National Commodity Futures Exam

Series 3

5th Edition

Securities License Exam Manual

Financial Education

KAPLAN UNIVERSITY
SCHOOL OF PROFESSIONAL AND CONTINUING EDUCATION

At press time, this edition contains the most complete and accurate information currently available. Owing to the nature of license examinations, however, information may have been added recently to the actual test that does not appear in this edition. Please contact the publisher to verify that you have the most current edition.

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SERIES 3 LICENSE EXAM MANUAL, 5TH EDITION

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Series 3 Introduction

INTRODUCTION

Thank you for choosing this exam preparation system for your educational needs and welcome to the Series 3 License Exam Manual. This manual has applied adult learning principles to give you the tools you'll need to pass your exam on the first attempt.

Why Do I Need to Pass the Series 3 Exam?

The Commodities Futures Trading Commission (CFTC) and the National Futures Association (NFA) require any person doing futures business with the public to register with and be licensed by the NFA. You must pass the Series 3 to be qualified to register with the NFA as an associated person/registered commodity representative.

Are There Any Prerequisites?

There are no prerequisite exams to pass before sitting for the Series 3 exam.

What Is the Series 3 Exam Like?

The Series 3 examination contains 120 true/false and multiple-choice questions (about ⅓ of the questions are true/false questions). Candidates are given 2½ hours to finish the exam. Though the exam is presented to the candidate as one exam, the exam is graded in two sections—one section dealing with general industry knowledge and the other consisting of 35 questions on regulatory requirements.

What Score Must I Achieve to Pass?

A minimum score of 70% on both sections of the examination is required for passing, and candidates are required to pass both sections in the same sitting. For example, if a candidate passed the market knowledge section and failed the regulatory section, the candidate would be required to retake and pass the entire exam. Conversely, if a candidate passed the regulatory section but failed the market knowledge section, the candidate would be required to retake and pass the entire exam.

What Topics Will I See on the Exam?

The questions you will see on the Series 3 exam do not appear in any particular order. The computer is programmed to select a new, random set of questions for each exam taker according to the preset topic weighting of the exam. Each Series 3 candidate will see the same

number of questions on each topic but will see a different mix of questions. The Series 3 exam is divided into two critical function areas:

	# of Questions	% of Exam
1. Trading Theory; Terminology; Basic Functions and Hedging; Margins; Types of Orders; Customer Accounts; Analysis; Basis; Spreading; Speculating; Options–Hedging, Speculating, Spreading	85	71%
2. Regulations	35	29%

When you complete your exam, you will receive a printout that identifies your performance in each area. Remember, you must pass both sections.

PREPARING FOR THE EXAM

How Is the License Exam Manual Organized?

The License Exam Manual consists of Units. There is a Glossary that can help clarify unfamiliar terms you come across, and an Index that makes it easy to locate content within the LEM. In addition to the regular text, each Unit ends with a test. Look for unique features created to help you understand and comprehend the material. When additional emphasis is critical to your success, the following distinctions are made.

TAKE NOTE

Each Take Note provides special information designed to amplify important points.

TEST TOPIC ALERT

Each Test Topic Alert! highlights content that is likely to appear on the exam.

EXAMPLE

Examples provide practical applications that convert theory into understanding.

QUICK QUIZ

Quick Quizzes are a quick, interactive review of what you just read. These ensure you understand and retain the material.

Additional Study Resources

To accompany and supplement your License Exam Manual, your study package may contain additional study resources. Be sure to spend some time on your homepage, view the best practices video, and understand all that is available to help you study.

SecuritiesPro QBank™

Coordinating with the LEM, the SecuritiesPro™ QBank includes a large number of questions that are similar in style and content to those you will encounter on the exam. You may use it to generate tests by a specific unit or combination of units. The QBank also allows you to create Weighted Mock Exams that mimic your test. There is no limit on the number of QBank exams you can create.

One thing you should know about the SecuritiesPro™ QBank is that the answer choices are scrambled each time you take a test. If the first time you saw a specific question the correct answer was choice A, that statement might be choice D the next time. Please keep this in mind if you need to contact us regarding that question.

