Amity School of Business

BBA, Semester V

Financial Derivative

Priyank Badola

Introduction

Chapter 1

The nature of Derivatives

A derivative is an instrument whose value depends on the values of other more basic underlying variables

A financial contract is derivative security or contingent claim if its value at expiration date T is determined by the market price of the underlying cash instrument at time T

Derivative Markets

- Exchange traded
  - Traditionally exchanges have used the open-outcry system, but increasingly they are switching to electronic trading
  - Contracts are standard there is virtually no credit risk
- Over-the-counter (OTC)
  - A computer- and telephone-linked network of dealers at financial institutions, corporations, and fund managers
  - Contracts can be non-standard and there is some small amount of credit risk
  - Only available to professional investors in the wholesale market eg:- Banks, fund managers, pension funds, insurance companies and hedge funds are active users of the OTC derivatives market.

Derivative Stats

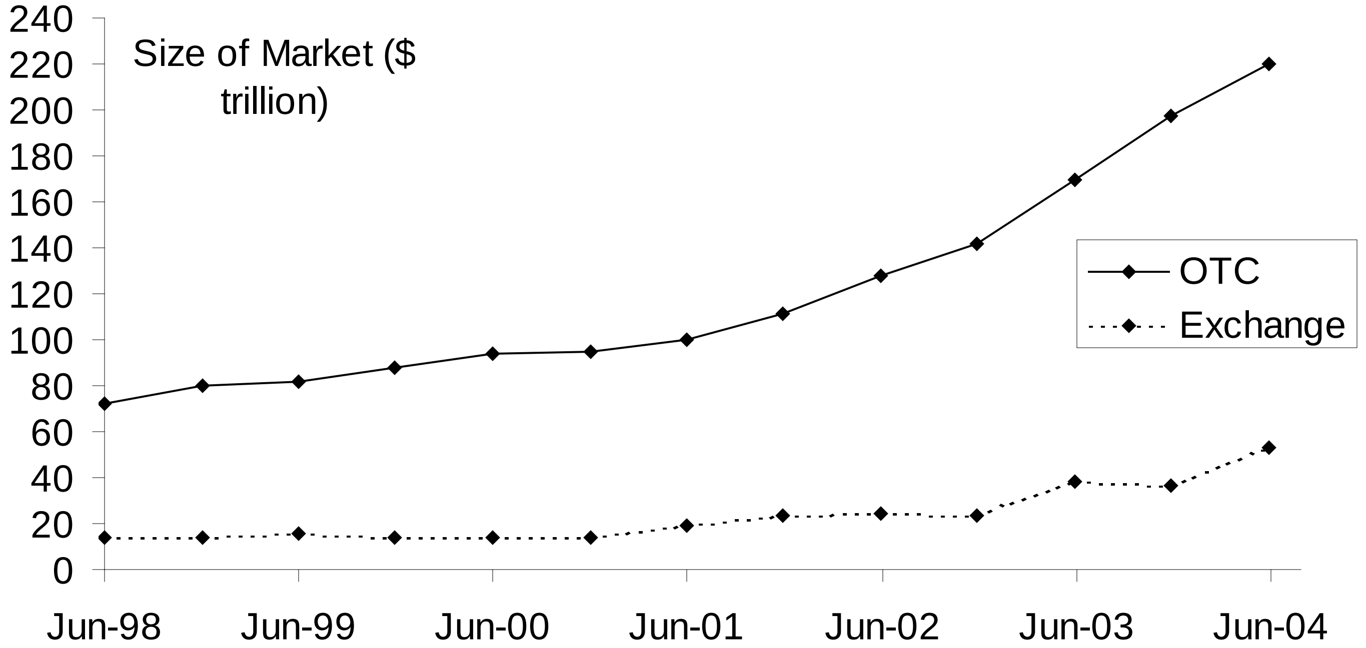
Table 1 The global derivatives industry: Outstanding contracts, (in $ billion)

	1995	1996	1997	1998	1999	2000
Exchange traded instruments	9283	10018	12403	13932	13522	14302
Interest rate futures and options	8618	9257	11221	12643	11669	12626
Currency futures and options	154	171	161	81	59	96
Stock Index futures and options	511	591	1021	1208	1793	1580
Some OTC instruments	17713	25453	29035	80317	88201	95199
Interest rate swaps and options	16515	23894	27211	44259	53316	58244
Currency swaps and options	1197	1560	1824	5948	4751	5532
Other instruments	-	-	-	30110	30134	31423
Total	26996	35471	41438	94249	101723	109501

Source: Bank for International Settlements

(OTC : Over The Counter traded instruments, discussed later.)

Size of OTC & Exchange market



Source: Bank for International Settlements. Chart shows total principal amounts for OTC market and value of underlying assets for exchange market

Use of Derivative

The financial derivatives may have the following impacts on the markets for underlying assets:

- The volatility of the underlying asset price
- The bid-ask spreads in the underlying markets
- Trading volume for the underlying asset

Way Derivatives are used

- To hedge risks
- To speculate (take a view on the future direction of the market)
- To lock in an arbitrage profit
- To change the nature of a liability

Way Derivatives are used

- Derivatives are generally used to manage the risk of monetary loss or gain.
- A person or organization can take on additional risk by buying or selling derivatives, or similarly can reduce risk by buying or selling derivatives.

Example of grain (commodity future)

- The contract is the derivative
- Underlying asset is the edible grain such as wheat or corn.
- A farmer who grows grains can enter into a contract that is an obligation to sell the grain at a fixed price at a date in the future.
- An investor takes the other side of the contract agreeing to buy the grain at that fixed price for delivery on that future date. The farmer obtains a guarantee he will be able to sell his grain for the agreed price, thus eliminating the risk of the price falling between now and when the crop is ready for delivery.

