UNITED CURRENCY OPTIONS MARKET®

PHILADELPHIA STOCK EXCHANGE

a users' guide to currency options

Section 1. Introduction

The United Currency Options Market® (UCOM®) of the Philadelphia Stock Exchange (PHLX) is the world's leading marketplace for Exchange traded currency options. Offering customized and standardized currency options, UCOM is the most diverse Exchange listed marketplace for currency options trading.

In this Users' Guide, you will learn more about the basics of the foreign exchange market, currency options in general, UCOM options in particular, features of the listed market and examples of basic strategies associated with this versatile instrument.

Section 2. Overview of Currency Markets

Foreign exchange trading among commercial banks, central banks and corporations has traditionally centered around spot, swap and forward transactions in the over-the-counter (OTC) market. OTC trades are direct agreements between two counterparties. A spot transaction is an agreement to exchange one currency for another and is typically entered into for settlement in two days. A forward transaction is a contract to deliver a specified amount of one currency for a specified amount of another currency at a future value date (beyond two days). A swap transaction is the simultaneous purchase of an amount of a currency for spot settlement and the sale of the same amount of the same currency for forward settlement.

Futures exchanges, recognizing the opportunity for increased volume and the need for a standardized contract, listed financial futures contracts on currencies. This provided the user with a liquid, secondary market for contracts with a set contract size, a fixed expiration date and centralized clearing.

In 1982, the PHLX pioneered options on currencies. Whereas both forward and futures markets provide a means to, in effect, establish a firm exchange rate today for an obligatory currency transaction at a later date, options provide the right - but not the obligation - to buy or sell currency at a specific rate within a specified time period.

Options on currencies were designed not as a substitute for forward or futures markets but as an additional and versatile financial vehicle that can offer significant opportunities and advantages to those seeking either protection or investment profit from changes in exchange rates.

Since 1982, trillions of dollars in options have been traded on the PHLX by money center banks, investment banks, multinational corporations, money managers and investors who have recognized the potential of options for managing foreign exchange risk and for gaining access to the foreign exchange marketplace

Institutional investors and corporate treasurers can use options to:

- limit risk against adverse currency fluctuations while maintaining the ability to profit from favorable changes in exchange rates;
- lock in maximum cost or minimum revenues on a foreign exchange transaction with an uncertain completion date;
- hedge foreign stock and bond holdings;
- potentially earn additional profits from foreign business transactions or investments

Individual Investors can use options to:

- profit from directional views of the underlying currency;
- Potentially earn profits from foreign investments;
- Hedge foreign stock and bond holdings

Section 3. Currency Option Basics

A. Definition

A currency option is the right - but not the obligation - to buy (in the case of a call) or sell (in the case of a put) a set amount of one currency for another at a predetermined price up to a predetermined time in the future.

The buyer of a PHLX American-style British pound December 160 call option is purchasing the right to buy 31,250 British pounds for $1.60 per pound at any time up to the December expiration.

The two parties to a currency option contract are the option buyer and the option seller/writer. The option buyer may, for an agreed upon price called the premium, purchase from the option writer a commitment that the option writer will sell (or purchase) a specified amount of a foreign currency upon demand. The option extends only until the expiration date. The rate at which one currency can be purchased or sold is one of the terms of the option and is called the exercise price or strike price.

The total description of a currency option includes the underlying currency, the contract size, the expiration date, the exercise/strike price and another important detail: that is whether the option is an option to purchase the underlying currency - a call - or an option to sell the underlying currency - a put.

There are two types of option *expirations* - American-style and European-style.

- American-style options can be exercised on any business day prior to the expiration date.
- European-style options can be exercised at expiration only.

Currency options may be *quoted in one of two ways*:

- American-terms, in which a currency is quoted in terms of the U.S. dollar per unit of foreign currency
    - Example: .9767 U.S. cents = 1.0238 Euros
- European-terms (inverse terms), in which the dollar is quoted in terms of units of foreign currency per dollar.
    - Example: 1.0238 Euros= .9767 U.S. Cents
- The same logic can be applied to currency pairs in which the U.S. dollar is not one of the currencies. Either currency can be expressed in terms of the other.

B. Option Pricing

Prices for currency options - called premiums – are arrived at through open outcry competition between buyers and sellers on the trading floor of the Philadelphia Stock Exchange. The premium quoted for a particular option at a particular time represents a consensus of the option's current value which is comprised of two elements: intrinsic value and time value.

Intrinsic value is simply the difference between the spot price and the strike price.

For Put Options

In-the-Money = Spot Price is *below* Option Strike (Exercise) Price

Out-of-the Money = Spot Price is *above* Option Strike (Exercise) Price

At-the-Money = Spot Price and Strike (Exercise) Price are the same

For Call Options

In-the-Money = Spot Price is *above* Option Strike (Exercise) Price

Out-Of-the-Money = Spot Price is *below* Option Strike (Exercise) Price

At-The Money = Spot Price and Option Strike (Exercise) Price are the same

Time value is more complex. When the price of a call or put option is greater than its intrinsic value, it is because it has time value. Time value is determined by five variables: the spot or underlying currency price, the expected volatility of the underlying currency, the exercise price, time to expiration, and the difference in the "risk-free" rate of interest that can be earned by the two currencies. Time value falls toward zero as the expiration date approaches. This falling of time value toward zero as expiration approaches is non-linear in nature, that is, the erosion of time value premium accelerates as the option approaches expiration. An option is said to be "out-of-the-money" if its price is comprised only of time value.

With the Euro spot price at 0.9767 Euros per dollar or \$1.0238 per Euro, a December 95 call option trading at 1.80 has an intrinsic value of 1.67¢ (97.67¢ - 95.00¢ = 1.67¢). The .13¢ of additional premium is considered time value.

A variety of complex option pricing models such as Black-Scholes and Cox-Rubinstein have been developed to determine option pricing. Another commonly used model for currency option valuation is the Garmen-Kohlhagen model. There are many texts available which cover the specifics of option pricing models in detail.

Interest rate differentials between nations and temporary supply/demand imbalances can also have an effect on option premiums. In the final analysis, option prices (premiums) must be low enough to induce potential buyers to buy and high enough to induce potential option writers to sell. These prices result from the interaction of buyers and sellers through the auction market conducted on the trading floor of the Exchange.

