⇒ No spillover of knowledge is explicitly modeled.

TFIs in Ghana

- 13% of total farmland (1,194,000 ha) transferred (August, 2014) [1]
  - The 4th largest recipient of TFIs in sub-Saharan Africa in terms of the share of transferred farmland
- Type of TFI activities[1]
  - biofuel (jatropha) projects for export market (8%)
  - food (grain) projects for domestic market (5%)
- Land use compensation: profit-sharing agreement[2]
  - The ratio of profit paid to the local community: 25%
  - Usually paid to local and traditional authorities/villages

Distribution of Biofuel TFIs in Ghana[2]



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Model

- Multi-sector Neoclassical (Endogenous-saving) Growth Model
- Six Production Sectors:
  - Non-agricultural sectors: Manufacturing, Service
  - Domestic agriculture: Domestic grain, Non-grain agriculture
  - TFI sectors : Foreign grain, Biofuel
- Features of TFI sectors
  - Foreign grain sector[5]
    - highly capital-intensive technology with mechanized operation
    - higher yield than domestic grain sector by 18%
    - outputs sold in the domestic market
    - perfect substitutes with grains produced by domestic farmers
  - Biofuel sector[6]
    - intensive use of labor per unit land as many manual workers are hired during the harvesting time
    - greater value added per unit land than non-grain agriculture
    - outputs exported entirely

The Differing Effects of Grain TFIs vs Biofuel TFIs

- Key Channel for the Long-term Effect
  - Labor intensity of TFI firms’ technology determines whether the economy effectively becomes more labor-abundant or capital-abundant, changing marginal productivity of each factor. Subsequently, wage and return to capital change over time.
  - Changes in return to capital provide households with more or less incentives to save, determining the pace of capital deepening and economic growth.
- Effects of Grain-producing TFIs
  1. Increase in productive capacity for grain
     ⇒ Grain price falls, increasing grain consumption and HH welfare.
  2. Technology: Low labor intensity
     ⇒ Less labor employed on the transferred land
     ⇒ Labor released into the labor market
     ⇒ Labor abundant and capital scarce ⇒ wage ↓ & return to capital ↑
  3. Faster K deepening
     ⇒ Stronger growth and greater long-term income
     ⇒ HH welfare improves.
- Effects of Biofuel-producing TFIs
  1. Initial increase in productive capacity of the economy
     ⇒ Initially greater GDP, GNP, HH welfare
  2. Technology: Intensive use of Labor
     ⇒ More labor employed on the transferred land
     ⇒ Labor absorbed from the labor market
     ⇒ Labor scarce and capital abundant ⇒ wage ↑ & return to capital ↓
  3. Slower K deepening
     ⇒ Weaker growth and lower long-term income
     ⇒ HH welfare deteriorates in the long run.

