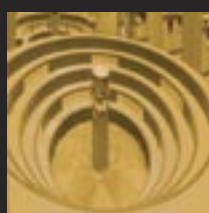


# Cocoa

## FUTURES & OPTIONS



**NEW YORK**  
BOARD OF TRADE®

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**The New York Board of Trade® (NYBOT®) provides the world's premier futures and options markets for several internationally traded agricultural commodities: cocoa, coffee, cotton, frozen concentrated orange juice (FCOJ) and sugar.**

The trading of agricultural commodities represents one of civilization's oldest commercial activities. Crop commodities, such as cotton and sugar, have been in use for around 3,000 years and became staples of the earliest trading routes. Some commodities, such as cocoa, established themselves as highly valued luxuries, sought after by many nations. Basic commodities with universal value in different cultures could be described as the first international currencies of exchange. With such a long history as a basis of commerce, it is easy to understand how the marketplace value of each commodity could play a major role in the rise and fall of empires.

The shape and scope of commodity trading has evolved since the early trading routes were established, but the role of commodity trading still remains a fundamental economic component in world economic development. The price fluctuations of a basic commodity can still shock the economy of a country or an entire region. The price of the latest yield of the citrus grove or the cocoa plantation matters a great deal on a global scale. The price of cocoa or coffee has a direct impact on the economic survival of millions of people around the world. When price becomes that important, the means of price discovery has to be reliable. **The central importance of commodity pricing gave rise to the commodity exchanges and their principal pricing tools – futures and options contracts.**

For well over a century, cotton, coffee, sugar, cocoa and citrus industry representatives have joined traders and investors in the New York Board of Trade (NYBOT) futures and options markets to engage in price discovery, price risk transfer and price dissemination for these internationally traded commodities. Each day, people from around the world look to the NYBOT markets for a benchmark price.

## **NYBOT Agricultural Market History**

While the pricing role of the NYBOT markets has remained the same, the exchanges have changed their names, merging, expanding and adding new agricultural products over the years.

- 1870** The New York Cotton Exchange (NYCE®) trades first cotton futures contracts
- 1882** Coffee Exchange of the City of New York trades first coffee futures contracts
- 1914** Coffee Exchange adds sugar futures
- 1916** Coffee Exchange becomes the New York Coffee and Sugar Exchange
- 1925** **New York Cocoa Exchange begins trading cocoa futures**
- 1966** New York Cotton Exchange adds Frozen Concentrated Orange Juice (FCOJ) futures
- 1979** **New York Coffee and Sugar merges with New York Cocoa Exchange forming the Coffee, Sugar & Cocoa Exchange, Inc. (CSCE)**
- 1982** CSCE introduces options on sugar futures, first U.S. exchange-traded commodity option
- 1984** NYCE introduces cotton options
- 1986** CSCE adds cocoa and coffee options
- 1998** CSCE and NYCE form New York Board of Trade (Board of Trade of the City of New York, Inc.)
- 2004** CSCE and NYCE become the New York Board of Trade®

*Potential users of the NYBOT Cocoa futures and options markets are encouraged to read a companion NYBOT publication entitled "Understanding Futures and Options" for an overview and explanation of the basics of these markets. More information is also available at [www.nybot.com](http://www.nybot.com) and [www.nybotlive.com](http://www.nybotlive.com).*

## THE VALUE OF COCOA – HISTORY OF A GLOBAL COMMODITY

Cocoa, like a number of “exotic” beverages and spices, was originally served as a luxury drink to the Aztec court. The Aztec King Montezuma reportedly served this new beverage to the first Spaniards to visit his court in 1519. For the Aztecs, the “chocolatl” was a “food for the gods.” The liquid was so highly prized in the Aztec empire that it was used as a kind of currency. This pivotal role in international trade established the early importance of the value of cocoa, and subsequently the complexity of pricing that commodity.

The history of cocoa demonstrates the **power of price** in the cocoa market and the importance of a marketplace to negotiate, mitigate and disseminate that price –**the cocoa futures exchange**.

When the Conquistadors brought that original bitter drink back to Spain, the Spanish royalty quickly adopted it as their own, sweetened it with cane sugar, added spices and later learned to serve the drink warm. It proved so popular that Spain developed a very lucrative trade in cocoa beans from the new colonies and, in the tradition of royal prerogatives, kept the secret of making the cocoa beverage hidden for over a hundred years.

The secret of cocoa finally reached the rest of the continent via the Spanish monks who had been charged with processing the cocoa beans. It soon became the preferred drink of the French Court and by the middle of the seventeenth century, the exotic beverage had found its way into England. In England and in other European countries, demand led to the creation of special chocolate houses that served the beverage to the aristocracy and the wealthier merchant class who could afford this hand made, high-priced product.

