Effectiveness marketing strategies and risk measurement in the sugarcane industry

Daniel H. D. Capitani\textsuperscript{(a)}; Fabio Mattos\textsuperscript{(b)} and Carlos E. O. Xavier\textsuperscript{(c)}
(a) University of Campinas, (b) University of Nebraska-Lincoln, (c) University of Sao Paulo

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Fabio Mattos  University of Nebraska
Carlos E. O. Xavier  University of Sao Paulo

Introduction
- Marketing decisions are key elements for most of agricultural producers and industry. These agents face several possible production and trade strategies and simultaneously the uncertainty regarding their outcomes.
- The random components of prices are linked with the occurrence of new information about the expected supply and demand, linked with the seasonality of inventory changes and of information about market conditions.
- There is a lack of consensus about marketing strategies. The efficient market hypothesis implies that there are no significant differences in returns considering many marketing strategies. However, other studies have found evidence that preharvest marketing strategies provide significantly greater returns than trading at harvest.
- Sugarcane industry faces uncertainty over better market strategies regarding production mix and trade.
- What is the ideal production mix? How much risk each product result? When the selling provide positive margins?

Objective
- To explore marketing strategies in Brazilian sugarcane industry.
- To investigate sugarcane production mix and profit margins of sugar and ethanol.
- To assess price risk.

Research method
- Profit margins calculation:
  - Weekly prices: July, 2007 – June, 2014 (7 crop years)
  - spot price for Brazilian raw sugar, hydrated ethanol and anhydrous ethanol: Copers/aEia/qSUS
  - Cost of production: Pece/aEia/qSUS
- Monthly production mix: UNICA
- Average monthly production of mills - Sao Paulo State

Results
- Summary statistics for sugar and ethanol prices and returns in Sao Paulo, 2007-2014

Conclusions and extensions
- Over the considered period, ethanol was the first output choice by Brazilian sugarcane mills.
  - Sugarcane crushing is concentrated from May through October.
- Margins are more profitable over production off-season, but ethanol margins are mostly negative.
  - Each crop has similar volatility over total period.
  - Disaggregating periods according sugarcane harvesting, dispersion is more disparate.
  - VaR and ES analysis suggest that price risk can be more negative for anhydrous ethanol. However, all commodities can reach extreme losses, depending on trade period.
  - Overall, sugarcane mills marketing strategies should focus not only on profit margins at each period.
  - The strategy must also be associated with an efficient price risk management.
  - An optimal strategy for each product might be focused or margins and risk, simultaneously.

For further information
Daniel Capitani (daniel.capitani@fca.unicamp.br)
Fabio Mattos (fabiomattos@unl.edu)
Carlos Xavier (ceoxygo@gmail.com)