Practice Exam

Depending on the study package purchased, you may also have a fixed Practice Exam designed to closely replicate the true exam experience, both in terms of the degree of difficulty and topical coverage. The Practice Exam provides scores and diagnostic feedback, but you will not be given access to, or be able to obtain from Kaplan, correct answers or question explanations. The Practice Exam is a sound indicator of potential actual exam scores—the better you do on it, the more likely you are to pass your actual exam. It may be taken just once each.

Video Library

You may also have access to various topics from our video library. These short, engaging videos cover key topics from your manual. If your package includes access to our video library, please review the topics as you complete your reading assignments in the study manual.

Exam Tips and Content Updates Link

Don't forget to monitor your Exam Tips and Content Updates. When rules and regulations change or we want to share new information regarding your exam, it's posted there.

In addition, try as we may, in a text this large, errors are difficult to avoid. When we become aware of them, we acknowledge them in the Corrections tab, also located on your dashboard.

What Topics Are Covered in the Course?

The License Exam Manual consists of 7 Units, each devoted to a particular area of study that you will need to know to pass the Series 3. Each Unit is divided into study sections devoted to more specific areas with which you need to become familiar.

The Series 3 License Exam Manual addresses the following topics:

Unit	Topic
1.	Futures Trading Theory, Basic Functions, and Terminology
2.	Speculation, Hedging, and Spreading
3.	Technical and Fundamental Analysis
4.	Interest Rate, Stock Index, and Foreign Currency Futures
5.	Options on Futures
6.	Trading Futures
7.	Regulations—Part 2

How Much Time Should I Spend Studying?

Plan to spend approximately 40 to 60 hours reading the material and carefully answering the questions. Spread your study time over the four to five weeks before the date on which you are scheduled to take the Series 3 exam. Your actual time may vary depending on your reading rate, comprehension, professional background, and study environment.

What Is the Best Way to Structure My Study Time?

The following schedule is suggested to help you obtain maximum retention from your study efforts. Remember, this is a guideline only, because each individual may require more or less time to complete the steps included.

Step 1: Read a Unit and complete the Unit Test. Review rationales for all questions whether you got them right or wrong (2 to 3 hours per Unit).

Step 2: On the SecuritiesPro™ QBank, create and complete a test for each topic included under that Unit heading. For best results, select the maximum number of questions within each topic. Carefully review all rationales. Do an additional test on any topic on which you score under 60%. After completion of all topic tests, create a 50-question test comprising all Unit topics. Repeat this 50-question test until you score at least 70% (5 to 10 hours).

Do not be overly concerned with your score on the first attempt at any of these tests. Instead, take the opportunity to learn from your mistakes and increase your knowledge.

Step 3: When you have completed all the Units in the License Exam Manual and their Unit Tests, using the SecuritiesPro QBank, create and complete as many tests as necessary to achieve a score of at least 80–90% consistently. Create and complete additional topic tests as necessary to correct problem areas (10–20 hours).

Step 4: Each Online Practice Final mirrors the actual test in number of questions and subject matter coverage. Questions included in Mastery Exams are unique from all other question bank products, so you will see only new questions. Like the actual exam, you will

not see the answer key and rationale, but the detailed diagnostic breakdown will provide you with clear guidance on areas where further study is required (2 to 3 hours per Exam).

How Well Can I Expect to Do?

The exams administered by the FINRA are not easy. You must display considerable understanding and knowledge of the topics presented in this course to pass the exam and qualify for registration.

If you study diligently, complete all sections of the course, and consistently score at least 85% on the tests, you should be well prepared to pass the exam. However, it is important for you to realize that merely knowing the answers to our questions will not enable you to pass unless you understand the essence of the information behind the question.

SUCCESSFUL TEST-TAKING TIPS

Passing the exam depends not only on how well you learn the subject matter but also on how well you take exams. You can develop your test-taking skills—and improve your score—by learning the following test-taking techniques:

- Read the full question
- Avoid jumping to conclusions—watch for hedge clauses
- Interpret the unfamiliar question
- Look for key words and phrases
- Identify the intent of the question
- Memorize key points
- Use a calculator
- Avoid changing answers
- Pace yourself

Each of these pointers is explained below, including examples that show how to use them to improve your performance on the exam.