The first change in the luxury pricing structure of cocoa came with the introduction of the steam engine. This revolutionary invention hastened the development of the mass production of chocolate by mechanizing the cocoa grinding process, **thereby increasing supply and driving down the price**. By the early part of the eighteenth century, the price of chocolate declined to the point where the general population could afford to buy it.



The transformation of cocoa from a beverage to a solid form began in 1828 with the invention of the cocoa press when liquid cocoa butter (called liquor) could be pressed out of ground cocoa beans. **The new press led to further price reductions, increased availability and improved quality for the liquid chocolate.** The liquor could be used as a base with sugar to make chocolate candy.

## SOLID & MILK CHOCOLATE

In 1847, a revolutionary change in chocolate making brought solid eating chocolate to the marketplace in England. This new “fondant chocolate” was smoother, quickly replacing its coarse predecessor



to become the preferred chocolate. In 1878, a second major change for chocolate came in Switzerland when Daniel Peter developed milk chocolate.

The invention of milk chocolate further expanded the market for chocolate and the demand for cocoa beans. The shift from beverage to solid candy added a whole new manufacturing component to the marketing chain and made cocoa products more easily transportable, storable and consumable. The evolution of today’s rich chocolate has been a process of improvements in the grinding and pressing process for the beans and additions to the original cocoa liquid (sugar, spices, milk).

## LUXURY TO COMMODITY

Cocoa’s transition from a luxury item to a staple commodity in the world marketplace meant that **the price of cocoa** became a dominant concern for everyone in the cocoa marketing chain. As production of and demand for chocolate expanded its availability and lowered the price, pressure grew on the supply side. The geographic limitations of growing the cocoa pods and the long distance nature of the trade routes added more pressure points that could affect the price of cocoa. More elements of supply and demand unpredictability added greater pricing uncertainty.

When price risk enters the marketplace and the size of price fluctuations exceeds potential profit margins, price discovery mechanisms assume greater importance.

**Those who are affected by the price of cocoa face critical questions:**

- *Does the price truly reflect market conditions?*
- *Can any one segment of the marketing chain control the price?*
- *How reliable is the market information?*
- *Is the price going up or down in the next week? The next month? The next year?*

These questions could most successfully be answered in recognized public market places where traders gathered to deal in the physical commodities. The merchants and traders who gathered in these public arenas demanded order and continuity. They organized the trading activity around forward contracts for specific deliveries of cocoa. These forward contracts for specific amounts of a commodity scheduled for arrival at a specific time gradually evolved into the futures contract that could be bought and sold without delivery. The markets developed rules of trading and membership criteria as these public gathering places for the trade evolved into commodity exchanges where the primary activity was the trading of standardized contracts for future delivery of commodities like cocoa.

**The founding of the New York Cocoa Exchange in 1925 for the purpose of pricing and trading cocoa bean futures was a milestone in the price discovery process.** The cocoa futures contract made it possible for producers and users of cocoa (buyers and sellers) to negotiate a price for a future delivery far in advance of any actual buying or selling of the physical cocoa. The standardization of the contract in terms of delivery months and locations, as well as quantity and grade/characteristics of cocoa meant that the focus on price and not product, made price discovery possible.

**Today, the cocoa market of the New York Board of Trade is still the place where the price of cocoa is openly negotiated.** While the day's local cash market price is affected by grading factors and local costs and may differ from the futures price, the futures price in the cocoa ring of NYBOT serves as a benchmark for buyers and sellers throughout the world. To understand the characteristics of pricing cocoa it is useful to consider the unique qualities of growing cocoa.

## THE FUNDAMENTALS OF SUPPLY AND DEMAND

### GROWING COCOA (CACAO)

The cocoa tree is strictly a tropical plant, thriving only in hot, rainy climates with cultivation generally confined to areas not more than 20 degrees north or south of the equator. The cocoa tree takes four or five years after planting to yield cocoa beans and from eight to ten years to achieve maximum production. Where ideal conditions exist (a consistent balance of rainy season and plenty of sun as in Costa Rica), harvesting can be essentially continuous almost every month. Countries with more distinctly separate dry and wet seasons normally harvest twice a year (a main crop and a mid-crop).

The eight primary cocoa producing countries are Côte d'Ivoire (more than 40%), Ghana (about 15%); Indonesia (14%); Nigeria (5%); Brazil (4%); Cameroon (4%); Ecuador (3%); Malaysia (2%). Other countries produce the remaining 9%. The cocoa produced in Ghana has long been recognized as the standard for basic cocoa grade. Total annual world production in recent years has been around the 3 million metric ton mark.

