

Show how transactions in derivatives can be used to either hedge risk or to open ...

[Business](#)



Economics of the Financial System Show how transactions in derivatives can be used to either hedge risk or to open speculative positions. Derivatives have become popular in response to the increasing volatility and complexity of financial markets. A diverse range of new financial products have been created to enable market participants to handle the risks arising from trade in securities and to speculate on future expected movements in securities prices, without direct trade in the assets themselves. Derivative contract creates a promise to deliver or trade an underlying product at some time in the future.

The contract gives one party a claim on an underlying asset or cash value of the asset, at a fixed date in the future. The other party is contractually bound to meet the corresponding liabilities. Financial derivatives are traded on organized market such as LIFFE (London International Financial Futures Exchange) and through the intermediation of the clearing house system, there is more flexibility of exchange, and the risk of credit default is reduced. The two parties need not know each other they only have to satisfy the exchange that they are creditworthy to transact.

The initial purpose of derivative contracts was to allow traders to hedge risk which they faced in the cash market. Two of the most popular derivative instruments are financial futures and options. Financial futures commit the parties to buy or sell underlying assets at set prices on an agreed future date. The benefit of financial futures in its most basic form can be exemplified by a poultry farmer who is worried about the risk of price fluctuations in eggs for instance. He knows in 8 months he will sell a certain quantity of eggs.

<https://assignbuster.com/show-how-transactions-in-derivatives-can-be-used-to-either-hedge-risk-or-to-open-speculative-positions-assignment/>

He can hedge against this risk by selling (going short) an eight month “future” in eggs. The “future” will consist of a standard amount of chicken to be exchanged in eight months, at an agreed fixed price on the day the “future” is sold. The agent buying the eggs goes long, and is bound by contract to purchase the eggs in 8 months. A premium reflecting the risk of price fluctuation would be charged by the agent. If all goes well, the rate of profit on future contract can be very high but not without considerable risk.

Investing in securities expose investors to many risks, the most important is the risk of an unexpected fall in the value of an investment. Likewise, not investing also exposes them to opportunity risk; the risk that future prices of portfolio of asset would rise thereby making it more expensive to acquire. Derivatives market offer investors an efficient way of managing some of the risks incurred in investment by purchasing derivative instruments. This allows them to attain desired adjustment to risk without having to trade in the underlying securities and sometimes gaining a profit.

Hedging has become increasing popular as it helps investors to protect against the future value of their portfolio. An investor with a portfolio of cash, bonds and shares can take out a hedge to protect the future sale price of her portfolio by selling a corresponding amount of the appropriate futures contract. Risk could be hedged through options or future contracts. Hedging through future contracts involves taking a position in financial futures contract that will incur a gain to offset a loss in their existing investment portfolio. For example, Amana Mutual Fund manages a large portfolio of stocks.

The portfolio manager speculates the prices of stock will fall over the coming month but will increase again after that time. They would like to hedge their portfolio against a loss over that period. A stock index futures contract with a month to settlement date is offered on the Dow Jones Industrial Average stock index at an index level of 20,000. Amana chooses to sell a futures contract on this index because it reckons that this index is strongly correlated with its existing stock portfolio. In a month, at the stipulated settlement date, Stanford will purchase the same contract.

If stock prices plunge over this period, the index will fall as well, and so will the futures contract on the index in response. Amana will profit on its future position, because the future price paid at which the index is sold will be less than price paid for the index at settlement date. After a month, the stock market falls as anticipated, and the futures price of the DJIA is at an index level of 19,000. DJIA futures contract are rated at \$10 the DJIA index, so Amana stands to gain. Sold DJIA futures for 20,000; receives 20,000 times \$10 = \$200,000 Purchased DJIA futures for 19,000; owes 19,000 times \$10 = \$190,000 Gain is \$200,000 - \$190,000 = \$10,000 This shows that Amana benefits from selling a DJIA futures contract. Amana has gained from a market decline, which can partially counterbalance the loss on its existing stock portfolio. However, to hedge a huge stock of portfolio, Amana would have to take a short position that had a value equal to the size of its entire stock portfolio. Options give one party the right, but not the obligation, to buy (or sell) at a set price on an agreed future date.

Future Contracts are a means of avoiding risk but at the cost of eliminating opportunity. A trader may prefer to hedge risks through options so he can take advantage of an unexpected upswing. If hedgers of an equity portfolio sell futures contracts against their position to protect their portfolio and see the stock market go up rather than down as they presumed, they would not be able to take advantage of the upswing. It is therefore advisable to use future contracts when the investor is certain of future outcome as the contract fixes the value of an asset.