Read the Full Question

You cannot expect to answer a question correctly if you do not know what it is asking. If you see a question that seems familiar and easy, you might anticipate the answer, mark it, and move on before you finish reading it. This is a serious mistake. Be sure to read the full question before answering it. Those of you who read English precisely and with care will have an advantage over those who approach the language offhandedly.

Avoid Jumping to Conclusions—Watch for Hedge Clauses

The questions on NFA exams are often embellished with deceptive distractors as choices. To avoid being misled by seemingly obvious answers, make it a practice to read each question and each answer twice before selecting your choice. Doing so will provide you with a much better chance of doing well on the exam.

Watch out for hedge clauses embedded in the question. (Examples of hedge clauses include the terms if, not, all, none, and except.) In the case of if statements, the question can be answered correctly only by taking into account the qualifier. If you ignore the qualifier, you will not answer correctly.

Qualifiers are sometimes combined in a question. Some that you will frequently see together are all with except and none with except. In general, when a question starts with all or none and ends with except, you are looking for an answer that is opposite to what the question appears to be asking.

Interpret the Unfamiliar Question

Do not be surprised if some questions on the exam seem unfamiliar at first. If you have studied your material, you will have the information to answer all of the questions correctly. The challenge may be a matter of understanding what the question is asking.

Very often, questions present information indirectly. You may have to interpret the meaning of certain elements before you can answer the question. Be aware that the exam will approach a concept from different angles.

Look for Key Words and Phrases

Look for words that are tip-offs to the situation presented. For example, if you see the word *prospectus* in the question, you know the question is about a new issue. Sometimes a question will even supply you with the answer if you can recognize the key words it contains. Few questions provide blatant clues, but many do offer key words that can guide you to selecting the correct answer if you pay attention. Be sure to read all instructional phrases carefully.

Take time to identify the key words to answer this type of question correctly.

Identify the Intent of the Question

Many questions on NFA exams supply so much information that you lose track of what is being asked. This is often the case in story problems. Learn to separate the story from the question.

Take the time to identify what the question is asking. Of course, your ability to do so assumes you have studied sufficiently. There is no method for correctly answering questions if you don't know the material.

Memorize Key Points

Reasoning and logic will help you answer many questions, but you will have to memorize a good deal of information.

Use a Calculator

The Series 3 examination is heavily weighted with questions requiring arithmetic calculations that involve a great many fractions, including irregular fractions. You will be provided with a calulator and scratch paper by the testing center staff.

Avoid Changing Answers

If you are unsure of an answer, your first hunch is the one most likely to be correct. Do not change answers on the exam without good reason. In general, change an answer only if you:

- discover that you did not read the question correctly; or
- find new or additional helpful information in another question.

Pace Yourself

Some people will finish the exam early and some do not have time to finish all of the questions. Watch the time carefully (your time remaining will be displayed on your computer screen) and pace yourself throughout the exam.

Do not waste time by dwelling on a question if you simply do not know the answer. Make the best guess you can, mark the question for Record for Review, and return to the question if time allows. Make sure that you have time to read all of the questions so that you can record the answers you do know.

THE EXAM

How Do I Enroll in the Exam?

To obtain admission to a FINRA-administered exam, your firm must electronically apply for and pay a fee to FINRA through its Central Registration Depository, better known as the Web CRD®. To take the exam, you must make an appointment with a Prometric or Pearson VUE Testing Center as far in advance as possible to get the date you would like to sit for the exam.

You may schedule your appointment at Prometric, 24 hours a day, 7 days a week, on the Prometric secure website at www.prometric.com. You may also use www.prometric.com to reschedule or cancel your exam, locate a test center, and get a printed confirmation of your appointment. To speak with a Prometric representative by phone, please contact the Prometric Contact Center at 1-800-578-6273.

You must have your **Central Registration Depository (CRD)** number available when scheduling your exam. This unique personal identification number should be provided to you by your employing member firm. On a cautionary note, failure to show for an examination will be permanently recorded on your examination history on the Web CRD®.