A great deal of cocoa is produced on smaller farms. In Côte d'Ivoire, for example, approximately 90% of all cocoa is produced on these small farms. Large plantations do exist, however, primarily in Brazil, Ecuador and Malaysia.

Cocoa production is heavily dependent on two factors: available land (tropical rain forest) and access to labor (often migrant). While growing cocoa is not generally labor intensive, harvesting the cocoa pods does not lend itself easily to mechanization. The fruit (bean) of the cocoa tree appears as pods. When ripe, these pods are cut down and opened; the beans are removed, fermented and dried (preferably by air and sun). Each pod produces from 20 to 50 beans (approximately 400 beans are required to make one pound of chocolate). Weather conditions, disease and insects can have a major effect on annual cocoa yield. Black pod disease has become a major concern for African growers. Brazil suffered a serious setback in the 1990s when the fungus "witch's broom" damaged Brazilian cocoa production.

**Cocoa growth characteristics, therefore, are much more restrictive than cotton or sugar and are major contributors to price uncertainty.**

In addition the concentration of production in two countries (Côte d'Ivoire and Ghana = approximately 55% of world production) also means the social/political situation or labor issues can create great uncertainty in the supply of cocoa, which directly affects the price.

## **CONSUMING COCOA**

On the demand side, the developed countries with the highest incomes are the major processors and consumers of cocoa-based products. The amount of cocoa ground for use (known as the quarterly cocoa "grind") is traditionally used to measure consumption trends. Higher grind figures indicate rising demand. **The quarterly grind figures can be easily accessed through the NYBOT web site at [www.nybot.com](http://www.nybot.com).** The Netherlands has historically been a leading processor of cocoa, accounting for about 15% of the world's annual production of cocoa. The United States has nearly equaled that amount in recent years. Substitutes for cocoa butter in the manufacturing process (a very contentious issue in the industry, particularly in Europe), use of cocoa butter in non-food items such as cosmetics and changing popular tastes are also factors in the supply/demand cycle.

Consolidation at several levels of the cocoa industry, changing inventory practices, and the progress of privatization in key West African producing countries have compounded traditional uncertainties associated with cocoa pricing. **The NYBOT cocoa markets provide an evolving industry with strong risk management (hedging) capabilities.**

## **TRADING COCOA FUTURES AND OPTIONS**

The production characteristics of cocoa contribute to a long-term price cycle. In other words, it is difficult to adjust supply to demand conditions quickly. A surplus or shortage can lead to sharp price fluctuations long before the cash market can adjust the supply of cocoa. For this reason, the NYBOT cocoa futures market lists contracts for trading more than 18 months out. For example in September 2003, the Exchange was listing the July 2005 contract and trading was already taking place as far out as the May 2005 contract.

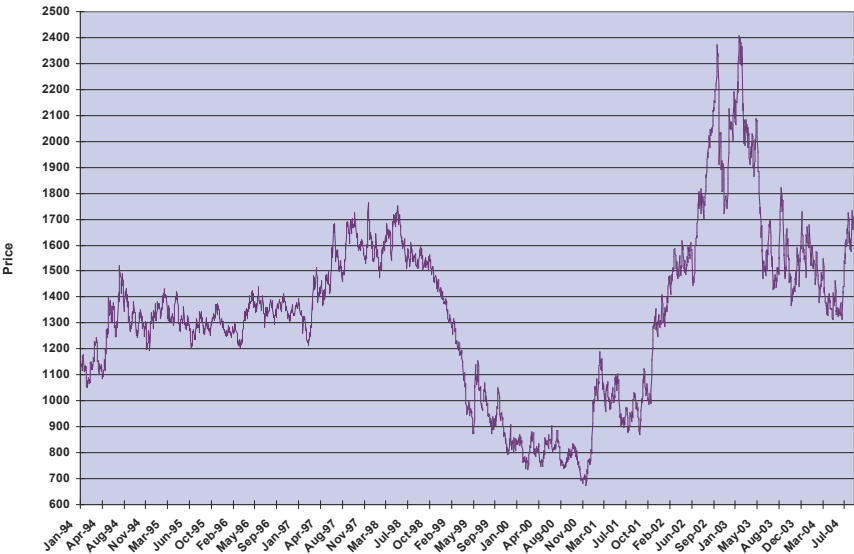


The magnitude of cocoa price changes is often greater than the size of average profit margins all along the marketing chain. For example, from December of 2001 to April of 2002, the price of the nearby Cocoa futures contract jumped more than 50%. **Losses throughout the cocoa marketing chain are generally the result of unhedged transactions.**

**Assessing the magnitude of risk and then developing and executing a risk management strategy are essential for business survival.**

Knowing the historical magnitude and frequency of price changes is a major component of risk management planning. A ten-year chart of nearby cocoa futures prices provides a clear picture of market price tendencies over the longer term.