Section 4. Trading on the Philadelphia Stock Exchange

A. Standardized Options

Currencies Traded

The PHLX lists six dollar-based standardized currency option contracts, which settle upon exercise in the actual physical currency.

Contract Size

The amounts of currency controlled by the various currency options contracts are geared to the needs of the widest possible range of participants. Following are the sizes expressed in units of currency for each option:

Currency Option	Units	
U.S. dollar / Australian dollar	50,000	AUD
U.S. dollar / British pound	31,250	GBP
U.S. dollar / Canadian dollar	50,000	CAD
U.S. dollar / Euro	62,500	EUR
U.S. dollar / Japanese yen	6,250,000	JPY
U.S. dollar / Swiss franc	62,500	CHF

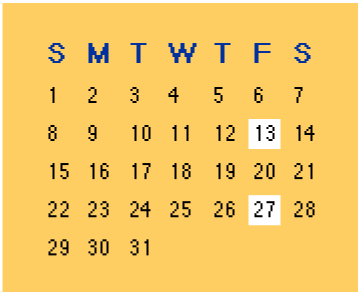
Exercise Style

American- or European-style exercise options are available for Mid-month and Month-end options; Long-term options are European-style exercise only.

Expiration/Last Trading Day

The PHLX offers a variety of expirations in its currency options contracts, including:

Mid-month
Month-end
Long-term (GBP & JPY)



Expiration, which is also the last day of trading, occurs on both a quarterly and consecutive monthly cycle. That is, currency options are available for trading with fixed quarterly months of March, June, September and December with two additional near-term months. For Example: After December expiration, trading is available in options which expire in January, February, March, June, September, and December. Month-end option expirations are available in the three nearest months.

Expirations for June (18 months) and December (24 months) for the following year are also available for GBP and JPY.
Mid-month and Long-Term options cease trading and expire on the *Friday preceding the third Wednesday of the expiration month*. Month-end options cease trading and expire on the last Friday of the expiration month.

Exercise Prices

Exercise prices are expressed in terms of U.S. cents per unit of foreign currency. Thus, a call option on Euros with an exercise price of 97 would give the option buyer the right to buy Euros at 97 us cents per Euro.

It is important that available exercise prices relate closely to prevailing currency values. Therefore, exercise prices are set at certain intervals surrounding the current spot or market price for a particular currency. When significant price changes take place, additional options with new exercise prices are listed and commence trading.

Strike price intervals vary for the different expiration time frames. They are narrower for the near-term and wider for the long-term options.

Premium Quotation

Premiums for dollar-based options are quoted in U.S. cents per unit of the underlying currency (with the exception of Japanese yen which are quoted in hundredths of a cent).
Example: A premium of 0.97 for a given Euro option is ($.097) per Euro. Since each option is for 62,500 Euros, the total option premium would be $606.25 (62,500 x $ .097).

B. Customized Currency Options

Currencies Traded

Customized currency options can be traded on any combination of the currencies currently available for trading (see the list below). Currently, AUD and MXD may be matched with the USD only; and must be denominated in U.S. dollars. (AUD premiums must be denominated in USD).

In the case of an option on the U.S. dollar quoted in Japanese yen, the underlying currency is U.S. dollars; the strike prices and premiums are percent of dollars

For example, a call option on the U.S. dollar with a strike price of 1.5420 gives the buyer the right to purchase 50,000 U.S. dollars at 1.5420 yen per dollar.

Underlying Currency

The underlying currency is that currency which is purchased (in the case of a call) or sold (in the case of a put) upon exercise of the contract.

Base Currency

The base currency is that currency in which terms the underlying is being quoted, i.e. strike price.

Expiration/Last Trading Day

Expirations can be established for any business day up to two years from the trade date. Customized option contracts expire at 10:00 a.m., Eastern Time on the expiration day in contrast with standardized options which expire at 2:30 p.m., Eastern Time on the expiration day. In addition, the exercise and assignment process for customized options is more akin to the OTC market in terms of expiration timeframe. Unlike the process utilized for standardized options, exercise notices must be received by 10:00 a.m., Eastern Time and the writer is then notified of the number of contracts assigned. If necessary, contact the PHLX for more details.

Contract Size

The underlying currency determines the contract size and is the same size as standardized contracts. In the case where the U.S. dollar is the underlying, the contract size is $50,000. *Note that the Mexican peso is only available in the customized environment.*

Underlying Currency	*Contract Size*
Australian dollar	50,000 AUD
British pound	31,250 GBP
Canadian dollar	50,000 CAD
Euro	62,500 EUR
Japanese yen	6,250,000 JPY
Mexican peso	250,000 MXP
Swiss franc	62,500 CHF
U.S. dollar	50,000 USD

Exercise Prices

Exercise or strike prices may be expressed in increments out to four characters. For example, a USD/GBP option could have an exercise price of 1.5430.

Exercise-style

European-style only.

Minimum Transaction Size

Since customized currency options were designed for the institutional market, there is a minimum opening transaction size which equals or exceeds 50 contracts (i.e., 55 contracts is acceptable).

Contract Terms

An option strike price may be expressed in either American terms or European terms (inverse terms). For example, an option in American terms would have exercise prices quoted in terms of U.S. dollar per unit of foreign currency. An option in European or inverse terms would have exercise prices quoted in terms of units of foreign currency per U.S. dollar.

A call option on the Japanese yen quoted in American terms would have a strike price expressed in U.S. dollars. For example, $.006484 per Japanese yen.

A similar option expressed in European terms would be a put option on U.S. dollars with a strike price expressed in Japanese yen. For example, 154.20 yen per U.S. dollar.

Trading Process

Trading is conducted in an open outcry auction market, just as in standardized option contracts. When initial interest in a customized option series is expressed, a floor member must first present a Request For Quote (RFQ) to an Exchange staff member for dissemination. Subsequently, responsive quotes are generated by competing market makers and floor brokers representing off floor interest.

Price and Quote Dissemination

Request For Quotes (RFQs), responsive quotes and trades will be disseminated to the Option Price Reporting Authority (OPRA) for availability to quote vendors.

The premium for an option on the Japanese yen with a strike price in U.S. dollars (Japanese yen is the underlying currency and the U.S. dollar is the base currency) quoted in cents per yen (premium of 2.50) would be calculated as follows:

The aggregate premium for each contract = U.S. $1562.50 ($ .025 x 6,250,000 yen per contract).