What Should I Take to the Exam?

Take one form of personal identification with your signature and photograph as issued by a government agency. No personal items, food, or drinks, including coffee and water, are permitted inside the testing room. Personal items include, but are not limited to: pens, pagers, cellular phones, watches, hats, nonmedical electronic devices, outerwear, purses, and wallets. Personal items must be kept in your assigned locker or returned to your car prior to the start of your exam. As the testing vendor is not responsible for any personal items, they encourage you to bring only your identification into the Center.

Erasable note boards and pens will be provided to you upon admittance to the testing room. If you need additional note boards or pens, please alert your proctor. The note boards and pens must be returned at the end of your exam or continuing education session.

If you need a calculator for your testing session, please see the Test Center Administrator. You will be provided with a nonprogrammable, nonprinting calculator.

Additional Trial Questions

During your exam, you may see extra trial questions. These are potential exam-bank questions being tested during the course of the exam. These questions are not included in your final score and you will be allotted additional time to answer them.

Exam Results and Reports

At the end of the exam, your score will be displayed, indicating whether you passed. The testing center will print your results and affix its stamp as physical evidence of your passing.

The business day following your examination, your results will be emailed to your firm's designated principal supervising qualifications. SROs and state securities and futures commissions have access to FINRA's Web CRD® to ascertain individual qualifications. For securities broker-dealers, FINRA's BrokerCheck® will be updated and your qualifications will be available for the general public to review.

UNIT

1

Futures Trading Theory, Basic Functions, and Terminology

This Unit introduces cash, forwards, and futures markets. Futures markets provide an efficient means for commodity producers and users to exchange goods for money, hedge against the uncertainty of prices, and speculate. The ease with which goods can be bought or sold at various points on the production chain is an essential component in the supply of goods offered to consumers. ■

OBJECTIVES

When you have completed this Unit, you should be able to:

- **explain** the commodity markets;
- **describe** forward cash markets;
- **explain** normal and inverted futures markets;
- **define** basis;
- **define** margin;
- **define** the role of the Commodities Futures Trading Commission (CFTC); and
- **describe** commodity exchanges.

1. 1 COMMODITY MARKETS

The most basic commodity transaction is many thousands of years old. It is the cash transaction. In a modern cash transaction, the buyer and the seller negotiate the terms of the contract that specifies the amount and quality (grade) of the product the seller will deliver as well as the price the buyer will pay for the product. Terms of the contract further specify the time and place or spot for the delivery.

That is why the cash market is also called the **spot market**, and reflects the cash value of a specific lot of a commodity (e.g., a corn harvest) at a specific place (spot) and time (now).

Ranchers, farmers, and end users may also privately work out a price and customize a contract for a commodity in advance. This nonstandardized forwards contract is often used for hedging. Similarly, a futures contract, as the name implies, provides for the future delivery and acceptance of a commodity; however, unlike a forwards contract, it is standardized and easily used by hedgers as well as speculators. We will explore each of these in the following section.

Trading of commodity forwards and futures is rooted in cash trading.

In the early years of our country, rivers were the principal means of long-range transportation for people and commodities. Our major cities such as Chicago, New Orleans, Kansas City, Cleveland, Detroit, New York City, and more rose up along waterways. During the 19th century, the United States saw a revolution in agricultural development. We saw a massive and rapid increase in agricultural productivity and vast improvements in farm technology. Pricing commodities became increasingly challenging, and farmers and ranchers were subject to wild price swings and all the accompanying problems associated with unstable revenue. Without any "forward" means of establishing prices, the price structure was cyclical appearing as a wave (graphically), where production was highest during harvest time with prices correspondingly low.

As the months progressed and time grew further away from harvest, the supplies started to diminish, although there was still stable demand, and the prices started to rise. So, we had a curve, with low prices at harvest time and high prices months thereafter. This method of commodity pricing was not very functional—as neither the farmer nor the processor could reasonably establish their prices—because they were constantly on opposite sides of the pricing structure.

In addition to the commodity pricing being dependent on the time of the year, prices were dependent upon outside influences, such as weather, insects, and politics as well.