However, hedging via options is more expensive as it protects from downside loss while leaving upside potentials open with the right but no obligation to purchase asset at a fixed price. Derivatives allow firms to hedge against security prices and interest rate movements, the latter being the most actively traded future contract used by banks and treasury managers. A pension fund manager holds an equity portfolio which closely resembles the US stock market in its compositions. If he thinks the US market is going to fall and wishes to turn his portfolio into cash.

He has two choices, he could either sell shares which would not be as profitable because share prices might be depressed if it is a large portfolio plus it is time consuming. Or she could simply sell stock index futures against her portfolio. If accurate, the loss incurred on her equity portfolio will be counterbalanced by a profit on her financial futures position. Derivatives reduce the cost of protection through sophisticated risk management. Firms that are adversely affected by interest rate movements can take particular

position in derivative securities to offset the effect of interest rate movement thereby reducing risk.

By coming into a 'forward rate agreement' a company treasurer can fix the cost of borrowing which will be required on some future date, thus avoiding the risk of fluctuating interest rates in the prevailing period. Interest rate future contracts can be used to match the interest rate characteristics of the bank's asset and liabilities portfolios. Market makers can hedge the risk resulting from significant positions in equities or bonds by buying offsetting contracts in equity or interest rate futures. Interest rate futures specify the amount of the notional bond and its interest-rate coupon, for instance a \$50,000 nominal 15-year treasury bond with a 10 per cent coupon. Traders using futures to hedge against risk to which they are exposed in the cash market are seeking to lock into existing exchange or interest rates on future transactions. Once a firm has traded out of its open position in the cash market it no longer needs the hedge in the futures market. However, the use of futures to hedge to hedge against interest rates for instance can give rise to basis risk. Basis risk is the risk that fluctuations in future prices will differ from movement in the price of risk being hedged.

Firms are also faced with exchange rate risks, in the absence of fixed exchange rates or monetary unions, firms must take action to protect themselves against these risks by taking out contracts which carry the opposite risk to that which they face in the underlying market. Another advantage of financial futures contract is that they offer both traders and investors the ability to take a short position in the underlying security; sell

something they do not have. Traders may think a financial market is falling, by selling future contracts and buying them back later after the price has fallen they would be able to gain profit in a bear market.

Derivatives help to combat adverse effects of volatile commodity prices on the economy as forward prices tend to be less volatile than spot prices. Since the spot price of a security can be offset by the sale of future contracts, the risk of holding securities is neutralized. Hedging is the basic motivation for a lot of businesses trading in financial derivatives market. Nonetheless, speculation is just as popular as derivatives allow firms and investors to take positions in the securities on the basis of their expectations of movements in the underlying financial asset.

In other words, derivatives are instruments that allow market agents seeking profit gain to gamble on movements in the prices of other instruments without being required to trade in them. Furthermore, speculation provides liquidity in the markets and enables it to operate efficiently. Speculative positions are required to offset any imbalance which may arise from hedging transactions, and active speculation in response to small price movements ensures that any temporary imbalance would not lead to a drastic price change thereby reducing volatility. Derivative markets respond to information quicker than cash market.

Therefore it allows speculators to predict with accuracy cash market prices and return of their investment. For example, a speculator who presumed that interest rate was likely to rise or a currency's value decline would go short in the particular asset by selling a future contract. Derivatives permit

<https://assignbuster.com/show-how-transactions-in-derivatives-can-be-used-to-either-hedge-risk-or-to-open-speculative-positions-assignment/>

traders to build an open position with speed, traders usually close this position when they have achieved profit objective. If anticipated profits are unlikely, they cut losses before delivery date. Investors could either purchase call or put options for speculative purposes.

Call options are bought by investors who speculate a rise in price of underlying stock. An investor pays the option premium and becomes the owner of a call option he is entitled to the right to purchase stock at the exercise price up to the time of expiration date. The advantage of this is that investors have secured a price to be paid for stocks and therefore gain a profit in secondary market of stock prices rise. Tayo purchased a call option on British Telecoms (BT) Plc. for \$3 per share, with an exercise price of \$75 per share. She decides to exercise her option at the expiration date if the market stock price is above \$75 at the time.