Premiums

Premiums may be expressed either in terms of the base currency per unit of the underlying currency or in percent of the underlying currency (based on contract size). For example, the premium for an option on the USD/EUR (U.S. dollar being the base currency and Euro being the underlying currency) could be expressed in U.S. cents per EURO or as a percentage of 62,500 Euros.

Position Limits

Position limits are the maximum number of contracts in an underlying currency that can be controlled by a single entity or individual. Currently, position limits are set at 200,000 contracts on each side of the market (long calls and short puts or short calls and long puts) for each currency, except the Mexican peso, which is 100,000 contracts. For purposes of computing position limits, all options involving the U.S. dollar against another currency will be aggregated with each other for each currency (i.e., USD/EUR and JPY/EUR on the same side of the market will be aggregated - USD/EUR long calls and short puts with JPY/EUR short calls and long puts).

Section V. Features of the Listed Market

By choosing to trade on a regulated securities exchange, you can take advantage of an open and orderly secondary marketplace, where option positions can be adjusted or closed at any time while still enjoying the financial safeguards of The Options Clearing Corporation (OCC).

A. Open and Orderly Marketplace

Options are traded in an open outcry auction market with prices disseminated to customers around the world and published daily in the financial press. Standardized and customized option orders are represented to the trading crowd on the PHLX floor by a floor broker who assesses the market and executes the trade at the best possible price.

Prices in the crowd may be given by market makers (also referred to as registered options traders or ROTs), specialists or floor brokers representing customer orders. A specialist, designated by the Exchange to represent a particular currency, is responsible for maintaining fair and orderly markets and disseminating the best quoted prices for each series in standardized options. In addition, specialists are responsible for the proper execution of orders entrusted to them.

Customized options do not have a specialist. Instead, market makers are assigned to particular currency pairs and are responsible for making two-sided markets. While standardized options are quoted continuously, customized options are only quoted upon request. Both standardized and customized options are marked-to-market daily.

B. Regulation

The Philadelphia Stock Exchange, a self-regulatory organization under the jurisdiction of the U.S. Securities and Exchange Commission (SEC), sets and enforces rules to ensure the integrity of their markets. All currency options traded on the Philadelphia Stock Exchange are SEC regulated. The Exchange staff administers its own rules and regulations as well as the SEC rules. Various departments of the Exchange monitor and enforce regulations. The Market Surveillance Department oversees floor trading activity, conduct and trading practices to ensure compliance with Exchange and SEC regulations. The Examinations Department monitors the daily financial condition of floor brokers, market makers and specialists and serves as the Designated Examining Authority to audit selected member firms.

C. Liquidity

The combination of specialists, market makers and floor brokers guarantees that there is always a buyer or seller for all listed currency options. The centralized location of all interested parties provides depth, liquidity and competitive markets.

D. Fungibility

In contrast to over-the-counter products, all listed options with the same terms are fungible. As an option writer, you can offset your position by buying an option identical to the option you have sold. As the buyer of an option, you can sell it to another option buyer.

E. Position Limits

The Exchange establishes position limits for each currency in order to prevent any one entity from gaining an undue amount of control over the underlying currency. These limits are approved by the U.S. Securities and Exchange Commission.

F. Trading Hours

The Philadelphia Stock Exchange currency options market is open for trading from 2:30 a.m. to 2:30 p.m., Eastern Time, Monday through Friday (except for standardized Canadian dollar options, which trade from 7:00 a.m. to 2:30 p.m., Eastern Time). This makes trading currency options possible during business hours in most key time zones.

G. Guarantee

Orderly markets are assured by the various regulatory and self-regulatory bodies that oversee options trading and the exchanges on which they are traded. In addition, the fiduciary responsibility of a listed option is guaranteed by The Options Clearing Corporation (OCC), the only clearinghouse worldwide to receive a 'AAA' credit rating from the Standard and Poor's Corporation. OCC is the issuer, guarantor and clearer of all PHLX options. OCC is the intermediary between every buyer and seller, thereby serving as the counterparty to every trade and eliminating counterparty risk.

H. Margin

A significant contribution to the integrity of the listed option marketplace is the option writer's requirement to post margin - an amount of money or collateral deposited by a customer with his broker, by a broker with the clearinghouse, or by a clearing member with the clearinghouse, for the purpose of insuring the broker or clearinghouse against potential loss on open option contracts. In a marketplace with margin requirements, option traders can avoid review of one another's credit every time they trade. It is the obligation of the customer to post or deposit margin due on currency options carried "short" (or written) in the customer's account on a marked-to-market basis with their respective broker. The obligations of "shorts" or writers to the OCC are guaranteed by brokerage firms, called "clearing members," that carry the accounts of writers or their brokers. Thus, there are customer obligations to the brokers and/or clearing members, and then clearing firm margin requirements to the OCC. Clearing firm margin or the amount that a clearing member is required to post at the OCC is different from customer margin. Additional information about customer margin requirements is contained in the "Customer Margin Requirements" booklet, available from the PHLX.

I. Delivery and Settlement

The PHLX trades currency options that are physically settled - the exchange of one currency for another. Physically settled currency options are not automatically exercised at expiration, but rather the buyer must submit exercise instructions to his/her broker dealer. Subsequently, a writer or "short" will be assigned which will result in the physical delivery of currency between the two clearing members.

Customers should check with their clearing firm as to the various alternatives available for settling delivery obligations. Any questions regarding delivery and settlement should be directed to your clearing firm or to the OCC Help Desk at 1-800-621-6072.

J. Comparison of Market Features

	UCOM	OTC
Contract Specifications	Standardized & Customized	Customized
Regulation	Securities and Exchange Commission (SEC)	Self-regulated
Type of Market	Open outcry, auction market	Dealer market
Counterparty to Every Transaction	'AAA'-rated Options Clearing Corporation (OCC)	Bank on the Contra-side
Transparency / Visible Prices	Yes	No
Margin Required for Short Positions	Yes	No*
Orders Anonymously Represented in the Market	Yes	No
Required to Mark Positions Daily	Yes	No*
Audit Trail	Complete sequential and second-by-second audit trail of each transaction	No
Participants	Public customers, as well as corporate and institutional users	Corporate and institutional users

*Not a requirement, but available.

