Institutional Design to Prevent Disruption Of Carbon Markets

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Potential Market Disruptions in a Cap-and-Trade Program

• Allowance shortages
• Market manipulation (fraud, unfair competition)
• Gaming of system regulations
• Short-term price volatility
• Wide price swings from one compliance period to the next
• Speculative excesses (boom and bust cycles)
Limitations of Some Typical Cap-and-Trade Design Features

- Allowance banking
  - Makes prices fluctuate with future expectations
  - If unlimited, allows outsized speculative holdings

- Offsets
  - Not fully integrated with allowance market
  - Adjusting limits on offsets is:
    - Too slow to respond to price fluctuations
    - Open to gaming

- Safety-valve
  - Ineffective if set too high
  - Undermines emission caps if set too low
  - Allows price volatility under the ceiling
Design of Allowance Auctions to Deter Manipulation

• Registration of bidders
• Purchase limits on individual beneficial owners
• Confidential bids (and, possibly, uniform price)
• Noncompetitive tenders for small purchases
  ➢ Small regulated entities get all the allowances they need
  ➢ No price is bid
  ➢ Automatically get the auction clearing price
  ➢ Similar to U.S. Treasury auctions (where limit is $5 million)

Bottom line:
Allowances can be widely distributed even if 100% are auctioned.
Identifying Disruptive Behavior in Secondary Markets

- Speculative excess and some manipulation difficult to identify
- Even suspicions of such behavior could be damaging
- Information sources: exchanges, brokers, dealers, registries(?)
- Multiple purposes of allowance/offset registries
  - Compliance for emitters
  - For offset credits, avoiding duplicate sales
  - Market surveillance
- Transaction data needed for market surveillance
  - Prices
  - Daily position data for large holders
  - Confidentiality (because of effects on competition)
  - Multiple markets involved
Current Regulatory Roles in the U.S.

- **EPA**
  - Broad environmental responsibility
  - Pioneer of cap-and-trade programs
  - Auctions SO2 allowances
  - Allowance tracking and enforcement

- **SEC (for Security Markets)**
  - Regulates exchanges, security issuers
  - Of note:
    - Rules for short sales
    - Reports from holders of 5% of stock

- **CFTC (for futures and options)**
  - Regulates exchanges, traders, intermediaries
  - Of note: position limits for speculators
Other U.S. Market Regulators/Surveillance Institutions

- Privately-owned Exchanges
- Justice Dept., FTC, FERC
- Treasury Dept. and the Federal Reserve
  - Banking regulators
  - The market for Treasury securities
  - The overnight interbank market (monetary policy channel)
  - Orderly closing or sale of large institutions
  - Some interventions in foreign exchange markets
  - Fed: margin requirements for stocks
Special Institutional Features of a Fed-like Central Bank

- A policy-making board
- Independence from short-term political pressures
- Wide representation of national/regional interests

Such Features Needed When Policy-making Involves:

- Important social trade-offs
  - For a central bank: inflation and stable economic growth
  - In climate policy: emission caps and CO2 price stability?
- Frequent and timely decision-making
  - For a central bank: monthly or more frequent
  - For climate policy: most likely only annually
A Price Stabilizing Function for Carbon Markets

• The Fed’s techniques for monetary policy:
  ➢ Announcement of price targets (federal funds rate)
  ➢ Auctions of reserves to hit targets (approximately)
  ➢ Side effect: prevents manipulation, speculative excess

• Adapted for use in allowance markets:
  ➢ The objective: a 2020 or 2030 emission goal
  ➢ Forecast a price path to achieve that goal
  ➢ Observe emission performance each year
  ➢ Adjust forecast price path and next year’s target
  ➢ Place limits on banking

• A new Carbon-Fed type institution not needed for this purpose
  ➢ The emission goal determines price forecasts(targets)
  ➢ Price targets could also be constrained by legislation
  ➢ Auctions and forecasts could be conducted by EPA or others
A Carbon-Fed also Not Needed for Minor Program Adjustments

• No substantial trade-offs involved in minor adjustments of:
  ➢ borrowing rules
  ➢ offset limits, etc.
• Existing institutions (CFTC) could do market surveillance

A Fed-like Carbon Board is Needed if:

• Policymaking involves frequent trade-offs (prices v. emission caps)
• Legislation gives substantial discretion over prices to the board