

OTC Derivatives: Benefits to U.S. Companies

International Swaps and Derivatives Association
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What are derivatives?

- Derivatives are financial instruments that:
 - Transfer risk from one party to another
 - Derive their value from that of an underlying variable such as an interest rate, share or commodity price, index, or credit instrument
- Derivatives are not:
 - Securities, which include CDOs and CLOs
 - Insurance, which transfers risk but requires evidence of loss before compensation can occur (insurable interest)
- Three forms of derivatives activity
 - Futures (listed derivatives) are highly standardized exchange-traded agreements
 - Cleared derivatives, which are standard contracts that are privately negotiated but booked with a clearinghouse as a counterparty
 - Over-the-counter (OTC) derivatives, the terms of which are privately-negotiated to fit client needs and booked directly between two counterparties

What are derivatives?

Types of OTC Derivatives

- Forwards
 - Contracts or agreements to exchange something at an agreed time in the future at a price agreed upon today
- Swaps
 - Contracts or agreements between two counterparties to exchange cash flows at agreed terms on a notional amount at regular intervals during a stated period
 - A swap is essentially a sequence of forwards
- OTC options
 - Contracts that give the buyer, in exchange for the payment of a premium, the right but not the obligation to buy or sell a specified amount of the underlying asset at a predetermined price at or until a stated time
- Combinations of the above, e.g., forward starting swaps and swaptions

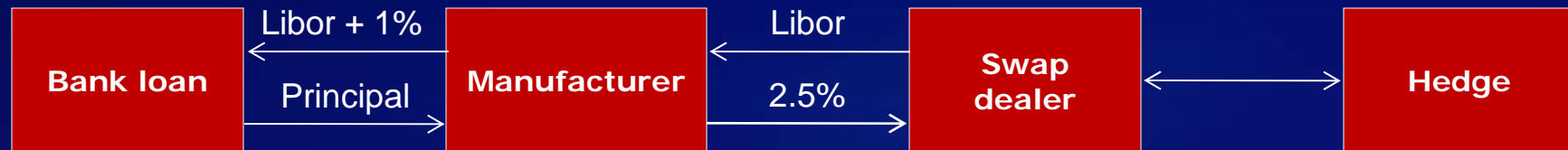
Why use OTC derivatives?

Risks Managed Using OTC Derivatives

- **Interest rate risk.** Banks generally make loans to corporations at a variable rate, tied to an interest rate index. But companies often prefer to borrow at a fixed rate because they do not want exposure to rising rates. Companies can do so by means of an interest rate swap, which effectively locks in a fixed rate for the term of the loan.
- **Currency risk.** If a company is an importer or exporter, it bears the risk that the price of the dollar will fluctuate against the currencies they are using to buy or sell goods in other countries. Currency derivatives allow the company to manage this risk by means of locking in an exchange rate.
- **Commodity price risk.** A producer of crude oil wishes to increase its production in response to increased global demand. The necessary infrastructure is expensive, but the investment is justified by rising demand. Financing will only be available, however, if the producer is able to lock in the price at which it can expect to sell its production of crude oil in the future. The dealer provides that price risk protection through a customized OTC derivative.

Interest rate risk

Hedging with Interest Rate Swap



- A US manufacturing corporation takes out a floating rate bank loan and pays a periodic interest rate, e.g., Libor plus a 1% spread
- The manufacturer prefers to pay a fixed rate, however, so enters into an interest rate swap with a swap dealer
 - Manufacturer pays a periodic fixed rate of 2.5% to the dealer
 - Manufacturer receives Libor from the dealer
 - Because the floating rates offset each other, interest expense to manufacturer is fixed at 3.5% (2.5% fixed rate on swap plus 1.0% spread over Libor on loan)
- Dealer hedges its interest exposure in interdealer or other markets

Interest rate risk

Result of Hedging with Interest Rate Swap

- Client has given up interest rate risk by locking in fixed swap rate (replaced risk with certainty)
 - Client will be protected from rising deposit rates,
 - But will not benefit if rates fall
- Dealer takes on interest rate risk from client
 - Dealer typically hedges this risk
- Client and dealer assume counterparty credit exposure to each other over the term of the swap
- No change to relationships with borrowers or depositors
- Because swap is customized to terms of loan, client may qualify for hedge accounting treatment
- **Outcome: Companies have greater financial certainty and can therefore allocate resources to core business activities instead of holding back reserves in case interest rates increase.**

Currency risk

Hedging with Currency Forward



- US manufacturer will deliver goods in three months and receive payment in Euro
 - Manufacturer concerned that euro will fall in value against the dollar
 - Decline in value of euro relative to dollar would reduce dollar value of receipts
- Under terms of three-month currency forward, manufacturer delivers €10 million and receives \$13.5 million in return
- **Outcome: By eliminating its risk from currency fluctuations, the manufacturer does not have to divert resources to protecting against currency fluctuations and can use the resources elsewhere.**

