

## Cross market price support and agricultural development: Quanto options valuation for cash grains in Mexico 🛒

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### Purpose

– This paper aims to develop a market-driven mechanism for commodity price insurance in developing countries lacking access to futures markets or other forms of hedging products.

### Design/methodology/approach

– The model incorporates futures, exchange rate and local basis risk under the Black-Scholes framework to develop quanto (quantity adjusting option). When the domestic price of a commodity in a developing country is strongly correlated to the price in a futures market, price support premiums can be estimated. The authors use daily corn futures prices, exchange rate MXP/USD, and prices of corn and sorghum at several locations in Mexico.

### Findings

– The authors calculated the price insurance premium at various local markets in Mexico for corn and sorghum. The results are consistent with those for the USA, showing that relative price premiums are similar.

### Research limitations/implications

– The results provide a benchmark to estimate the net welfare effects of government programs for agricultural price support.

### Practical implications

– The model shows that privately provided agricultural price insurance is feasible under certain conditions for developing countries without an established futures market.

### Originality/value

– This paper provides market-based agricultural options in Mexico which contributes to the existing government price support program.

Keywords: [Mexico](#), [Agricultural price insurance](#), [Cross-currency option](#), [Quanto](#)

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