Financial institutions participation in derivatives markets

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for the IGIDR-MCX workshop on “Institutional participation in commodity derivatives markets”

20 June, 2017

Goals

- The financial problems that commodity derivatives solve.
- Roles that financial institutions play in these markets.
- (1) Advisory, (2) Inter-mediation, (3) Making markets returns, (4) Maximise risk-adjusted returns
- International financial firms in commodities markets.

Context: the need for commodity derivatives

The financial problem

- Consider the following cases:
  - Example: A rubber plantation owner fears a drop in rubber prices, when it is time to sell his rubber sheets.
  - Example: Gujarat State Fertiliser Corporation wants to fix the USD price at which to purchase oil for the next year.
  - Example: Canara Bank wants to protect at least 70 percent of the value of its PSL loan portfolio lent to wheat farmers against a drought.
  - Example: Govt. of India wanting to buy wheat from Australia, each month, for six months after April for a price fixed in the budget announcement, if the price in the market rises beyond a fixed level.

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The financial solution

Some of the above problems can be solved using derivatives.

- The rubber plantation owner can buy rubber futures for the next month.

  Since the price of rubber responds to global price movements, the plantation owner also wants to buy INR-USD futures to compensate for any appreciation in currency at the time.
- GSFC can buy Brent Crude oil futures, and USD-INR futures for the next month.
- In each of the above cases, the customer will continue to monitor their position so that when the contract comes close to expiration, they will re-enter the next month contract.

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Less ideal financial solutions

Some of the above problems are more difficult to solve because we don't have the correct derivatives.

- Wheat futures is banned. An Over-The-Counter market for commodity derivatives does not exist.

  Canara Bank will have to monitor the drought status. If there is a drought, the bank will have to re-negotiate loan terms with viable farmers, and write off loans to non-viable farmers and start recovery proceedings against them.

- Wheat options do not exist. An Over-The-Counter market for commodity derivatives does not exist.

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Role of financial institutions

The institutions

1. Financial services: Banks, insurance firms, pension funds.
2. Old style money managers: asset fund managers, money market mutual funds.
3. Specialists: venture capital, private equity firms, hedge funds, stressed asset managers, asset reconstruction firms.
4. Market infrastructure: exchanges, clearing corporation, regulator.

Services from financial institutions

- Financial institutions the inputs to the correct solution for a customer's financial requirements:
  1. Which product is correct?
  2. What price is correct?
  3. Who will execute the transaction?
  4. Who will monitor and manage the transaction for the entire duration of the problem?

India vs. the world

In the context of the four problems that were listed above:

- In India, the choices to the customers are
  1. Give instructions to a securities brokerage firm to buy exchange traded futures, and monitor and revise positions as needed.
  2. Use advisory and inter-mediation services from a securities brokerage firm to buy exchange traded futures, with or without monitoring.
- In the world, the choices are
  1. Use a securities brokerage firm contracts traded on an exchange, with regular monitoring,
  2. Use advisory and inter-mediation services from a securities brokerage firm to trade on an exchange, with regular monitoring,
  3. Talk to a bank for advisory and inter-mediation for a complete end solution, using OTC or exchange or both,
  4. Talk to a commodity trading firm for advisory and inter-mediation for a complete end solution, using OTC or exchange or both.

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India vs. the world, access

- India has no Over-The-Counter or OTC markets.
- OTC markets form more than two-thirds of the derivatives markets in the developed markets.
- In India, only securities firms are permitted to trade in all derivatives, other financial institutions (banks, insurance, pensions, mutual funds) are not.
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How financial institutions participate in commodity derivatives markets

1. **Advisory**: Design solutions for the problem on hand using financial contracts.
2. **Inter-mediation**: Execute transactions to implement the solution to a problem.

   Inter-mediation services are for executing orders into trades.
3. **Making markets**: ensuring execution of orders using own capital.

   If there is no counter-party to a customer's order, the financial institution becomes the counter-party to the customer's trade.
4. **Own risk management**: using commodity derivatives to manage the risk of their own asset portfolio.