Commodity price risk

Hedging with Commodity Swap



Underlying exposure

Commodity price swap

- Oil refiner buys crude oil as input to produce refined products and would like to lock in a fixed price of crude oil
- Refiner and Dealer enter into a one-year commodity swap paying a fixed price of \$60/barrel on 25,000 barrels per month
 - Refiner agrees to pay Dealer a fixed price of \$60/bbl per month on an agreed-upon (notional) amount of 25,000 barrels per month.
 - Dealer agrees to pay Refiner the average monthly Nymex WTI settlement price of crude oil on the same underlying amount
- **Outcome: By engaging in the customized commodity price swap, the refiner has greater certainty of input prices**

OTC, clearing, and exchanges

OTC	Clearing	Exchange
<ul style="list-style-type: none"> • Trades negotiated and executed over-the-counter, i.e., privately between two counterparties • Terms of deals customized to fit counterparty's needs • Dealer is normally counterparty to all trades • Margin (collateral) often exchanged, subject to negotiation between counterparties 	<ul style="list-style-type: none"> • Trades negotiated and executed over-the-counter • Trades limited to standardized, high volume contracts • All trades are "given up" to clearinghouse, which is counterparty to all trades • Mandatory margin requirements <ul style="list-style-type: none"> • Up-front collateral • Variation margin • Cash or cash equivalent only • Guarantee fund to back up margin 	<ul style="list-style-type: none"> • All trades executed on exchanges • Price discovery through exchange • Trades limited to highly standardized and liquid contracts • All trades are booked with exchange's clearinghouse, which is counterparty to all trades • Mandatory margin requirements <ul style="list-style-type: none"> • Up-front collateral • Variation margin • Cash or cash equivalent only • Guarantee fund to back up margin

OTC versus exchange/cleared trades

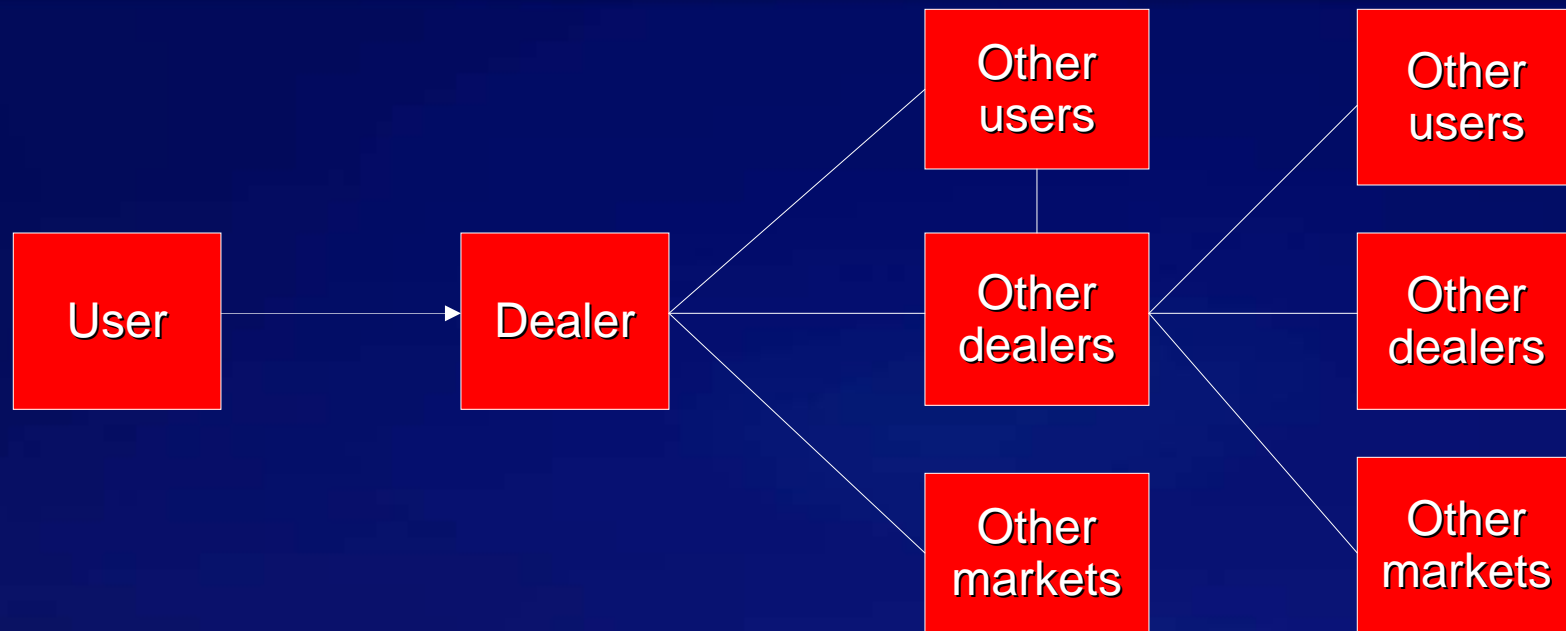
Over-the-Counter

- Enables client to customize hedges
 - Volumes
 - Settlement timing
 - Payment timing
- Larger array of products
- Ability to execute larger volumes at one price; avoid moving the market
- Flexible collateral: reduces or eliminates need to tie up liquidity (i.e. cash)

