

## **Global commodity price links: comovement and hedging**

The world economy is getting more closely connected. This means that for most of the world's highly sought after commodities, events in New York or London can have impacts on prices in markets halfway across the globe. This is especially more so when production is distributed across multiple locations, but market clearing through the price system is centralized in a few of the world's financial capitals.

This study takes a new and formal look at how prices are interlinked across markets, with particular focus on one of the world's most highly traded commodities: coffee. This market is characterized by a physical auction where "green beans" are traded by producers (farmers, cooperatives or their agents) and an international world market where forward contracts (claims for the delivery of a prespecified amount of the underlying product) are traded. The forward or futures market reflects expectations about future supply and demand. It also acts as an avenue for risk management for sophisticated producers and an investment vehicle for financial speculators.

In an integrated global commodity market, changes in expectations as reflected by movements in the prices of exchange traded contracts should affect spot prices in the physical auction. While we have reason to believe this intuition to be correct, we do not know the direction of causality nor the size of cross-market transmission. For physical and forward markets that are separated by great geographical distance, it become paramount to interrogate the data. This study is an attempt to bridge the gap in our knowledge about global scale price transmission from financial to physical markets or vice-versa and in the process to evaluate the feasibility of hedging spot price risk at the physical market with futures at financial exchanges. The plan to achieve this goal proceeds in two steps: collection of historical and high-frequency primary data from the Nairobi Coffee Exchange (the spot market) and forward prices from an international futures exchange; the Chicago Mercantile Exchange, followed by state of the art econometric analysis.

Establishing cross-market linkages requires looking at long time series. Primary historical data going back 20 years on average auction prices at the physical market will be obtained from records at the Nairobi Coffee Exchange. Together with the more readily available forward prices from the Chicago Mercantile Exchange, these data form a time series from which inference about long-term correlation can be made. A more detailed analysis requires looking at high frequency data from the physical auction. Such data provide insight on private valuations of buyers at the physical market and can be used to construct a demand curve. Having a demand schedule and price series, an evaluation of the feasibility of hedging spot (physical) price risk using exchange traded forwards can then be undertaken. At the end of this process, we should have established the level and direction of price transmission between the two markets and the feasibility of hedging spot price risk using the forward market.