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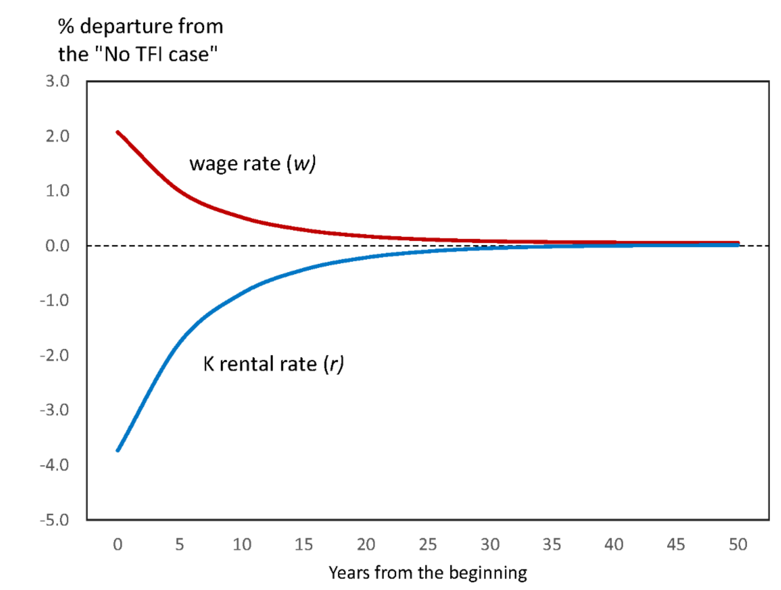
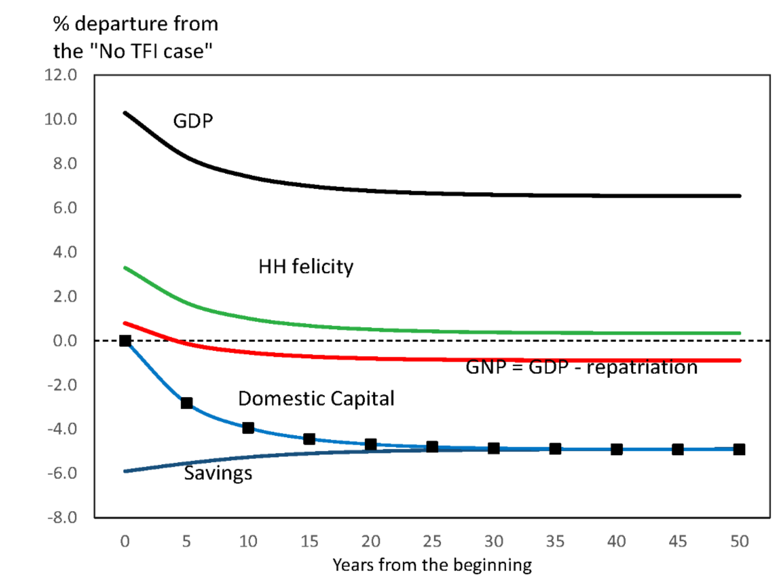
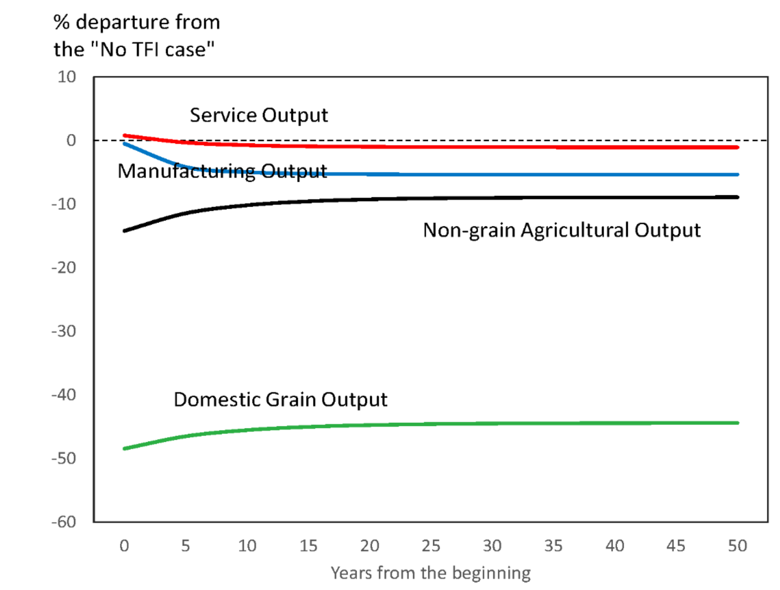
Simulation Results

- The current state of TFIs in Ghana (share of total farmland as of August 2014)[1]
  - Grain-TFIs (5%) + Biofuel-TFIs (8%)
- The simulation investigates the effect of the current state of TFIs on the Ghanaian economy in terms of its percentage departure from a counterfactual baseline where no TFIs are present in Ghana.







- The effect of biofuel dominates via slower K accumulation.
  ⇒ Lower grain price improves HH welfare.
- Wages are higher, but return to capital lower.
  ⇒ Positive effect on labor income
- Less savings lead to slower K accumulation.
  ⇒ Negative effect on growth and long-term income
  ⇒ Negative effect on the capital-intensive manufacturing sector
- HH welfare improves despite lower long-term income.
  ⇒ HH welfare up by + 0.3%, Long-term income down by - 0.9%
- Manufacturing and services are adversely affected.
  ⇒ Structural transformation slows down.

Policy Implication

- The predominance of biofuel-producing TFIs is expected to cause weak growth due to a relative shortage of savings and investment.
  - Incentives to savings and investment
    - Tax benefits for interest income and investment expenditure
    - Strengthening financial institutions
  - Land use compensation in the form of infrastructure provision
    - Enhancing long-term growth potential of the economy examples: roads, irrigation facilities, etc...

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