### **NYBOT COCOA FUTURES NEARBY PRICE**



An effective risk management plan also requires a historical examination of local pricing versus the futures price to determine **basis** (the differential between the futures and local cash price). The overall market view is then combined with an analysis of costs and necessary profit margins. With the proper information in place, a manager can then consider the use of futures, options and fixed price forward contracts.

**For over 75 years, the cocoa market of the New York Board of Trade has provided the same reliable pricing functions: price discovery, price risk transfer and price dissemination.** Each day buyers and sellers meet in an open marketplace in Lower Manhattan at the World Financial Center to buy and sell cocoa futures contracts. The standardization of all the basic elements of the futures contract, including the delivery terms, allows the exchange to focus entirely on price. Traders of cocoa futures contracts are buying and selling price, not the physical commodity. And while delivery is possible under the terms of a cocoa futures market, the contracts are usually closed out before delivery can take place. Delivery is a process better suited for the physical cocoa market where the terms of delivery can be negotiated.

## THE CONTRACTS

The cocoa futures contract (CC) listed for trading at NYBOT calls for delivery of 10 metric tons of cocoa beans (22,046 lbs.). The contract is priced in dollars per metric ton and the minimum price fluctuation is one dollar per metric ton (each point value equivalent to \$10/contract). Each lot of cocoa is sampled and then graded by Exchange-licensed graders and price adjustments may be made for imperfections according to set standards. The contract permits delivery of beans from any country or climate including new or yet unknown growths as long as it meets the standards concerning defects, bean count, bean size and other basic factors. Over 40 growths are divided into three classifications: Group A, deliverable at a premium of \$160/ton (including the main crops of Ghana, Nigeria, Ivory Coast, among others); Group B, deliverable at a premium of \$80/ton (includes Bahia, Arriba, Venezuela, among others); Group C, deliverable at par (includes Sanchez, Haiti, Malaysia and all others). The Exchange designates delivery points, licenses specific warehouses and grades cocoa for delivery against the contract.

The NYBOT global cocoa market provides key services and capabilities to the entire cocoa industry. Although only a small percentage of cocoa futures contracts ever result in delivery, **The New York Board of Trade** is heavily involved in the warehousing, sampling and grading of cocoa. The NYBOT participation in the physical side of the market involves cocoa for delivery against the contract. Beginning in 1990, it used an internal electronic system – **the Commodity Operations and Processing System (COPS®)** to track the shipments of coffee and cocoa certified for Exchange delivery and their accompanying documentation.

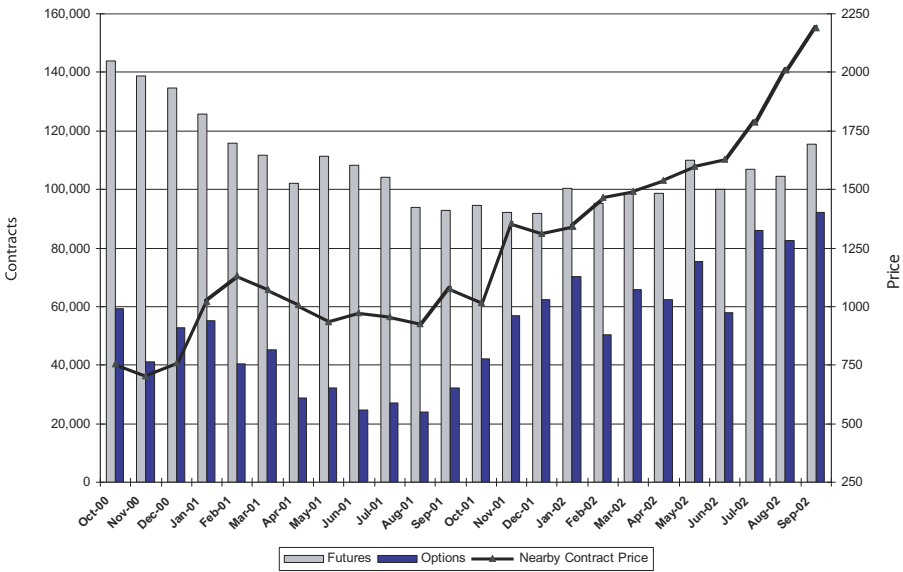
In 2003, NYBOT transformed its pioneering COPS into **eCOPS®**, an electronic system that allows transfer of all critical documentation and ownership via the Internet. As eCOPS is expanded, the cocoa industry will be able to move all labor intensive and error prone manual documentation processes to the electronic platform, providing cost savings and efficiencies for the industries. The system will handle cash market deliveries as well as exchange deliveries against the contract.