Significance

- If the grain price falls sharply
  - the farmer still receives the payment specified in the contract, and the investor loses money.
- If the grain price rises sharply
  - the farmer receives the payment specified in the contract, and the investor may make a profit by reselling the grain at the current, higher price.

Although it is crucial that a mechanism for delivery or settlement exists to tie the futures contract price to "the underlying", it is important to note that for most futures only a small fraction of the contracts traded are actually delivered or settled. Most positions are closed before the delivery or settlement date.

“Underlying” - meaning

- Spot foreign exchange. This is the buying and selling of foreign currency at the exchange rates that you see quoted on the news. As these rates change relative to your "home currency" (dollars if you are in the US) you make or lose money.
- Commodities, like grain discussed as in the example. Others include pork bellies, coffee beans, orange juice, gold, silver, and crude oil.
- Equities (termed stocks in the US).
- Government bonds. Bonds are medium to long-term negotiable debt securities issued by national governments. They may generally be freely traded without reference to the issuer of the security, unlike loans.
- Short term ("money market") negotiable debt securities such as Treasury Bills (issued by governments), Commercial Paper (issued by companies) or Bankers Acceptances. These are much like bonds, differing mainly in their maturity - always less than one year, and typically less than 90 days.

- OTC money market indexes - typically LIBOR (the London Interbank Offered Rate) or some other similar index of the rates at which banks are willing to enter OTC lending transactions with each other.
- Credit risk - a credit default swap (CDS), despite its name, is actually more like an option or insurance contract. In exchange for a stream of premium payments the buyer of a vanilla (or "single issuer") CDS obtains the right to require the CDS seller to purchase bonds of the issuer named in the agreement at a given price (usually the face value) but only if the named issuer triggers a default or other similar "credit event". The market price of these bonds is typically much less than face value when a default occurs so the CDS buyer will profit and the CDS seller will lose. If the named issuer does not default during the agreed period of the CDS the contract expires worthless, just as an option would if it was not worth exercising.
- Indexes - many index varieties are used as the underlying for derivative contracts. They may be constructed with reference to financial assets (such as stock market indexes like the Dow Jones Industrial Average) or

History

- Traditionally equity derivatives have a long history in India in the OTC market.
- Options of various kinds (called Teji and Mandi and Fatak) in un-organized markets were traded as early as 1900 in Mumbai
- The SCRA however banned all kind of options in 1956.
- The prohibition on options in SCRA was removed in 1995. Foreign currency options were the first options permitted by RBI.
- The Reserve Bank of India has permitted options, interest rate swaps, currency swaps and other risk reductions OTC derivative products.

History continued

- Besides the Forward market in currencies has been a vibrant market in India for several decades.
- In addition the Forward Markets Commission has allowed the setting up of commodities futures exchanges. Today we have 18 commodities exchanges most of which trade futures.
  e.g. The Indian Pepper and Spice Traders Association (IPSTA) and the Coffee Owners Futures Exchange of India (COFEI).
- In 2000 an amendment to the SCRA expanded the definition of securities to included Derivatives thereby enabling stock exchanges to trade derivative products.
- The year 2000 herald the introduction of exchange traded equity derivatives in India for the first time.

Product specification

Bse – 30 sensex

- Contract Size - Rs. 50 times the Index
- Tick Size (Price interval) - 0.1 points or Rs. 5
- Expiry day - last Thursday of the month
- Settlement basis - cash settled
- Contract cycle - 3 months

S&P CNX Nifty Futures

- Contract Size - Rs. 200 times the Index
- Tick Size (price interval) - 0.05 points or Rs. 10
- Expiry day - last Thursday of the month
- Settlement basis - cash settled
- Contract cycle - 3 months

NSE - NEAT

Clearing member

- Networth - 300 lakh
- Interest-Free Security Deposits - Rs. 25 lakh
- Collateral Security Deposit - Rs. 25 lakh
- In addition for every TM he wishes to clear for the CM has to deposit Rs. 10 lakh

Trading member

- Networth - Rs. 100 lakh
- Interest-Free Security Deposit - Rs. 8 lakh
- Annual Subscription Fees - Rs. 1 lakh

NEAT

- National Exchange for Automated Trading
- TCAM Systems Inc., New York

BSE - DTSS

Clearing Member (CM)

- Networth - 300 lacs
- Interest-Free Security Deposits - Rs. 25 lakh
- Collateral Security Deposit - Rs. 25 lakh
- Non-refundable Deposit - Rs. 5 lakh
- Annual Subscription Fees - Rs. 50 thousand

In addition for every TM he wishes to clear for the CM has to deposit Rs. 10 lakh with the following break-up.

- Cash - Rs. 2.5 lakh
- Cash Equivalents - Rs. 25 lakh
- Collateral Security Deposit - Rs. 5 lakh

Trading Member (TM)

- Networth - Rs. 50 lakh
- Non-refundable Deposit - Rs. 3 lakh
- Annual Subscription Fees - Rs. 25 thousand

The Non-refundable fees paid by the members is exclusive and will be a total of Rs.8 lakhs if the member has both Clearing and Trading rights

Examples of derivatives

- Futures Contracts
- Forward Contracts
- Swaps
- Options
- Warrants
- Leaps(long term equity anticipation security)
- Basket
- Swaptions

Participants

- Hedgers
- Speculators
- Arbitrageurs