Risk and return trade-off of the services

	Return	Risk
Advisory	Fees earned	Possible complaints and litigation if the advice can be shown to harm the customer.
Inter-mediation	Fees earned	None (if unbundled)
Making markets	Fees charged, spread on making markets	Own capital at risk to adjust for adverse price movements during making market.
Risk management	Maximum use of own capital	Leveraged position can cause damage without sound monitoring and governance systems.

Regulatory concerns

- Financial institutions can be taking on new risk with derivatives.
- One element of risk arises when there is no transparency on the derivative price, and confusion on the value of the combined portfolio of (asset + derivative).

  Exchange traded derivatives markets reduce the uncertainty.
- Another problem of derivatives is when a counterparty defaults.

  Exchange traded derivatives markets remove that risk because of novation at the clearing corporation.
- If the financial institution has sound systems of monitoring the real-time value of the portfolio with exchange traded derivatives, the increase in the risk of the financial institution is small.
- Banks are the most vulnerable out of financial firms:- fixed deposits vs. illiquid and long term assets, payments role.

  Insurance, pensions and mutual funds are not as vulnerable.

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Commodity derivatives vs. other derivatives

- Do commodity derivatives pose a different risk problem compared to other derivatives?
- Globally, commodity derivatives have a different set of settlement risks if physically settled.
  1. Physical commodities are fragmented, and price discovery weaker than in financials even in global markets.
  2. Delivery requires new systems and in-house skills to manage.

  Commodity trading firms tend to have an advantage over financial institutions because of this.
- Risks of physical delivery are far lower when participating in exchange traded derivatives markets, compared with OTC markets.

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What works for global commodity derivatives markets

1. A wider range of participants including institutions that can handle physical variation and delivery such as commodity trading firms and warehouses.

   The more heterogenous the participant set, the higher the market integrity.

2. Rules of access is consistent all through the market structure: entry, risk based capital requirement, position limits, margins.

3. Low barriers to movement and delivery of goods across borders.

An illustration: the GOI wheat options procurement of 2007

The problem definition

- Mandate in 2007: purchase call options on world wheat for delivery of a pre-defined amount of wheat into India.
- Policy bias:
  1. Prefer exchange traded options for price transparency.
  2. Comfortable with exchange rates volatility, so no positions required on the currency.
  3. Procure required vendors through an L1 process.

Issues faced

- Two sets of vendors: grain / commodity trading firms and financial firms.

  Financial firms only did financial contracts.

  Grain firms offered only OTC.
- The CBOT options market was not deep enough to support expected sizes of procurement without moving prices.
- The wheat delivered on CBOT did not satisfy India's phyto-santiary conditions.
- The delivery of global wheat was spread across delivery from different centers for the time period of our hedge.
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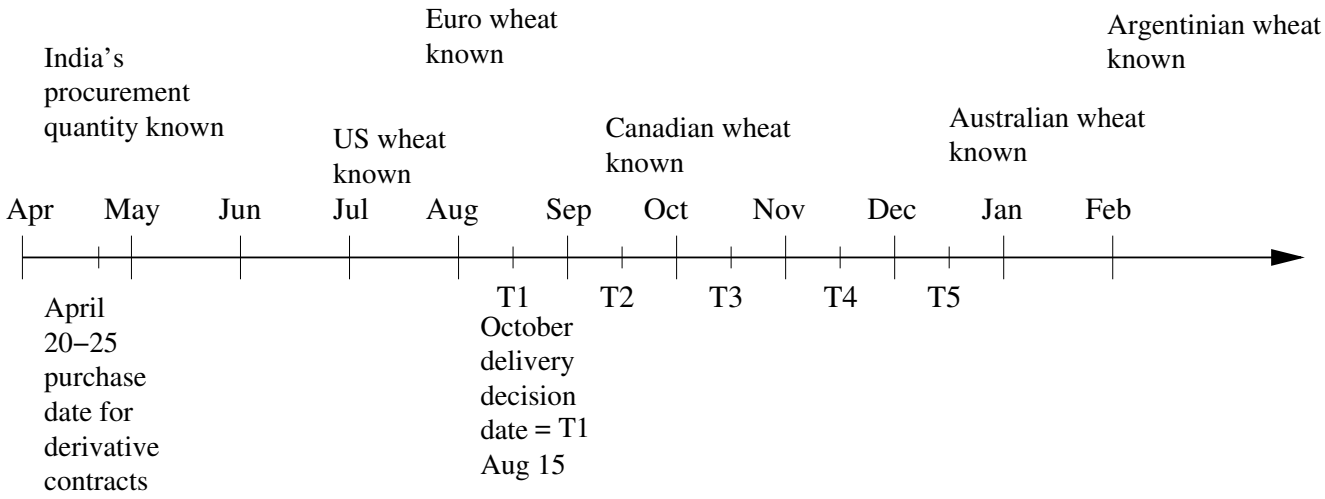