Section VI. Introduction to Strategies Involving Currency Options

Options on currencies provide foreign exchange risk managers, investors and traders with a wide array of capabilities for controlling the risks inherent in foreign exchange exposure and for participating in market movements and implementing investment research decisions related to exchange rate fluctuations

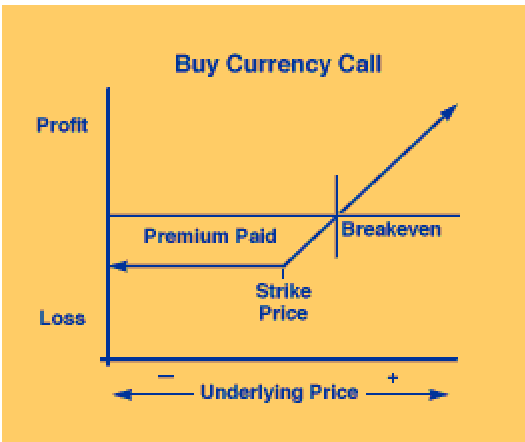
Currency options should be considered for their potential to meet needs and investor marketplace accessibility that cannot be adequately addressed by forward contracts or the futures marketplace. However, the relationship of the forward, futures and options markets is close enough to allow opportunity for intermarket hedging and arbitrage.

The following pages will illustrate just a few strategies available to users of currency options. Readers should keep in mind that a booklet of this scope can only provide a thumbnail sketch of the possibilities presented by options. A list of relevant publications which cover the topic in greater detail is provided in the Appendix.

To simplify the example sections, all options are held through expiration and examples do not take into account brokerage fees, transaction costs, margin requirements or tax implications. These factors should be examined when considering an option transaction and discussed with your broker or investment advisor.

Buying Call Options to Protect Against Increases in Currency Value

Since a call option entitles the holder to purchase units of the underlying currency at the option exercise price, it follows that the option holder will realize a profit if the value of the option at expiration is greater than the premium paid to acquire the option. That is, if the spot market price of the currency is above the option exercise price plus the initial option premium. Thus, a call option could be utilized by an investor whose market research indicates that the underlying currencies value will appreciate relative to the USD.

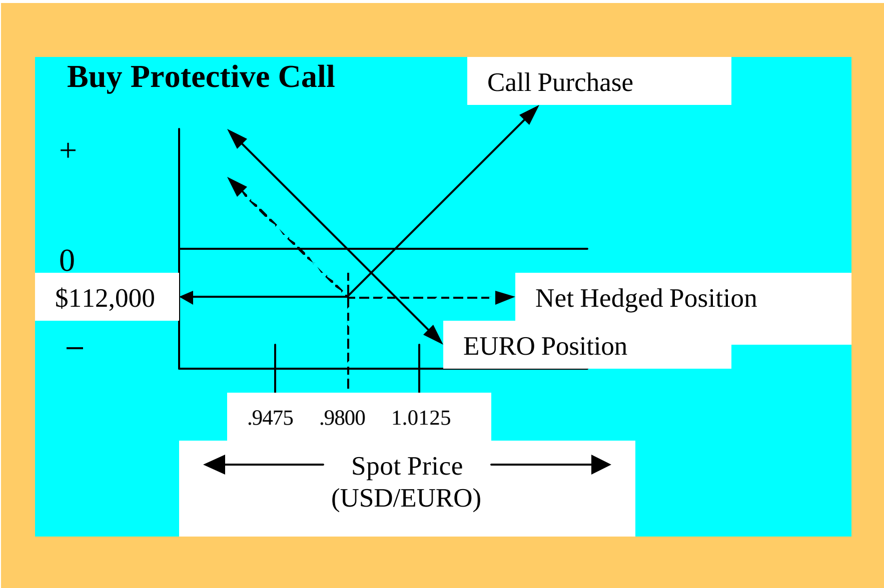


Call options can also be used to protect against currency appreciation. As an example, American companies purchasing goods from foreign companies may incur substantial risk if, before completion of an agreed upon transaction, the currency of the seller's nation should rise in value relative to the U.S. dollar. Such a rise means more U.S. dollars than originally contemplated would be required to purchase the goods, (or purchase the amount of foreign currency needed to pay for the goods) resulting in reduced profits or even potential losses. Buying call options on the seller's currency, in this case, can provide protection or "insurance" against the risk of a rising currency.

In return for the premium paid for a call option, the buyer can be assured that the specified currency can be purchased at the predetermined price. Yet, the holder of such an option has no obligation to purchase at the price guaranteed by the option. Instead, the opportunity to reduce the cost by spending fewer U.S. dollars for the goods is preserved should the currency decline in value relative to the U.S. dollar; the option would be allowed to expire without further consequence to its holder. The holder would then merely purchase (using USD) the amount of foreign currency needed to pay for the goods on at the current spot market rate, thereby using fewer dollars to purchase the foreign currency.

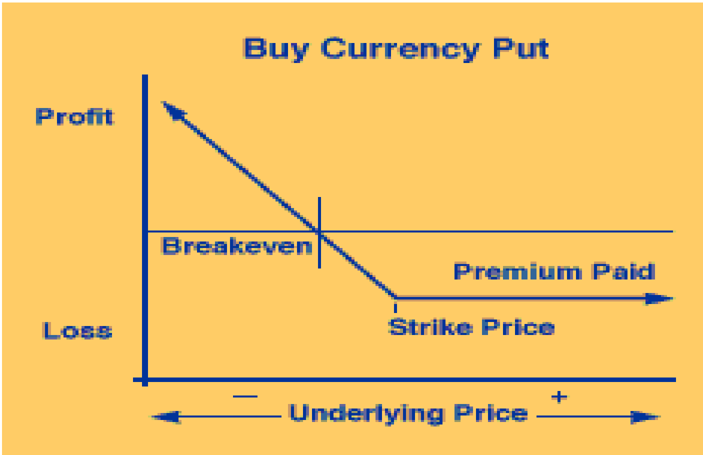
Example: In June, an American importer wishes to purchase German goods for resale. A price of 5,000,000 Euros is negotiated for delivery in September. The American importer observes that the current spot exchange rate is .9775 per Euro making the contract worth $4,887,500 U.S. Dollars. A decision is made to protect against an adverse movement of the Euro by purchasing 80 PHLX standardized EUR/USD call options (5,000,000 ÷ 62,500 Euros per contract) with a strike price of $.98 per Euro, for expiration in September. With the for premium (cost per option) at 2.25 U.S. cents per Euro, the importer would pay a total of $112,500 for the 80 standardized option contracts ($.0225 x 62,500 Euros = $1,406 per contract x 80 contracts).