The NYBOT also provides state-of-the-art grading facilities for the cocoa and coffee industry. The facility features the services of licensed coffee and cocoa graders. Cocoa is graded by examination of the beans and evaluating their deficiencies or strengths and grading the cocoa in line with specific exchange standards. The NYBOT also provides administrative support for the Cocoa Merchants Association of America (CMAA), yet another example of NYBOT's commitment to serving the underlying industries represented in its marketplace.

In addition to the traditional futures contract, the NYBOT cocoa market also trades options on cocoa futures. Options on cocoa futures (CO) began trading in 1986 on the Coffee, Sugar & Cocoa Exchange (CSCE), one of NYBOT's predecessor exchanges. Options add great flexibility to risk management strategies. While futures allow market users to lock in a specific price, options can provide buyers with a basic price floor or ceiling, limit risk to the price of the options premium, avoid a margin commitment and preserve the ability to take advantage of favorable price moves in the cash market. Option strategies become particularly useful in periods of sharply rising or falling prices.

To illustrate, during the first nine months of 2002 when cocoa prices rose 65%, cocoa options open interest increased approximately 73% to establish a new record of 96,454. For the experienced hedger or trader, the selling of options is also a possibility. The liquidity and specialized service available in the NYBOT cocoa options market allows hedgers and speculators to design and execute custom options packages that meet a variety of business goals.

### NYBOT COCOA MONTHLY AND NEARBY CONTRACT PRICE



Risk managers can pursue a number of hedging strategies, but one of the most common practices is to offset any transaction in the cash market with an equal transaction in the cocoa futures market.

*F*or example, a cocoa dealer who needs to buy cocoa can buy a cocoa futures contract at an acceptable price, preserving a profit margin, and later pay the cash market price for the physical cocoa, regardless of what has happened to that price in the interim. The ability to lock in a price (buying or selling a futures contract) helps managers reduce the risk from sudden price changes in the cash market, while implementing a business plan based on protected profit margins. The same dealer can establish a price ceiling by purchasing a call option and still take advantage of a cash market price decline. The use of forward contracts and other fixed price agreements in the cash market can also serve risk management goals. Successful risk management plans often utilize combinations of tools and changing levels of hedging based upon individual risk tolerance, cash flow and specific market conditions.

Traditionally, candy manufacturers, cocoa importers, exporters, trade houses and producers rely on cocoa futures and options for risk management. All these market participants face price risk exposure as a result of the underlying cocoa price volatility, an essential characteristic of all successful commodity futures markets. The volatility creates the need for price discovery and price risk transfer by buyers and sellers of cocoa. That same volatility attracts traders on the speculative side of the market who are willing to assume some of the risk in exchange for investment opportunities.

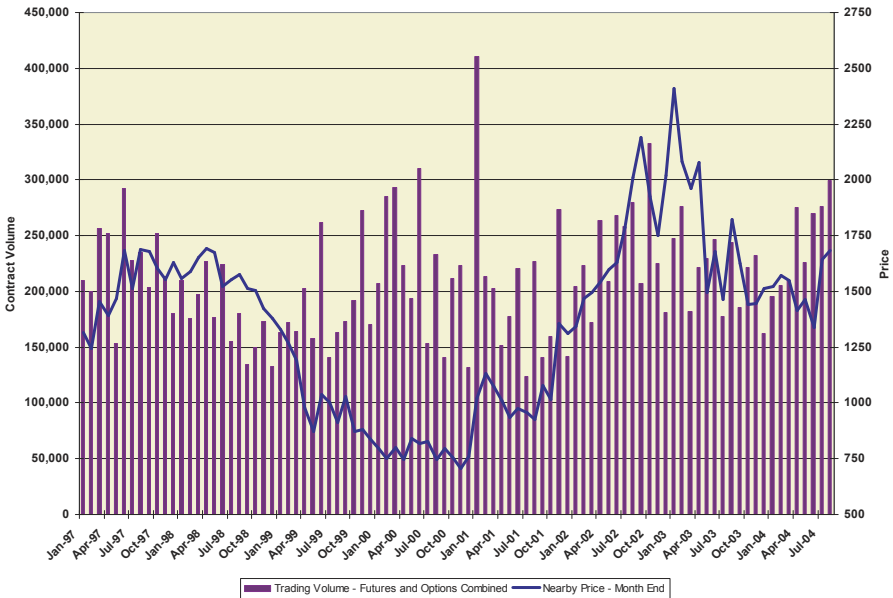
Speculators (*both short and long-term*) are a critical part of an efficient futures market. A greater number of people competing over price means greater liquidity, more efficient pricing and better trading opportunities. The presence of local traders in the trading ring (*meaning more bids to buy and offers to sell*) represents an important strength of open outcry. It is a vital source of short-term (*daily*) liquidity. Enhancing the ability to enter and exit the market easily each day adds to the effectiveness of futures for risk management. Each new bid and offer in the trading ring represents an increase in opportunities to achieve a particular price goal.



