Securities Trading:
Principles and Procedures

# Dealers and dealer markets
Chapter 7

## Overview

- A dealer (market maker) is a trader who …
  - Posts a bid and offer (makes a market)
  - Sells to incoming buyers; buys from incoming sellers.
  - Earns the bid-ask spread.
  - Avoids holding large positions.
- How does a dealer differ from a broker?
- Formal and informal market makers
- Markets organized around dealers

## Dealers and brokers

- Customer order: “Buy 2,000 XYZ limit $50.”
- Broker: *agent* for the customer.
  - A broker might send this order to an exchange.
- A *dealer* trades with the customer (sells directly to the customer)
- Many firms have both brokers and dealers.




## A broker receives a customer order: Buy 2,000 XYZ limit $50.

- Should the broker send the order to her firm’s dealer?
- Suppose that the order can’t be executed at any exchange.
  - NBO is $50.10, but dealer will sell to the customer at $50.
- Suppose that the order *could* be executed at an exchange, but the dealer will give a better price.
  - NBO is $50.00, but the dealer will sell at $49.98.
- In both cases, dealer trade works to customer’s advantage.

## The conflict of interest

- One person/firm acts as a broker *and* a dealer.
- A broker (agent) tries to get the best price for the customer.
- The dealer is the counterparty to the customer.
  - Worse price for the customer → higher profits for dealer.
- For a customer buy order
  - A broker tries to execute the buy at a low price.
  - A dealer tries to sell at a high price.
- The conflict can be managed by
  - Reputation
  - Firm and industry standards of conduct
  - Laws, rules and regulations




## CME Rule 552: DUAL TRADING RESTRICTIONS

- The term "dual trading" shall mean trading or placing an order for one's own account in any contract … in which [the member] previously executed, received or processed a customer order on the Exchange floor during the same Regular Trading Hours session.
- Subject to the following exceptions, dual trading shall be prohibited …:
  - Customer Permission. A member may engage in dual trading … [if the customer grants] prior written permission.
  - Errors. A member may engage in dual trading to offset errors resulting from the execution of customer orders …
  - …
- Violation of this rule may be a major offense.

## Designated Market Makers

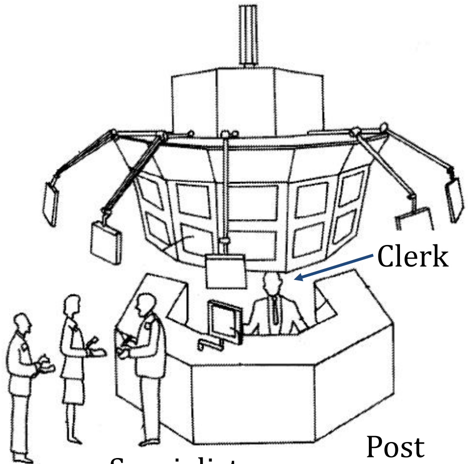
- Some limit order books (like PRK) are almost empty.
- An exchange needs to attract orders and trading volume.
  - If the book is thin/empty, customers won't come.
- The exchange may ask a dealer to post bids and asks, if there are no customer limit orders.
- The exchange might formally designate a dealer.




## On the New York Stock Exchange floor, dealers were called "specialists" (late 1800s to late 1900s)

- A specialist was an NYSE member who specialized in trading a small number of stocks.
- Each listed stock had one specialist.
- The NYSE had a near monopoly on trading its listed stocks.
  - → The specialist had a near monopoly.
- Rules and procedures evolved to govern specialist behavior.
  - These rules are still referenced today by regulators.

## The NYSE specialist in action (the floor in the late 1900s)




- Orders were delivered electronically, but execution was under the control of the specialist.
- The specialist's responsibility: "maintaining a fair and orderly market."

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## Specialists' obligations, prohibitions, and rights

- Affirmative obligations
  - Must always ensure there's a bid and ask.
  - Must maintain price continuity (avoid sudden jumps).
- Negative prohibitions
  - Public priority: can't trade ahead of the customer at the customer's price.
  - Can't trade in a "destabilizing fashion"
- Rights
  - Only the specialist knows the book.
  - The specialist gets first look at incoming orders.