In exchange for the premium, the importer is guaranteed to be able to purchase the Euros at a price of $.98, even if the Euro appreciates above $.98 before expiration. If the EURO declines in value below the exercise price of $.98 the original purchase price would actually require fewer U.S. dollars than was initially required and the option would not be exercised.



Purchasing Put Options to Protect Against a Decline in Currency Values

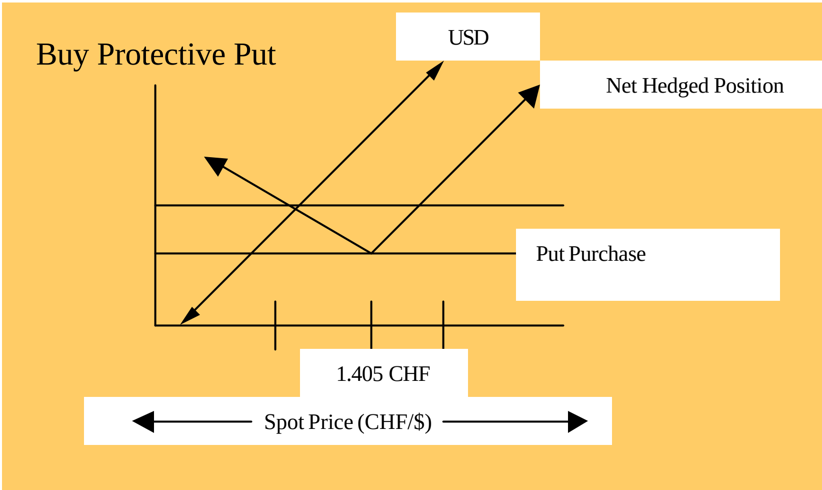
A currency put option guarantees its owner the right, but not the obligation, to sell currency at a pre-agreed exercise price within a specified time period. It follows that the option holder will realize a profit if the spot market price of the currency is below the option exercise price by an amount greater than the premium paid.



Put options can be used to protect or "insure" against currency price declines. As an example, a Swiss exporter of goods to the U.S. may well find it advantageous to purchase put options on U.S. dollars in connection with a specific sale of goods. The Swiss seller of goods will be at risk for any decline in the value of U.S. dollars relative to the Swiss Franc. Ideally, the seller would like to eliminate this risk and retain the ability to receive more Swiss Francs for the merchandise if the U.S. dollar should rise in value.

Example: During the month of December a Swiss company agrees to sell 115,000,000 Swiss Francs (CHF) worth of merchandise to an American buyer for delivery in March. At the time of the agreement, 1 U.S. dollar can be exchanged for 1.405 Swiss Francs. Thus, a contract is agreed upon to sell the goods for 81,850,534 U.S. dollars (115,000,000 CHF ÷ 1.405 CHF). In order to protect against the risk of a decline in the U.S. dollar relative to the Swiss Franc, the seller decides to purchase 1,309 ($81,850,534 ÷ CHF 62,500 per contract) December 1.400 put options on the U.S. dollar. The strike price is U.S. cents per Swiss Franc, so the Swiss manufacturer in selecting the at-the-money- put strike would look for the March 71 strike price (the 71 strike, expressed in U.S. cents per Swiss Franc is the equivalent of CHF 1.40 per USD). The premium for one put option is 1.57 U.S. cents per Swiss Franc or $981.25 per contract, for a total premium payment of $1,284,456 (CHF 62,500 per contract x .0157 x 1,309 contracts).

For the cost of the premium, the exporter is guaranteed that the 81,850,534 U.S. dollars received from the sale of merchandise can be exchanged for a minimum of 1.40 CHF per U.S. dollar, until the option expires in March. If the U.S. dollar should increase in value above the current rate the option contract would not be necessary since more Swiss Francs would be realized upon the sale of the goods thus benefiting from a favorable currency move.



Generating Additional Income from Foreign Assets - Writing Foreign Currency Call Options

Since the sale of call options results in the payment of a premium to the seller of the option, it is possible to sell call options in order to achieve a potentially attractive rate of return. Of course, since the writing of call options on currencies places an obligation on the option writer, considerable risk accompanies such a strategy.

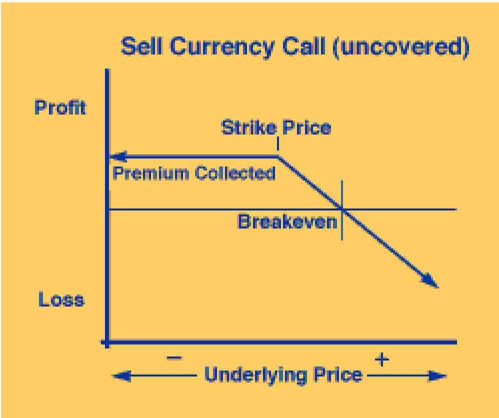
Writing calls on a currency can be done on a "covered" basis by holders of currency positions. It should be recognized that the writing of call options limits the potential gains available in the event of a sharply rising currency. This could be considered an "opportunity cost."

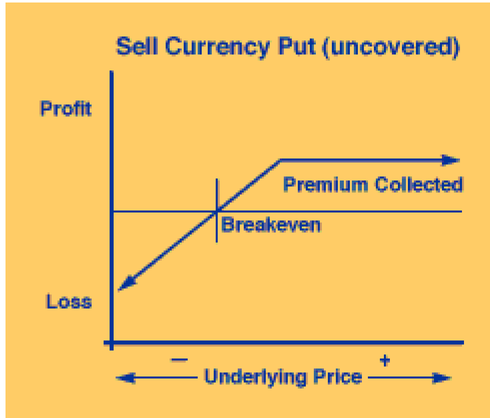
The strategy of selling call options against assets already held is called "covered" call writing. It should not be confused with the much more speculative "naked" call writing. The writer of an option is obligated, if the option is exercised, to perform according to the terms of the option contract: to deliver the required number of units of the underlying currency at the option exercise price if the option is a call, or to purchase the required number of units at the option exercise price if the option is a put.

