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 SO_2 allowances
  - ➢ Allowance tracking and enforcement
- SEC (for Security Markets)
  - ➢ Regulates exchanges, security issuers
  - ➢ Of note:
    - o Rules for short sales
    - o 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 CO_2 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