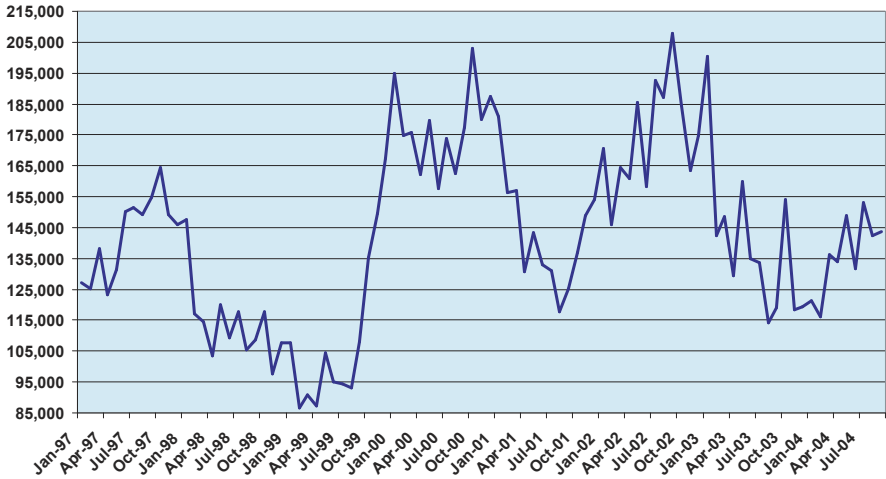
## THE MARKETS

A look at the price of the nearby futures contract over a ten-year period compared with changes in total volume of futures and options contract traded demonstrates how important the market becomes for hedgers in times of sharp price fluctuations. The open interest figure is often a good indicator of the level of cocoa hedging activity. Open interest represents the total number of open futures contracts that have not yet been offset by opposite futures transactions or fulfilled by delivery. Hedgers generally open and hold a position for a longer period of time (reflected in the open interest total), while speculators may enter and exit the market quickly sometimes within a single day (affecting volume).

### MONTHLY NYBOT COCOA TRADING VOLUME AND NEARBY PRICE



## MONTHLY NYBOT COCOA OPEN INTEREST



Note: Open Interest is Futures and Options Combined

## TRADING EXAMPLES

Trading cocoa futures and options requires a fundamental knowledge of the pricing characteristics of the underlying cash market and an understanding of the functions of futures markets. It is also useful for a new trader to become familiar with tools of technical analysis of futures markets that can help to identify market trends. All potential traders (hedgers and speculators), in conjunction with a licensed broker, should develop and follow a clear trading plan that identifies goals and measures risk tolerance. The strength of the plan and the discipline of execution are necessary components of successful futures and options trading. Understanding the risks of leveraged investments (margin commitments) and the value and use of options will help in the plan's formulation. The following examples demonstrate two basic trading scenarios.

## EXAMPLE 1

**Situation:** In January 2002 a chocolate manufacturer enters into a cash market contract to sell a quantity of chocolate, at a fixed price for delivery in August/September. He has determined his selling price (and profit margin) for the chocolate based on the current futures price of cocoa beans (\$1263/metric ton). Producing the chocolate will require approximately 50 metric tons of cocoa beans, which the manufacturer has not yet purchased. The manufacturer recognizes that his fixed-price purchase of chocolate without a corresponding ownership of the beans creates a significant risk should the price of cocoa rise before he contracts for the purchase of the cocoa beans. While he is unwilling to simply accept price risk, at the same time he is unwilling to tie up the capital necessary to buy the beans now and store them until they are needed in July.

**Strategy:** To manage this price risk, the manufacturer buys 5 July 2002 contracts (50 metric tons/10 tons per contract = 5 contracts). The July contract best approximates the time he expects to purchase the beans in the cash market. With the futures transaction, the manufacturer has locked in a buy price (1263) that protects his profit margin in the sale of his chocolate.