The investor considering writing options should clearly understand that the holder of an American-style option can exercise his rights under the option at any time. Moreover, once a writer has been assigned a notice of exercise, he may no longer liquidate his option position by an offsetting purchase.

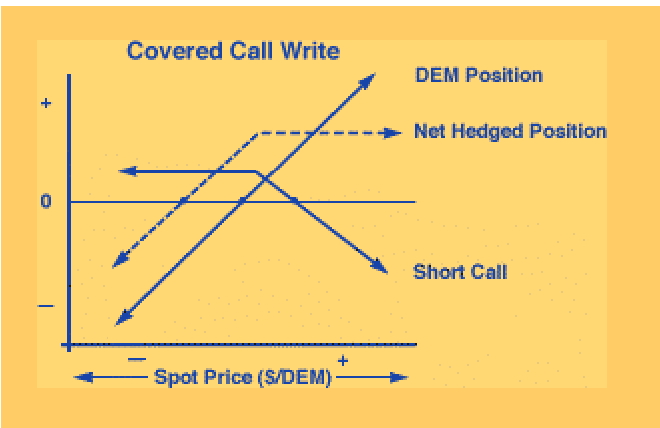
In general, covered writing strategies afford the investor additional income, as generated by the premium taken in from the sale of the call and establishes a measure of "downside protection" - a cushion against a decline in value of the underlying assets as determined by the amount of option premium which the writer receives. In exchange for these benefits (income & limited downside protection), the writer forgoes the opportunity to profit should the underlying asset increase in value beyond the exercise price of the option written.

Graphically, the risk/reward relationship of writing *uncovered* options can be depicted as follows:





Graphically, the risk/reward relationship for a typical *covered* option position can be depicted as follows



Currency Option Spread Strategies

An option position known as a "spread" is created by the purchase of one option with a given exercise and expiration, and the sale of the same class of option (a call or a put) with a different exercise price and/or expiration. Although some investors engage in complex spread trading strategies, which are not covered in these pages, a number of relatively simple spread techniques exist that can expand an investor's opportunities once the basic purpose of a spread is understood.

The purpose of a spread transaction is to establish a position in the options market that has clearly defined risk and reward parameters. A spread can be designed to match the investor's currency value expectations and tolerance for risk by selecting specific options to be bought and sold. Thus, as with other option strategies, the spread trader should have an opinion as to the probable direction of exchange rates and choose a spread position accordingly. Spread strategies are not solely for a directional outlook. There are many varieties of spread strategies, using various option instruments in differing proportions, that an investor may employ to protect against foreign exchange exposure or to capitalize on just about any forecasted market scenario.

Just as spread strategies pose a large variety of investment alternatives to the investor, there are limitless other ways options can be combined to exploit market opportunities. Straddles, strangles, combos, 3-ways, etc., are just some of the ways options can be used as flexible tools to meet the objectives of the investor. The countless strategies that can be employed using options are well beyond the scope of this introductory manual but we do encourage the reader to take advantage of the wealth of information on the subject.

Section VII. Conclusion

This booklet has been prepared to give an introduction to the basics of trading options on currencies. Numerous books and widely published research are available regarding the trading of currency options which can be useful to the interested investor. A list of relevant publications is contained in the appendix.

Section VIII. Appendix

A. Glossary

American-style option - An option that allows holders to exercise their options on any date prior to the expiration date.
Assignment - When an option writer receives notice that the holder of an option has exercised that option and obligates the writer to deliver the underlying currency in the case of a call or receive the underlying currency in the case of a put.
At-the-Money - An option whose expiration price is the same or very nearly the same as the spot price.
Base Currency - In a customized option the base currency is the currency in which the exercise prices are denominated.
Call option - An option to purchase a stated number of units of the underlying currency at a specific price per unit during a specific period of time.
Closing transaction - A transaction that liquidates or offsets an existing option position.
European-style option - An option which restricts holders from exercising their options until the expiration date.
Exercise - When a holder of an option decides to buy (in the case of a call) or sell (in the case of a put) the underlying currency at the strike price.
Exercise or Strike price - The price at which the option buyer has the right to purchase or sell the underlying currency.
Expiration date - The last day on which an option may be exercised.
Floor Broker - An Exchange member who handles and executes orders in the trading crowd on the Exchange floor.
In-the-Money - When the exercise price is below the current spot price in the case of a call or above the spot price in the case of a put.
Intrinsic value - The amount by which an option is in-the-money.
Inverse (or European) terms - An option quoted on a currency pair in the reciprocal. For example, an option on the Deutsche mark quoted in U.S. cents could be quoted in the inverse as an option on U.S.

dollars quoted in Deutsche marks.
Liquidity - The ability of a market to provide a sufficient amount of bids and offers so as to assure fair prices.
Long - Refers to a person's position as the holder of an option.
Margin - Refers to the cash or securities required to be deposited by an option writer with his brokerage firm or clearing firm as collateral for the writer's obligation to buy or sell the underlying currency.
Notice of Exercise - The notice originated by an option holder and assigned to an option writer stating that an option is being exercised.
Open interest - The number of outstanding calls or puts.
Options Clearing Corporation, The (OCC) - The OCC is the registered clearing agency of all listed equity options in the U.S. and is subject to regulation by the U.S. Securities and Exchange Commission. The OCC is rated 'AAA' by the Standard and Poor's Corporation.
Out-of-the-Money - When the exercise price is higher than the spot price in the case of a call or lower than the spot price in the case of a put.
Opening transaction - A transaction which originates an option position.
Option buyer - The party who obtains the rights, by paying a premium, that are conveyed by an option. Also known as the option holder.
Option seller - The party who is obligated to perform if an option is exercised. Also known as the option writer.
Over-the-Counter - The largely unregulated market that exists between the interbank dealers and professional traders and customers where transactions are directly negotiated between two parties.
Premium - The price of an option - the sum of money that the buyer of an option pays when purchasing an option and that the writer of an option receives when selling an option. Premiums may be quoted as units of the base currency or as a percentage of the underlying currency.
Put option - An option to sell a stated number of units of the underlying currency at a specific price per unit during a specific period of time.
Registered Options Trader (ROT) - A participant on the Exchange trading for their own or their firm's account who is responsible for making two-sided markets in response to requests. Also referred to as a market-maker.
Request for Quote (RFQ) - The submission of solicitation of a market on a customized option or options by a participant on the PHLX trading floor.
Securities and Exchange Commission (SEC) - A U.S. securities regulatory agency established by Congress to ensure the protection of investors.
Short - Refers to a person's position as the writer of an option.
Specialist - An Exchange member who trades for their firm's or their own account and is responsible for maintaining a fair and orderly market in whatever issue has been allocated to them by providing bid and ask markets for each option series. They also are responsible for orders entrusted to them for execution.
Underlying Currency - The underlying currency is the currency that is purchased in the case of a call or sold in the case of a put at the exercise price.