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## The decline of the specialist system

- 1997: the tick size goes from 1/8 to 1/16.
  - 2001: … to $0.01.
  - The bid-ask spreads ↓, and trading revenue ↓.
- 2005: the NYSE became an automated market.
  - The specialist lost the right of first refusal.
- April, 2005: seven specialist firms targets of US investigation.
- The NYSE still has "specialists" but they are now called *designated market makers*.

## The DMMs

- Still responsible …
  - For maintaining a fair and orderly market, and
  - Posting bid and ask quotes.
- The DMM's bids and asks can be accessed and executed instantaneously.
  - The DMM does not get an advance look at the order.
- The DMM trades "at parity" with the book.
  - Suppose the bid is $10.00 from the book, and a 200-share sell order arrives.
  - The DMM has the option of buying 100 shares, and letting the other 100 go to the book.
- The DMM is not prohibited from trading actively (hitting the bid / lifting the offer)

## NASDAQ Market Makers

- To trade on NASDAQ (use NASDAQ markets and systems), you (or your firm) must become a NASDAQ *member*.
- To act as a broker (agent) for customer orders, you must also become an *order entry firm*.
- To trade against your customers (take the other side of their trades) you must also become a market maker (MM).
  - You register to be a MM in one or more securities.
  - A stock must have at least 2 MM's, but can have many more.
    - MSFT has ~ 50; PRK, ~ 30

## *De facto* market makers (in the U.S.)

- Traditional market makers (NYSE specialists, DMMs, Nasdaq MMs) have been displaced and replaced by de facto market makers.
  - Market makers "in fact" (but not by formal designation)
- Traders who use algorithms and technology to act like market makers (most of the time).
  - But they aren't regulated like traditional market makers.
- Like traditional MMs, they usually post bids and offers. BUT:
  - They can withdraw from the market completely if they think that trading is too risky.
  - They can trade actively (hit bids and lift offers).

## How do you incentivize or reward market makers?

- Maybe you should pay them.
- Listed companies believe that a liquid market helps their reputation.
- In Euronext markets (Amsterdam, Paris, Brussels, etc.)
  - A listed company may contract with one or more traders (members) of an exchange to provide liquidity.
  - The firm can pay the market maker, but can't share in the trading profits.
- Rationale: the costs of market making are shifted to those who benefit (the shareholders of the listed firm)




## The US view

- US securities regulators generally avoid contract market makers.
  - Could a corporation pay the market maker to support or run up the price of the stock?
- Exception: exchange-traded funds (like SPY)
  - Issuers of ETFs can pay trading firms to serve as lead market makers for the ETFs.

## Dealer (over the counter) markets

- Dealers dominate trading.
  - Most customer trades have a dealer on the other side.
  - Mechanisms where customers might trade directly with each other are (like limit order markets or auctions) are less important or nonexistent.
- There are multiple dealers
  - Most dealer operations are at major banks.
  - Most customers have established relationships with only one or two.
- Low transparency
  - Trades are not publicly reported.
  - Accurate quotes aren't available.

- Dealers trade with each other in an interdealer market.
  - The interdealer market is not visible or accessible to customers.
- Examples
  - Foreign exchange, currency, FX.
  - Bonds
  - Money market securities (commercial paper, CDs, Treasury bills)
  - Swaps and (some) options.