**1/3/02 – buy 5 July 2002 futures at 1263**

**Result:** In early July cocoa prices have risen, and the manufacturer purchased the needed beans in the cash market and simultaneously unwinds his futures hedge by selling the position back to the market:

**7/2/02 – sell 5 July 2002 futures at 1682**

The manufacturer's futures hedge strategy has generated a futures profit of \$20,950:

$$\begin{aligned} & 5 \text{ contracts} \times [(\text{sell price less buy price}) \times \$10 \text{ tick value}], \\ & \text{or } 5 \times [(1682 - 1263) \times \$10] = \$20,950 \end{aligned}$$

While the manufacturer's cash purchase price for the cocoa is higher in July than it would have been in January, the \$20,950 profit from the hedge will offset some or all of the higher cash price, thus achieving the manufacturer's goal of managing price risk by locking in an acceptable purchase price for the cocoa beans (1263) and protecting profit margins. Had the price of cocoa fallen, the corresponding futures loss would be offset by the increased cash market gain. The result would be the same, namely, protecting a profit margin based on a specific purchase price (1263)

**Alternative Strategy:** The manufacturer could have managed his price risk by purchasing Cocoa Call Options, as follows:

**1/3/02 – purchase 5 July 2002 1350  
calls at \$98/ton premium, total cost of \$4,900 ( $\$98 \times 10 \times 5$ )**

By expiration in early June, the July 2002 futures contract price has risen to 1549. The manufacturer can now exercise his options (or sell them) for a futures gain of 101 or \$5,050.

**6/02 – exercise 5 July 2002 1350 call options @ 1549  
 $1549 - 1350 - 98$  (premium) = \$101  
 $\$101 \times 10 \times 5$  contracts = \$5,050**

The futures gain can be used to reduce the manufacturer's exposure to the rise in cocoa prices. Although the futures gain with an options strategy in this scenario is not as great, the advantages of the option strategy can be seen if the price had fallen to 1000. Even with the loss of premium, the manufacturer would still be paying an effective net price for cocoa of 1098 as opposed to the 1293 with the straight futures hedge. The Options hedge provides price insurance while still leaving upside potential in a favorable cash market.

The use of futures provides hedgers with greater precision in pricing. The use of options provides greater flexibility.

## EXAMPLE 2

**Situation:** In early April, an investor believes that cocoa prices have bottomed out and are due to increase over the next several months. She sees an opportunity to establish a long position in cocoa futures.

**Strategy:** The investor decides to buy the September futures contract:

**4/2/02 – buy 2 Sep 2002 futures at 1455**

**Result:** By late July, cocoa futures prices have risen, and the investor liquidates her position by selling out the 2 lots purchased in early April:

**7/24/02 – sell 2 Sep 2002 futures at 1723**

Since each cocoa futures contract represents 10 metric tons of cocoa and since the future contract price is quoted in terms of U.S. dollars per metric ton, the investor's return from this trading strategy is a profit (before trading fees) of \$5,360, calculated as follows:

$$\begin{aligned} & 2 \text{ contracts} \times [(\text{sell price less buy price}) \times 10], \\ & \text{or } 2 \times [(1723-1455) \times 10] = \$5,360. \end{aligned}$$

In taking a long position in the futures contract, the investor accepted an unknown amount of risk from the possibility that the September futures price could decline rather than rise.

**An alternate strategy** was available that involved the purchase of call options instead of futures contracts. Using the same trading dates cited in the futures example, the investor could have executed the following strategy:

$$\begin{aligned} & 4/2/02 – \text{buy 2 Sep 2002 1500} \\ & \text{calls at } \$890 \text{ (89} \times 10) \text{ premium, total cost of } \$1,780 \text{ (890} \times 2) \\ & 7/24/02 – \text{sell 2 Sep 2002 1500} \\ & \text{calls at } \$2,240 \text{ premium, receiving } \$4,480 \\ & \text{Option return (4,480 – 1,780) = } \$2,700 \end{aligned}$$



This option strategy would have generated a return (before trading fees) of \$2,700, while taking advantage of the fact that the investor's risk was limited to the amount paid to purchase the options, or \$1,780.



**The NYBOT Cocoa Futures and Options markets** provide risk managers with a variety of strategic choices in developing an effective hedging strategy. The successful risk manager will carefully assess business goals, market conditions and available hedging tools. Each contract and capability offers different advantages to the risk manager.

**Futures hedging** provides the security of locking in a price. While it does require posting margin to maintain an open futures position, it does allow hedgers to set specific price goals. Margin represents only a small percentage of the full value of a contract and stands as a “good faith” deposit to guarantee that the hedger will be able to meet obligations on a daily basis if the market moves unfavorably.