Types of Strategies

Calendar spread - The simultaneous sale and purchase of either calls or puts with the same strike price but different expiration months.

Spread - A strategy involving the simultaneous sale and purchase of two different series of options with different strike prices or expiration months.

Straddle - The simultaneous sale or purchase of both a call and a put with the same expiration month and with the same strike price.

Strangle - The simultaneous sale or purchase of both a call and a put with the same expiration month and different strike prices.

Vertical spread - The simultaneous sale and purchase of either calls or puts with the same expiration month but different strike prices.

Types of Orders

All or none - An order which must be filled for the full size of the order before it can be executed.

Contingent - An order whose execution depends on the performance of some other condition, either the execution of another order or at some specified level of the underlying currency.

Day order - An order which remains in effect only until executed by the end of the trading day.

Fill or kill - An order which must be executed for the full size of the order when voiced or else cancelled.

Good-till-cancelled - An order which remains in effect until it is cancelled or executed.

Immediate or cancel - An order which must be executed in whole or part when voiced or else cancelled.

Limit - An order which may be executed only at the specified limit price, or better.

Market - An order which must be executed at the prevailing best bid or offer.

Stop - An order which becomes eligible for execution as a market order when a specified price for that option is reached.

Stop limit - An order which becomes eligible for execution at a specified limit price when the stop price for that option is reached.

B. Suggested Reading

Anderson, Torben Juul. *Currency and Interest Rate Hedging.* 2nd Edition, New York Institute of Finance, 1993.

Bishop, Paul and Dixon, Don. *Foreign Exchange Handbook, Managing Risk & Opportunity in Global Currency Markets.* New York: McGraw-Hill, Inc., 1992.

Crawford, George and Sen, Bidyut. *Derivatives for Decision Makers, Strategic Management Issues.* New York: John Wiley & Sons, Inc., 1996.

Deane, Marjorie and Pringle, Robert. *The Central Banks.* Viking Press, 1999.

DeRosa, David. *Managing Foreign Exchange Risk: Advanced Strategies for Global Investors, Corporations and Financial Institutions.* Chicago: Probus Publishing Company, 1996.

DeRosa, David. *Options on Foreign Exchange.* Chicago: Probus Publishing Company, 2000.

Fitzgerald, M. Desmond. *Financial Options.* London: Euromoney Publications, 1990.

Gastineau, Gary. *Dictionary of Financial Risk Management.* Institutional Investor Publications, Probus Publishing Company, 1996.

George, Abraham M*. Foreign Exchange Management and the Multinational Corporation.* New York: Praeger, 1978.

Gitlin, Andrew, Editor. *Strategic Currency Investing.* Chicago: Probus Publishing Company, 1993.

Globecon Group Ltd. *Derivatives Engineering: A Guide to Structuring Pricing and Marketing Derivatives.* McGraw-Hill Trade, 1995.

Heywood, John. *Using the Futures, Forwards and Options Markets.* London: Adam and Charles Black, 1984.

Loosigian, Allen M. *Foreign Exchange Futures: A Guide to International Currency Trading.* Homewood, Illinois: Dow Jones Irwin, 1981.

Luca, Cornelius. *Trading in the Global Currency Markets.* New York Institute of Finance, Englewood Cliffs, New Jersey: Prentice Hall, 2000.

Mapletoft, Brian. *Effective Management of Foreign Exchange, A Corporate Treasurer's Guide.* McGraw Hill Book Company (UK) Limited, 1991.

Marki, Susan Ross. *Derivative Financial Products.* Harper Business, 1991.

McMillan, Lawrence G. *Options as a Strategic Investment.* New York: New York Institute of Finance, 2001.

Natenberg, Sheldon. *Option Volatility & Pricing: Advanced Trading Strategies and Techniques. McGraw-Hill Trade*, 1994.

Prindel, Andreas. *Foreign Exchange Risk.* New York: John Wiley & Sons, 1976.

Reynolds, Bob. *Understanding Derivatives.* London: Pitman Publishing, 1995.

Smithson, Charles, and Smith, Clifford W. Jr., and Wilford, D. Sykes. *Managing Financial Risk: A Guide to Derivative Products, Financial Engineering and Value Maximization.* McGraw-Hill Trade, 1998.

Walmsley, Julian. *The Foreign Exchange and Money Markets Guide.* New York: John Wiley & Sons, Inc. 2000.

Weisweiller, Rudi. *How the Foreign Exchange Market Works.* New York Institute of Finance, 1992.

C. Contract Specifications

1. Customized Currency Options

Currency Pairs
Any two currently approved currencies, including the U.S. dollar, may be matched for trading.* Either may represent the base or underlying currency. For example, USD/JPY(strike prices expressed in USD per JPY) or JPY/USD (strike prices expressed in JPY per USD).

Contract Size
Contract size for the currency pairs is determined by the underlying currency. Below are the sizes for the underlying currency.

AUD	GBP	CAD	EUR	JPY	MXP	CHF	USD
50,000	31,250	50,000	62,500	6,250,000	250,000	62,500	50,000

Premium
May be expressed in units of the base currency or as a percent of the underlying currency. For example, the premium of a USD/DEM contract could be expressed in U.S. cents per DEM (a quote of 1.54 = .0154 x 62,500 = $962.50), or as a percentage of Deutsche marks(a quote of 2.16% = .0216 x 62,500 = DEM 1,350).

Exercise Price
Any price level to four characters. For example, a USD/GBP option could have an exercise price of $1.543 per GBP.

Exercise Style
European-style (exercise at expiration only)

Expiration
A participant may trade a customized currency option with either a standard expiration date (termed a *"Standard-expiry Option"*) or with a customized date (termed a *"Custom-dated Option"*). Standard-expiry Options and Custom-dated Options have distinct exercise and assignment processes.