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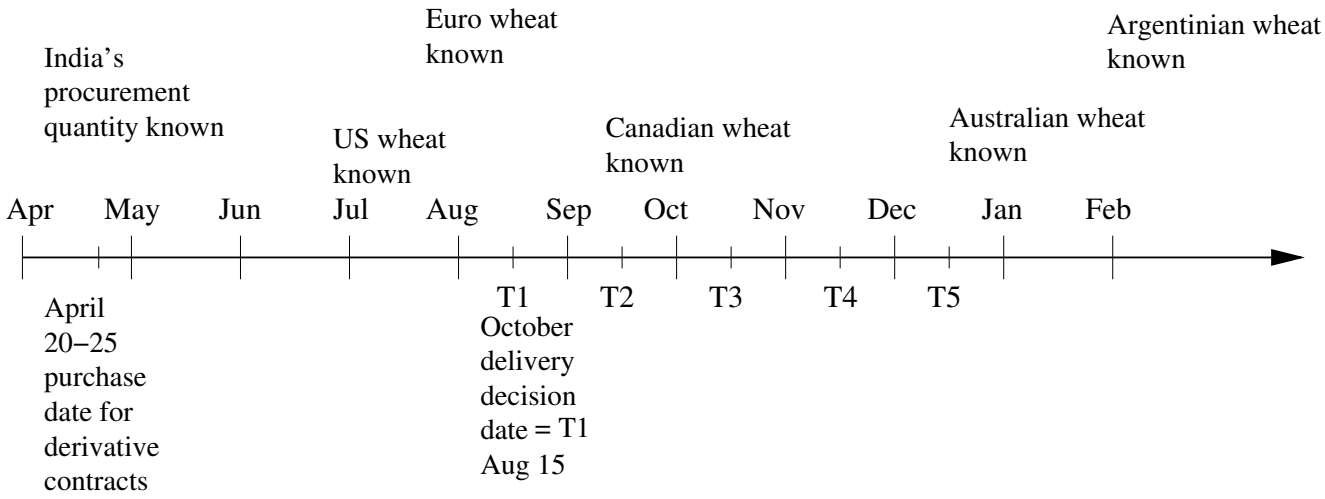