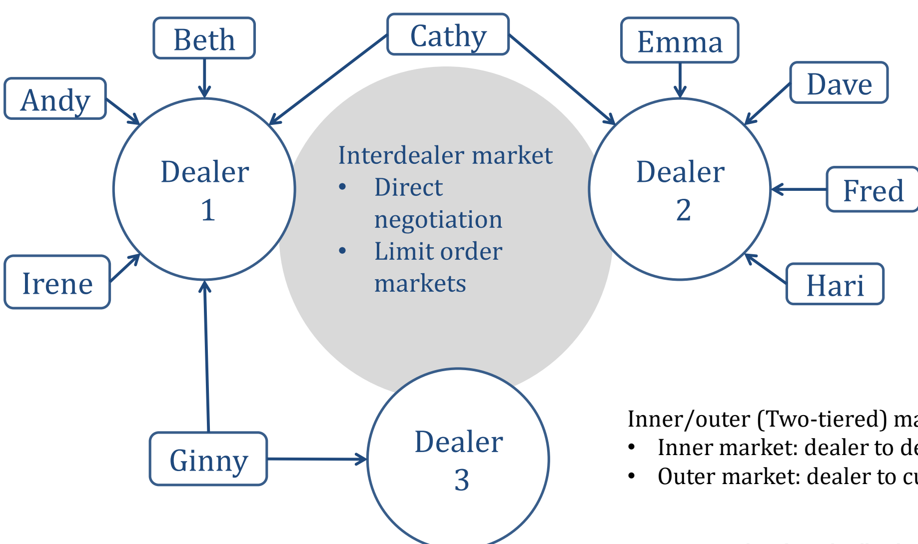
 

## Dealer markets

- A dealer market is one in which dealers dominate trading.
  - Currency (FX); bonds (corporate and sovereign); swaps and other over-the-counter derivatives.
- Typically
  - The market has multiple dealers
  - There are no public limit order books or auctions where customers can trade directly.
  - All customer trades have a dealer on the other side.
  - Dealers trade with each other in an interdealer market.

## The dealer market *network*




Inner/outer (Two-tiered) market
- Inner market: dealer to dealer
- Outer market: dealer to customer

## The traditional dealer-customer interaction

- Customer calls: "I need a two-sided market for the Euro against the [US] dollar."
- Dealer: "Bid 1.2321, offered at 1.2323"
- Dealer quotes only in response to customer inquiries.
  - One customer's quote isn't visible to another customer.
  - Different customers get different quotes.
- When a customer calls, the dealer always quotes.
- Given the quotes, a customer must sometimes trade.




## Managing the dealer's conflict of interest

- A bank's dealer operations (the FX/bond/swaps desks) generally have two sorts of traders.
- *Interbank (position) traders* make the markets, but don't have direct contact with the customers.
- *Sales traders* have direct contact with customers, and act as go-betweens (between the customers and the interbank traders).
  - In principle, they represent the customers' interests.
- This separation of roles avoids putting the conflict of interest on one person.

The FX market:
One currency is exchanged for another

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## Trading conventions

- International Standards Organization (ISO) designates 3-character currency codes (EUR, USD, JPY, …)
  - The Chinese Yuan has two codes:
    - CNY for yuan traded within China;
    - CNH … outside China.
- In any given trade one currency is exchanged for another.
  - ~160 currencies ⇒ ~12,000 possible pairs
- Trading is concentrated in the certain major pairs.

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## FX pairs

- A pair is designated with a "/".
- In the pair "EUR/USD", EUR is the *base currency*, USD is the *quote currency*.
  - A price ("1.23") is the number of USD to buy one EUR.

| Pair | Rate (July 2017) |
|---|---|
| EUR/USD | 1.17 |
| USD/JPY | 111.17 |
| GBP/USD | 1.30 |
| USD/CHF | 0.95 |

- Feb 2018: USD/CNH is 6.31




## "Traditional" trading

- Customers trade with dealers at major banks.
- Interdealer market:
  - Direct negotiation via secure chat (Bloomberg, Reuters)
  - Limit order books
    - Reuters Matching dominates GBP/USD, EUR/SEK, …
    - ICAP EBS dominates EUR/USD, USD/JPY, ….
  - ~~Voice brokers~~

## Breaking down the wall between inner and outer markets

- Single dealer trading platforms
  - Dealer trades with customer over dealer's own system.
  - Replaces the telephone call.
- Multi-bank systems
  - Give customers access to multiple dealers
- Open limit order books (like CBOE Hotspot)
  - Allow customers to post their own bids and offers.

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- Prime brokerage
  - A prime broker is an institutional broker.
    - Provides margin credit, securities lending, ...
  - A broker might allow a client customer to trade in their name.
  - Example:
    - Credit Suisse is the prime broker for "ACE" hedge fund.
    - EBS won't allow ACE access to its EUR/USD limit order book.
    - ACE can enter market and limit orders under Credit Suisse's name.
    - Credit Suisse guarantees that ACE's trades are good.