Tayo wants to find out what her possible profit outcomes are per share under the different prices of Boots plc. stock. Possible Outcomes for Investment in a Call Option

Possible price of boots plc stock at expiration(\$)	Premium paid(\$)	Amount Received from Exercising Option(\$)	Profit share from investment(\$)
71	3	Option not exercised	-4
76	3	1	-2
78	3	3	0
82	3	7	4
85	3	10	7

At any price above \$75 but below \$78, Tayo will exercise the call option but make a loss. For instance, at the price of \$76, she can exercise the option by buying the stock at \$75 and selling them for \$76. However, with a premium of \$3 to be paid, she incurs a loss of \$2 on her investment. At the price of \$78, tayo breaks even and at any price beyond that she makes a profit from



this call option. On the other hand, put options are purchased by investors who expect a fall in price of assets. The contract is set at a predetermined rate lower than the current market price, so if prices do plunge further investors earn a profit from put option.

This leverage allows speculative investments to be used to take advantage of specific profit opportunities or to insure a portfolio against risk. For an options contract, there has to be a corresponding seller (or writer) to the purchaser of an option, who is prepared to accept the increased risk exposure and the premium has to be large enough to compensate risk. The buyer of a call option acquires the right to buy specified instrument. For example, an investor who speculates that euro will rise against the US dollar could buy a euro surplus giving the right to buy euro at a specified price, say \$0.60 =? 1.

If the spot exchange rate were to rise to \$0.68 =? 1, the option holder could acquire euro at \$0.60 under the terms of the option and sell them in the spot market at \$0.68. As the price of the underlying product rises, so too will the profit that can be made from exercising the option. The buyer of a call option thus assumes a long position in the underlying product. Swaps are a huge market. The first major example of a derivative trade occurred between the World Bank and IBM in 1983. The World Bank was lending in Swiss Francs and wanted to borrow in Swiss Francs, but it had depleted all its borrowing options, hence it faced rising costs.

On the other hand, IBM was a dollar borrower but had never borrowed in Swiss Francs as it had no use for the currency. Nonetheless, Salomon

<https://assignbuster.com/show-how-transactions-in-derivatives-can-be-used-to-either-hedge-risk-or-to-open-speculative-positions-assignment/>

Brothers, the investment bank set up a deal with IBM because IBM could borrow Swiss Francs at a cheaper rate than the World Bank could, so both institutions borrowed currencies they did not need. IBM in Swiss Francs and World Bank in dollars, this was done simultaneously and they converted proceeds into currencies they did need. Salomon Brothers was the 'writer' of the debt obligation and because of their dealings with each other; both institutions faced a lower interest rate.

All of the above gives evidence that derivatives are a powerful instrument in combating risks and making profits from speculation amongst other.

However, Warren Buffet warns that derivatives are not without its curses. He likens derivatives to "hell.... easy to enter and almost impossible to leave" and states that increasing trade in it pose a mega-catastrophic risk for the economy as it pushes companies onto a 'spiral that can lead to a corporate meltdown'. For example, derivatives trading were held partially responsible for the collapse of the stock market in 1987.

The story being that stock market trader anticipated a decline in the price of stocks that weekend. Immense orders to sell were made at brokerage houses and many traders automatically sold futures in shares of major corporations. This panic and wrong speculation destabilised stock markets and contributed to the volatility of the cash market. An example closer to home is the losses of ? 91 million made by traders at NatWest Capital Markets (the investment banking arm of the National Westminster Bank in London) in 1995 and 1996 on deutschmark and sterling options.

In Conclusion, financial derivatives , although not without faults, has become a major global growth industry as financial agents have become increasingly assertive and innovative in their use of futures, options and swaps to hedge risks and take speculative positions. References 1) <http://news.bbc.co.uk/1/hi/2817995.stm> Accessed on the 20th April 2010 2) <http://www.globalresearch.ca/index.php?context=va&aid=8634> Accessed on the 28th April 2010 3) Howells P & Bain K (2007) Financial Markets and Institutions, London: Prentice Hall 4) Mervyn K.

Lewis (1999) The Globalization of Financial Services, Cheltenham: Elgar Reference Collection 5) Rutterford J & Davison M (2007) An Introduction to Stock Exchange Investment, New York: Palgrave Macmillan 6) Howells P & Bain K (2002) The Economics of Money, Banking and Finance, Essex: Pearson Education 7) Henderson R (1993) European Finance, Berkshire: McGraw Hill Book Company 8) Gitman L & Madura J (2001) Introduction to Finance, Boston: Addison Wesley 9) Heffernan Shelagh (1996) Modern Banking in Theory and Practice, Chichester: Wiley 10) A. D Bain( 1992) The Economics of the Financial System, Oxford: Blackwell