Exchange/Cleared

- Standardized contracts
 - Limited tenor
 - Limited liquidity in deferred periods
 - Higher basis risk because of inability to customize hedge
- Upfront collateral requires that cash be tied up
- Daily margin calls
- Potential market movement following execution on exchange

How risks are managed by dealers



- When dealers take on risks from clients, they typically do not leave the risk uncovered
- Dealers can manage the risks they take on from clients:
 - Through offsetting transactions with other clients
 - Through offsetting transactions in underlying cash and futures markets
 - Through offsetting transactions with other dealers
- Dealers may at times leave some risks uncovered in order to provide liquidity to the market

Two levels of risk management

- End-user to dealer
 - Primary purpose is risk transfer: end-user transfers unwanted risk to dealer
 - Requires customization to end-user's situation
 - Transactions are illiquid (like bank loans) because they are unique and difficult to trade
 - Dealers aggregate risks from different end users and hedge in liquid inter-dealer and other markets
- Dealer to dealer
 - After aggregating risks from various end-users, dealers decompose the risks into different categories (e.g., interest rate risk, currency risk)
 - Dealers hedge these risks using liquid, standardized cash and derivative instruments
 - In order to provide liquidity to hedgers seeking to shed risks it is essential that other participants be willing to take on risks
- Liquidity in trading markets makes it possible for dealers to provide liquidity at end-user level

Corporate use of derivatives

- ISDA Survey of Corporate Derivatives Use (2009)
 - Survey of financial statements of 500 largest global corporations
 - 94% of largest companies worldwide report that they use derivatives
- Results for United States
 - Of the 500 companies surveyed, 153 are based in US
 - 91% of US-based companies—and 90% of US-based companies that are not banks—report they use derivatives
 - Of US-based non-bank corporations
 - 71% use interest rate derivatives
 - 77% use currency derivatives
 - 43% use commodity derivatives
 - Of US-based banking companies
 - All use interest rate and currency derivatives
 - 63% use commodity derivatives
 - 88% use credit derivatives

Why OTC?

1. OTC derivatives are a widely used risk management tool that can be closely tailored to manage a client's specific exposures
 - Mandatory clearing is incompatible with customization
 - The clearing house must limit cleared transactions to a manageable number of standardized transactions in order to facilitate consistent valuation and an efficient margining process
2. Offsetting an exposure through a customized OTC derivative eliminates unwanted FX, interest rate, or commodity price risk from an underlying transaction and allows companies to focus on their primary business risks
 - Customized need not mean complex; OTC derivatives can be tailored to match both simple and complex underlying risks
3. US hedge accounting rules which require a close fit between a hedge and the underlying risk, highlighting the need for customized OTC derivatives
 - Mandatory clearing or exchange trading reduce the benefits of hedge accounting, including managing earnings volatility

Why OTC?

- Clearing houses manage default risk of their members primarily by means of cash collateral posted by members funds
 - Initial (up-front) margin
 - Daily mark-to-market and variation margin
 - Under most clearing arrangements, margin has to be posted in cash or treasury securities and adjusted for market moves twice per day
 - Additional protection provided by strict membership requirements and guarantee funds
- In over-the-counter derivatives, collateral arrangements are common but subject to negotiation
 - For nonfinancial companies, collateral arrangement can be tailored to include use of illiquid assets like plants, machinery, and real estate to avoid using cash needed for daily operations
 - For the economy as a whole, mandatory clearing, with its requirement to post cash margin, would drain liquidity and create additional operational burdens to corporate clients

Transparency

Data Available to Regulators and Public

- Market Data Transparency: Depository Trust Clearing Corporation (DTCC) Trade Information Warehouse, is a repository that maintains electronic records of a large share of CDS trades.
 - DTCC publishes on its website CDS market data (e.g. Top 1000 Reference Entity Names in the CDS market), data is refreshed weekly
- Cleared Volumes Transparency: Ice Trust U.S. publishes on its website details on the volume of cleared OTC trades
- Settlement Price Transparency
 - Settlement Price used by the ICE Clearing House to calculate collateral calls available on www.markit.com/cds
 - Tradable credit fixing methodology (European index CDS) available on creditfixings.com
- Regulators obtain further information upon request