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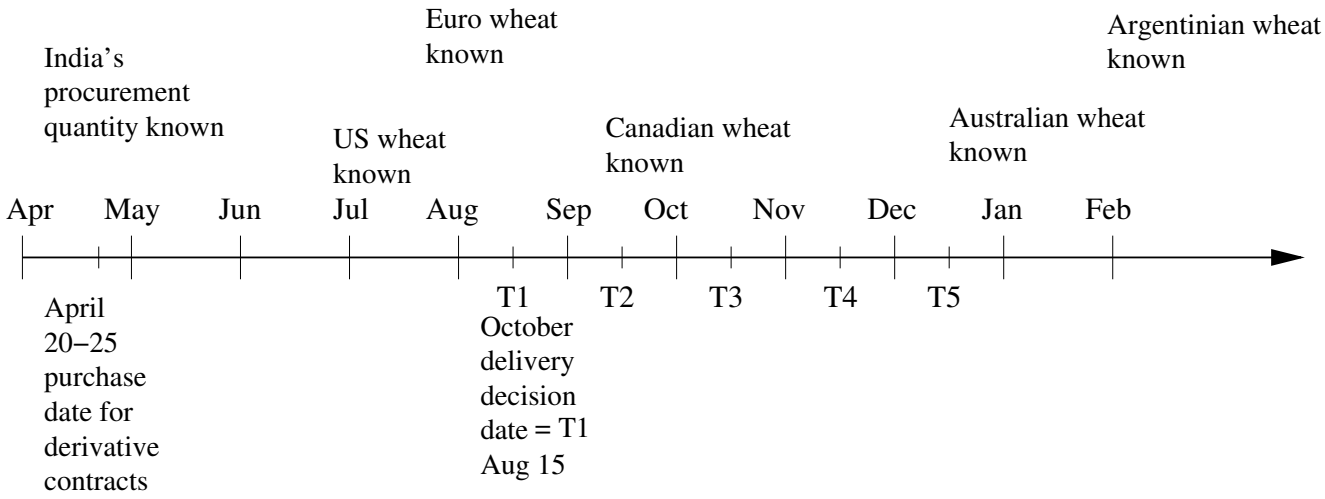

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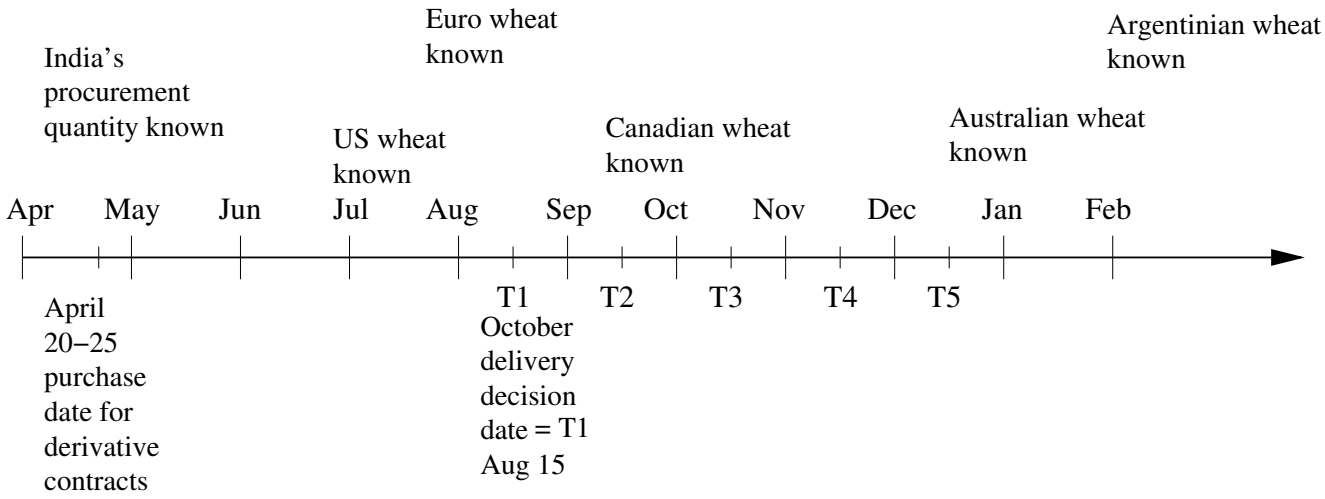

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Outcomes and learnings

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  1. An auction was conducted where the winning bid was selected based on a combination of the strike + premium.
  2. Three firms bid in the wheat contract auction and one was selected.
     The contract was finally not exercised.
  3. The freight contract was a forwards contract.
     This ended in the money at expiration.
- *Learnings*
  1. Financial firms reliably provide services in the area of commodity derivatives.
  2. They have competition from commodity trading firms who have expertise and systems to manage physical delivery more fluently.
  3. OTC markets for commodity derivatives are important for efficient hedging of commodity risks given non-standardisation of the underlying.
  4. There is a role for financial firms offering pure financial hedges even in these OTC markets.

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