Exercise and Assignment

Standard-expiry Options conform to existing exercise and assignments practices for all standardized contracts.

Custom-dated Options follow a unique exercise and assignment process on expiration day as reflected below:

8:00 a.m. (Eastern Time) Trading ceases in expiring Custom-dated Options.

10:00 a.m. (Eastern Time) Window closes for exercise instructions in expiring Custom-dated Options. Subsequently, OCC will disseminate a preliminary indication of the percent of open interest exercised in each series. The PHLX and OCC will employ a pro-rata assignment process.

10:15 a.m. (Eastern Time) Custom-dated Options expire and final assignment notification based on a pro-rata assignment process begins.

Note: On expiration day, no new series may be created for trading which will expire that day - trades may only occur in previously established options series.

Position and Exercise Limits

Position and exercise limits are 200,000 contracts, except for MXP which is 100,000 contracts.

Minimum Transaction Size

Opening transactions may be for any amount which equals or exceeds 50 contracts (i.e., 53 is acceptable). Subsequent trades in series with open interest must be for amounts which equal or exceed 50 contracts, unless the position is being reduced or closed-out.

Price and Quote Dissemination

Request For Quotes (RFQ), quotes, and trades are disseminated as administrative text messages over the Options Price Reporting Authority (OPRA). Currently the text messages can be received via the quotation terminals of Reuters and Bloomberg:

Reuters:	UCOM/FLXA - monitor page/summary of all activity
	[swift code]/FLXA - information on underlying currency
	FLEXOPY - list of customized option terminology
Bloomberg:	NH PHL

Customer Margin

Subject to the same margin rules and requirements as the standardized currency option contracts. In addition, margin offsets may be allowed on options with the same underlying currency.

Trading Hours

2:30 a.m. to 2:30 p.m. ET, Monday through Friday.

Issuer and Guarantor
The Options Clearing Corporation (OCC).
*Note: AUD and MXP may be matched with the USD only (premiums for AUD contracts must be denominated in USD).

2. Standardized Currency Options

The PHLX also trades currency options with customizable contract terms.

	Australian Dollar	**British Pound**	**Canadian Dollar**	**Euro**	**Japanese Yen**	**Swiss Franc**
TICKER SYMBOLS (*American/European*)						
Mid-month Options	XAD/CAD	XBP/CBP	XCD/CCD	XEU/ECU* XEB/ECB**	XJY/CJY	XSF/CSF
(*Three near-term months only*)						
Half-point Strike	XAZ/CAZ	n.a/n.a.	XCD/CCD	n.a./n.a.	XJZ/CJZ	XSZ/CSZ
Alternate Symbols	XAY/CAY	XBX/CBX XBY/CBY	XCV/CCV	XEV/ECY	XJJ/CJJ XJV/CJV	XSY/CSY
Month-end Options	ADW/EDA	BPW/EPO	CDW/ECD	XEW/ECW* XEN/ECN**	JYW/EJY	SFW/ESW
Half-point Strike	AZW/EAW	n.a/n.a.	CDW/ECD	n.a./n.a.	JYZ/EJZ	SFZ/ESZ
Long-term Options						
13 to 24 Months	n.a.	n.a./YPX	n.a.	n.a.	n.a./YJY	n.a.
CONTRACT SIZE	50,000	31,250	50,000	62,500	6,250,000	62,500
POSITION & EXERCISE LIMITS	200,000	200,000	200,000	200,000	200,000	200,000
BASE CURRENCY	USD	USD	USD	USD	USD	USD
UNDERLYING CURRENCY	AUD	GBP	CAD	EURO	JPY	CHF

EXERCISE PRICE INTERVALS						
	Australian Dollar	**British Pound**	**Canadian Dollar**	**Euro**	**Japanese Yen**	**Swiss Franc**
Three Nearest Months	1¢	1¢	.5¢	1¢	.005¢	.5¢
6, 9 and 12 Months	1¢	2¢	.5¢	1¢	.01¢	1¢
Over 12 Months	n.a.	4¢	n.a.	n.a.	.02¢	n.a.
PREMIUM QUOTATIONS	Cents per unit	Cents per unit	Cents per unit	Cents per unit	Hundredths of a cent per unit	Cents per unit
MINIMUM PREMIUM CHANGE	$.(00)01 per unit = $5.00	$.(00)01 per unit = $3.125	$.(00)01 per unit = $5.00	$.(00)01 per unit = $6.25	$.(0000)01 per unit = $6.25	$.(00)01 per unit = $6.25
MARGIN	USD	USD	USD	USD	USD	USD

> Expiration month and exercise price codes

* *Even Strike Prices (i.e., 100, 102)*
** *Odd Stike Prices (i.e., 99, 101)*

Expiration Months

Mid-month Options: March, June, September and December + two near-term months
Month-end Options: Three nearest months
Long-term Options: 18 and 24 months (June and December)

Expiration Date/Last Trading Day

Providing it is a business day, otherwise the day immediately prior:
Mid-month Options: Friday before the third Wednesday of expiring month
Month-end Options: Last Friday of the month
Long-term Options: Friday before the third Wednesday of expiring month

Expiration Settlement Date

Mid-month Options: Third Thursday of expiring month, except for March, June, September, and December expirations which are the third Wednesday.
Month-end Options: Thursday following the last Friday of the month.
Long-term Options: Third Thursday of expiration month, except for March, June, September and December expirations which are the third Wednesday.

Exercise Style

Mid-month Options:

Dollar Based: American and European

Cross Rates: European

Month-end Options:

Dollar Based: American and European

Cross Rates: European

Long-term Options:

European

Trading Hours

2:30 a.m. to 2:30 p.m. Philadelphia time, Monday through Friday.

Trading hours for Canadian dollar are 7:00 a.m. to 2:30 p.m. Philadelphia time, Monday through Friday.

Issuer and Guarantor

The Options Clearing Corporation (OCC)

(1) If you are unable to obtain a listing for a strike price under the regular ticker symbols, user the alternate symbols.

(2) When a Long-term Option has only 12 months remaining until expiration, it converts to the one year European-style Mid-month Option. Also the PHLX may not have listed all Long-term Options for all currencies or all expiration months. Contact the PHLX for information on which Long-term Options are available.

(3) Changes may occur due to holidays. Please contact the PHLX for more information.