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## The opening of the interdealer market

- EBS and Reuters markets historically closed to anyone who was not a major FX dealer.
- Currently, some non-dealer institutions have access via their prime brokers.
- EBS and Reuters began to allow this because competing markets were springing up.
  - Hotspot (now owned by CBOE)
  - Fxall (now owned by Reuters)




## Are banks leaving the field?

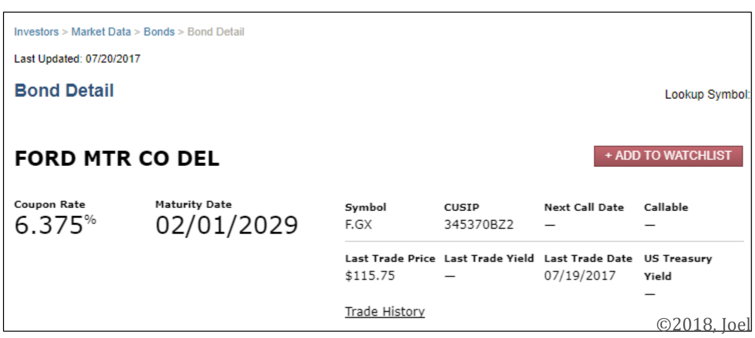
- Most dealer markets were dominated by major banks.
- Since the 2007-2010 financial crisis, regulations
  - US: Volker Rule
  - EU: "Basel III"
  - These rules limit banks' market-making abilities
- As banks withdraw, are there opportunities for other non-bank institutions?

# Bond markets




# US Corporate bonds: TRACE (last sale reporting)

- Formerly a classic dealer market
- SEC directed NASD to build a last sale reporting system.
  - 2002: Trade Reporting And Compliance Engine
  - Now includes most corporate bonds.



## FORD MTR CO DEL

| Coupon Rate | Maturity Date | Symbol | CUSIP |
|---|---|---|---|
| 6.375% | 02/01/2029 | F.GX | 345370BZ2 |

### Credit and Rating Elements

| | |
|---|---|
| Moody's® Rating | Baa2 (02/16/2016) |
| Standard & Poor's Rating | BBB (03/11/2016) |
| TRACE Grade | Investment Grade |

### Classification Elements

| | |
|---|---|
| Bond Type | US Corporate Debentures |
| Debt Type | Senior Unsecured Debenture |
| Industry Group | Industrial |
| Industry Sub Group | Manufacturing |
| Sub-Product Asset | CORP |
| Sub-Product Asset Type | Corporate Bond |
| State | — |
| Use of Proceeds | — |
| Security Code | — |

**Special Characteristics**

| | |
|---|---|
| Medium Term Note | N |

### Issue Elements

| | |
|---|---|
| Offering Date | 02/02/1999 |
| Dated Date | 02/09/1999 |
| First Coupon Date | 08/01/1999 |
| Original Offering* | $1,500,000.00 |
| Amount Outstanding* | $260,471.00 |
| Series | — |
| Issue Description | — |
| Project Name | — |
| Payment Frequency | Semi-Annual |
| Day Count | 30/360 |
| Form | Book Entry |
| Depository/Registration | DTC, Clearstream, Euroclear |
| Security Level | Senior |
| Collateral Pledge | — |
| Capital Purpose | — |

*dollar amount in thousands

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Issue: **F.GX** — Maturity Date: **02/01/2029**