For example, on Oct. 26 2004 the initial margin for a hedger as established by the Exchange was \$700/contract (spec = \$900). At a price of 1449, one contract was worth \$14,490 on that date. The initial margin represented less than 5% of the total value. Hedgers may be required to add more margin to keep the account at a minimum level in the case of adverse price moves. Maintenance Margin Requirements were \$700/contract on that date. The hedger also has access on a daily basis to any gains realized in a favorable market. Leveraged instruments represent risks and advantages. Margin levels are subject to change.

**Options on futures** hedging allows the establishment of a price ceiling or floor while still allowing hedgers to take advantage of favorable cash market moves. Buyers of options must pay the full premium upon purchase of the option. Loss is limited to the full amount of the premium.

*The Exchange supports other hedging capabilities as well.*

**The EFP/AA**

Some hedgers will choose to enter into an Exchange of Futures for Physicals (EFP) arrangement – also referred to in NYBOT rules as an “Against Actual” (AA). An EFP is a transaction in which a futures contract is exchanged for a cash commodity. The quantity of the cash (physical) commodity being exchanged must be approximately equivalent to the quantity covered by the futures contract. The parties to an EFP/AA must be under separate control, and the buyer (seller) of the futures transaction must be the seller (buyer) of the cash commodity. The EFP provides a standardized way for a buyer and seller of cocoa to combine the cash market transaction with the futures hedge; the agreement allows the two parties to base the cash price on the futures price.

**The EFS**

The Exchange for Swaps (EFS) consists of two related transactions – a swap transaction and a futures transaction in which a futures contract is exchanged for the swap. The swap component underlying the EFS must comply with the requirements of the Commodity Exchange Act. The quantity covered by the swap has to be approximately equivalent to the quantity covered by the futures contract. The parties to an EFS have to be under separate control, and the buyer (seller) of the futures contract has to be the seller (buyer) of the swap. An example of a swap would be contractual agreement in which two parties agree to make periodic payments to each other. Swap contracts are customized for the parties involved in the over-the-counter (OTC) market. In a commodity swap, one party typically pays a floating price for a commodity and the other pays a fixed price for that commodity. The physical commodity is not actually exchanged.

*The NYBOT markets offer important capabilities and advantages.*

**Enhanced Open Outcry:** the proven, traditional pricing strengths of open outcry trading are supported by all the convenience and technical sophistication of NYBOT's new state-of-the-art trading facility at the World Financial Center in Lower Manhattan.

**Market Integrity:** Every transaction in the NYBOT markets is subject to the traditional regulatory scrutiny that characterizes the U.S. futures and options exchanges, ensuring a fair and transparent marketplace. The historical integrity of the NYBOT cocoa market strengthens the quality and reliability of the price discovery process.

**Clearinghouse Security:** Each of the contracts traded at NYBOT is guaranteed by the New York Clearing Corporation (NYCC), the designated clearinghouse for all NYBOT markets, which represents over a century of continuous financial integrity. All market participants trade in the secure knowledge that they face no counterparty credit risk and no transaction uncertainty.

**Personalized Broker Service:** Experienced floor brokers offer personal service and competitive pricing for specialized futures and options trading. Brokers in NYBOT's cocoa options markets can design and execute simple and complex options strategies and write options to implement those strategies at very competitive prices.

**Order Processing:** Electronic Order Routing (EOR) – market users who have internet access to EOR can send orders electronically to the trading floor, where they are filled in open outcry, and then matched, cleared and confirmed electronically in real time. All EOR users can enter, change or cancel all types of orders (including complex). Users have real time trade reconciliation in the pit and/or in the booth.

**Market Information Access:** The New York Board of Trade now offers real time streaming data directly from the NYBOT trading floor and delivered over the Internet through NYBOTLive.com. Market users should visit [www.nybotlive.com](http://www.nybotlive.com) and sample the many features of NYBOT's direct data service. Market users also have access to a wide range of educational materials, market analysis and commentary through the NYBOT web site at [www.nybot.com](http://www.nybot.com).

*This brochure serves as an overview of the cocoa futures and options offered through the exchange markets of the New York Board of Trade (NYBOT). Examples and descriptions are designed to foster a better understanding of the cocoa futures and options market. The examples and descriptions are not intended to serve as investment advice and cannot be the basis for any claim. While every effort has been made to ensure accuracy of the content, the New York Board of Trade does not guarantee its accuracy, or completeness or that any particular trading result can be achieved. The New York Board of Trade cannot be held liable for errors or omissions in the content of this brochure. Futures and options trading involves risk and is not suitable for everyone. Trading on the NYBOT is governed by specific rules and regulations set forth by the Exchange. These rules are subject to change. Contact a licensed broker for additional information. For more detailed information and specifications on any of the products traded on the NYBOT, contact the Exchange or your broker.*

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