Market participation and marketing performance: A case study of Bolivian potato farmers
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Introduction

- Potato production is vital for the impoverished households living in the Bolivian Andes.
- Potato sales represent 79.5% of crop revenue and 49.5% of total household revenue.
- Market participation can be used as a tool to lift small-scale farmers out of semi-subsistence farming and poverty trap.
- Identifying obstacles to market participation and factors to promote participation in higher-valued markets is primal to increase farmers’ income and welfare.

Conceptual and empirical framework

1. Heckman selection model
   - Dependent variables: Market participation, Fraction sold
   - Explanatory variables: Market participation, Consumption characteristics, Production characteristics, Proportional and fixed transaction costs, Household characteristics

2. Probit model
   - Dependent variable: Achieved a superior marketing performance
   - Explanatory variables: Human capital, Financial capital, Physical capital, Fixed and proportional transaction costs

Data

- Survey data: 752 potato farmers, Data on agricultural activities, market participation, household characteristics, etc.
- GIS Data: Geo-referenced household location, GIS data for road network, elevation, soil, etc.
- Market participation: 90% of households sold potatoes, Household sold an average of 64% of production.
- Market choice: 73.9% of households sold potatoes in Tiraque, 40.7% of households sold potatoes in Santa Cruz, 53.2% of households sold potatoes in Cochabamba, 7.8% of households sold potatoes in Santa Cruz, 67.8%, 24.9%, 6.3%, and 0.9% of households sold potatoes in 1, 2, 3, and 4 markets
- Prices: Average net price received is 139 B/.100 Kg potatoes (§29)
- Selling potatoes in more than one market and selling potatoes in Santa Cruz and Cochabamba yielded to higher net prices.
- Marketing strategies: Five superior marketing strategies were identified.

Results and conclusion

- Technical efficiency and the market effort
  - A 10% increase in farm size leads to a 1.5% increase in the fraction sold.
  - Tractor ownership increases the fraction sold by 4.8%.
  - A 10% increase in technical efficiency increases the fraction sold by 3.1%.
- Proportional and fixed transactions do not have a significant impact on market participation.
- Living 1 km closer to the Tiraque market leads to a 1% increase in the fraction sold.
- Living 1 km further away from the paved road reduces the fraction sold by 3.7%.
- The age of the household head has a negative impact while being a female household head has a positive impact on market participation.
  - Being a female household head reduces the fraction sold by 10.3% while the ratio adult of females has a positive impact on quantity sold.
- One-year increase in the household head age reduces the probability of selecting a superior marketing strategy by 3.5%
- An additional family member increases the probability of selecting a superior marketing strategy by 5%
- A 10% increase in the ratio of adult females increases the probability of selecting a superior marketing strategy by 3.3%.

Policy implications

- Farmers’ income can be increased through:
  - Improved marketing performance
  - By providing technical assistance
  - By improving access to market information
  - By implementing microfinance programs
  - Have access to productive assets
  - Increased agricultural production
  - Cover transportation costs of reaching the further away markets
- Greater volume sold
- Higher price
- Risk is a limiting factor

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References: