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Background and Objective

Brazil's economic strategy has shifted during the last several decades from one of producer protection to trade competitiveness. Despite macroeconomic instability, Brazil has emerged as an economic and agricultural powerhouse:

- 3.6 percent real annual economic growth between 2000 and 2008 (World Bank, 2010)
- A global top-five producer of 31 farm commodities in 2000 and 36 commodities by 2008 (FAO, 2011)

How Brazil's farm policy affects productivity is central to evaluating the role of policy in the country's economic development process.

Methodology

- Analyze data from a sequence of decennial agricultural censuses (1985, 1995/6, 2006) to help understand the growth of Brazil's agricultural sector and its national economy.
- Decompose total factor productivity (TFP) growth into frontier technology change (TC) and efficiency change (TEC).
- Assess factors affecting Brazil's production efficiency, including agricultural research expenditures, rural credit, road densities, and education infrastructure.
- Solution Estimate a three-input, two-output input distance frontier using Battese and Coelli's (1992) time-effect parameterization of inefficiency.
- Solution Predict efficiency and model it against research, credit, and infrastructure (transportation and education) policies.



Brazilian Agricultural **Productivity and Policy**

Data

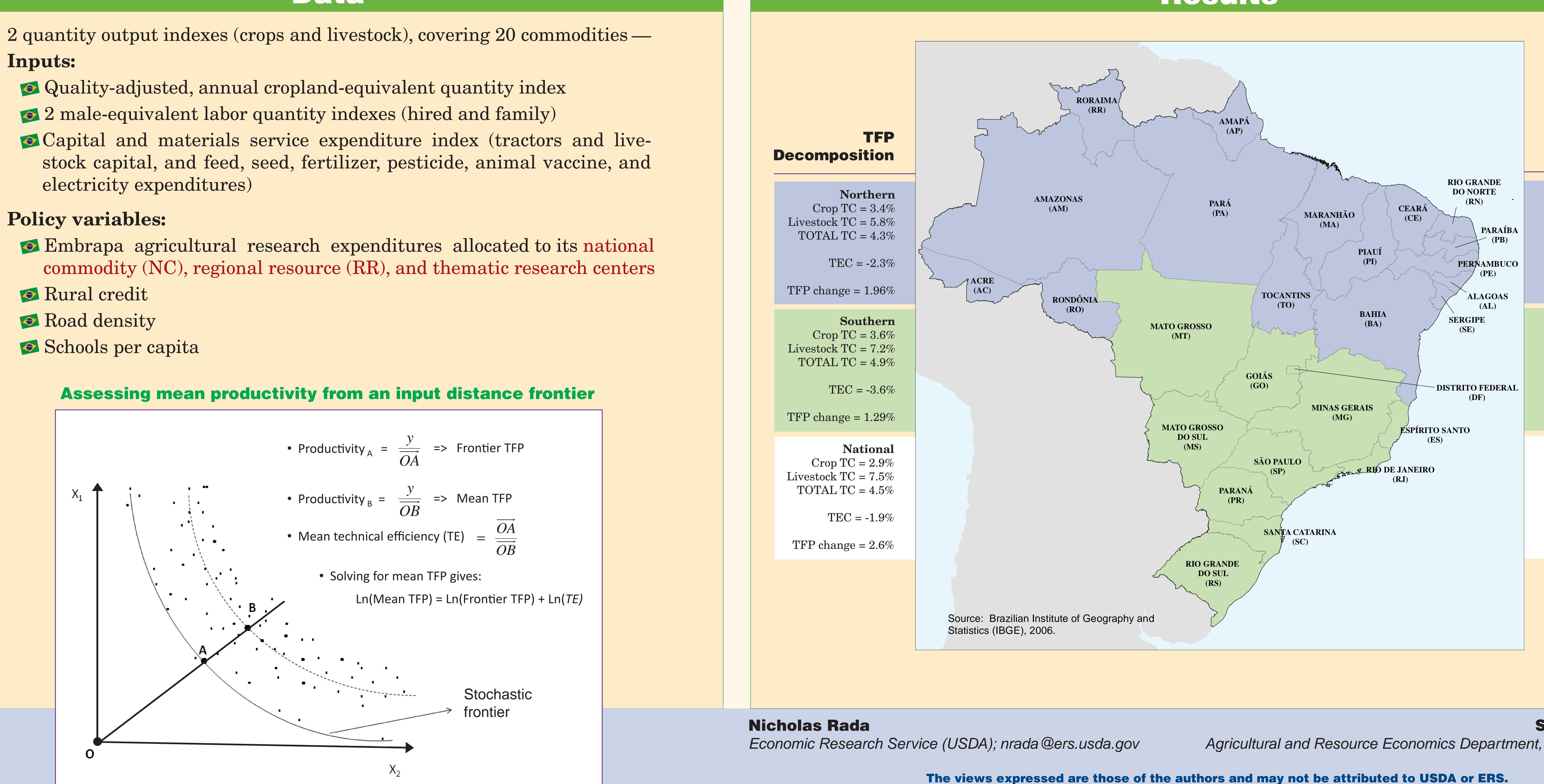
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Inputs:

- electricity expenditures)

Policy variables:

- Rural credit
- Road density
- Schools per capita





Results

Efficiency Determinants

Northern NC = -2.8%RR = 0.0%Road = 0.07%

Credit = 0.06% School = 0.15%

n = 735

Southern NC = -3.4%RR = 0.0%Road = 0.13% Credit = 0.17% School = 0.10%

n = 882

National NC = -2.1%RR = 0.0%Road = 0.08% Credit = 0.06% School = 0.10%

n = 1,617

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