| Execution | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Date | Time | Settlement | Status | Quantity | Price | Yi | Side | Reporting Party Type | Contra Party Type |
| 7/20/2017 | 15:03:13 | 7/25/2017 | T | 3000 | 114.938 | | B | D | C |
| 7/20/2017 | 15:03:13 | 7/25/2017 | T | 3000 | 115.800 | | S | D | D |
| 7/20/2017 | 15:01:30 | 7/25/2017 | T | 3000 | 115.900 | | S | D | C |
| 7/20/2017 | 08:41:46 | 7/25/2017 | T | 10000 | 117.240 | | S | D | C |
| 7/20/2017 | 08:41:45 | 7/25/2017 | T | 10000 | 117.140 | | S | D | D |
| 7/19/2017 | 15:45:52 | 7/24/2017 | T | 10000 | 115.750 | | B | D | C |
| 7/19/2017 | 15:45:52 | 7/24/2017 | T | 10000 | 115.750 | | S | D | D |
| 7/19/2017 | 14:53:53 | 7/24/2017 | T | 5000 | 117.143 | | S | D | C |
| 7/19/2017 | 14:53:09 | 7/24/2017 | T | 5000 | 117.143 | | S | D | D |
| 7/18/2017 | 12:54:37 | 7/21/2017 | T | 37000 | 115.291 | | B | D | C |
| 7/18/2017 | 12:53:39 | 7/21/2017 | T | 37000 | 115.591 | | S | D | D |
| 7/18/2017 | 09:20:40 | 7/21/2017 | T | 7000 | 116.457 | | S | D | D |
| 7/17/2017 | 14:08:31 | 7/20/2017 | T | 10000 | 116.682 | | S | D | C |
| 7/17/2017 | 14:08:31 | 7/20/2017 | T | 10000 | 116.682 | | S | D | D |
| 7/17/2017 | 14:08:31 | 7/20/2017 | T | 10000 | 116.682 | | S | T | D |
| 7/17/2017 | 14:08:10 | 7/20/2017 | T | 10000 | 116.734 | | S | D | T |
| 7/13/2017 | 15:47:42 | 7/18/2017 | T | 10000 | 115.000 | | S | D | D |
| 7/13/2017 | 15:47:42 | 7/18/2017 | T | 10000 | 115.000 | | B | D | C |
| 7/13/2017 | 14:16:44 | 7/18/2017 | T | 10000 | 116.124 | | S | D | T |
| 7/13/2017 | 14:16:26 | 7/18/2017 | T | 10000 | 116.124 | | S | D | D |

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From 07/20/2016 to 07/20/2017 GO | Glossary of Terms

Issue: T.LW Description: SBC COMMUNICATIONS INC Coupon Rate: 6.450 Maturity Date: 06/15/2034

| Date | Time | Settlement | Status | Quantity | Price | Yield | Side | Reporting Party Type | Contra Party Type |
|---|---|---|---|---|---|---|---|---|---|
| 7/19/2017 | 15:01:40 | 7/24/2017 | T | 40000 | 120.130 | | S | D | C |
| 7/19/2017 | 15:01:40 | 7/24/2017 | T | 40000 | 120.030 | | S | D | T |
| 7/19/2017 | 15:01:37 | 7/24/2017 | T | 40000 | 120.030 | | S | T | D |
| 7/14/2017 | 15:30:14 | 7/19/2017 | T | 40000 | 117.711 | | B | D | C |




# The lessons of TRACE

- When TRACE was introduced, bid-ask spreads (for TRACE-eligible bonds) dropped by 50%.
    - Bessembinder, Hendrik, William Maxwell, and Kumar Venkataraman, 2006, Market transparency, liquidity externalities, and institutional trading costs in corporate bonds, *Journal of Financial Economics 82, 251-288.*
- July 10, 2017: US Treasury starts requiring reporting of trades in T-bills, notes and bonds.
    - But these reports will not be publicly available.
- For corporate bonds, bid-ask spreads dropped for large (institutional) trades.
    - Small (retail) spreads are still high.
- Edwards, Amy K., Lawrence E. Harris, and Michael S. Piwowar, 2007, Corporate Bond Market Transaction Costs and Transparency, *The Journal of Finance 62, 1421-1451.*

- Execution prices for small trades are (often) trade-throughs of available bids and asks.
  - Trade-through: an execution at a price below the highest bid or above the lowest offer.
  - … a trade outside of the bid-ask spread.
- Suggestions
  - Require public display of all customer bids and asks.
  - Protect customer orders against trade-throughs.
    - Harris, Lawrence E., 2015, Transaction Costs, Trade Throughs, and Riskless Principal Trading in Corporate Bond Markets (SSRN).




## US Treasury Bonds

- Primary market: US Gov't sells bonds via auctions run by the Federal Reserve Bank of NY.
  - Anyone can participate in the auctions.
- Secondary market: limit order markets open to dealers and large institutions.
  - BrokerTec (dominant)
  - ESpeed

## Current issues

- On October 15, 2014, there was a brief period of high volatility.
  - US Treasury was only aware after the fact.
  - There is no trade reporting, no way to halt trading.
  - Treasury now requires trade reporting (effective July 2017).
- Trades are reported directly to FINRA; they are not publicly available.