Necessity being the mother of invention, in an attempt to lessen pricing risks, the notion of cash forward contracts was borrowed in a fashion from the Dutch and Japanese who were early pioneers in forwards and futures contracts.

In a privately negotiated transaction, the farmer and the user would reach an agreement for the user to purchase all, or part, of the farmer's crop at a prearranged price when harvested. These cash-forward contracts provided a means in which the producer (farmer) was able to sell his product (crop) for a specified price for delivery at a later time. The time periods involved were usually fairly short.

This "predetermination" of price allowed the buyer and seller to negotiate based upon the fact that they would finally have some knowledge of the price they would pay or receive and the timetable involved.

Forwards were and remain a useful financial tool; however, liquidity remains a problem. Once entered into, there was no legal way to get out of it. The need for liquidity was based not only upon the current "cash" commodity price changing but also upon the particular problems of the buyer or the seller. Here is a list of certain limitations in the cash-forward contract market:

- Little to no liquidity of the contracts
- Lack of integrity upon the part of both the buyer and the seller

- No checking (standardization) of grades
- No regulations as to pricing, in many cases, due to no price competition
- No delivery (defaults)—no money from buyer or crop from seller
- No specified rules of conduct regarding these cash forward contracts

This led to the realization that there had to be a better way. Futures contract markets developed.

When an investor purchases corporate stock it is purchasing a share, a part, of a company, which grants certain benefits of ownership such as voting rights and dividends (if any). Whereas purchasers of bonds are lending their money to a company or government. By contrast, a futures contract is an agreement between two parties that commits (obligates) one to sell and the other to buy a specified amount and grade of a particular commodity at a specific price on, or before, a specific date in the future. The modern futures markets also provide contracts to hedge and speculate in a wide variety of financial products as well, such as stock index futures, currencies, and interest rates. Over the years, some popular futures contracts have lost their usefulness or desirability and are no long traded, such as pork bellies.

Further, in order to alleviate the problems of the cash-forward contracts but still retain the general concept of forward pricing (a buyer and/or seller "hedging" their price), the decision was reached to conduct all "forward" or "future" business on an organized exchange. This exchange would provide a location in which all "futures" business would be conducted with specific rules and guidelines designed to alleviate the cash-forward problems previously mentioned.

In 1848, the first of these "commodity futures exchanges" was formed, the Chicago Board of Trade (CBOT). The futures contract had to address and solve the previously mentioned major problems of the cash forward contracts. These problems, stated in a different form, were threefold. A valid futures contract had to have:

- public price disclosure,
- standard specifications, and
- guaranteed performance.

Contracts with these characteristics could alleviate the cash forward limitations. The CBOT set in place rules for commodity futures trading. Among other things, the exchange demanded public price disclosure by means of an open outcry of all prices.

There would be no collusion between sellers regarding false price statements or price fixing. There would be standardized specifications for the futures contracts.

No longer would the buyer be unaware of the quality or exact quantity of the commodity he was to receive. Delivery dates were firmly set, as was the location of delivery. The seller could no longer renege on the contract because the "crop wasn't ready." Among other things, standardization meant liquidity to the futures market. All relevant factors regarding the contract were known and standard, not subject to whims of buyers or sellers.

1. 1. 1 CASH MARKET

The **cash market** for commodities is the marketplace with which people are most familiar.

EXAMPLE

A shopper who buys frozen pizza at the grocery store engages in a cash market transaction. A government bond trader selling U.S. Treasury bonds to a bank makes a cash market transaction.

Commodity cash markets may be local or global.

TAKE NOTE

"Spot price" is the price of a commodity for immediate delivery.

1. 1. 1. 1 Negotiated Trading

A **cash trade** involves the immediate exchange of ownership of a commodity or good for an agreed-upon amount of money. Cash trading, also called **actuals** or **physical trading**, is typically a privately negotiated agreement between a buyer and a seller to deliver a specified quantity and quality of a good at a time and place to which both parties have agreed.

The price, grade, and delivery point for the commodity is established when the transaction occurs.

1. 1. 1. 1. 1 Participants

Commodity cash market **participants** include individuals and businesses that produce, warehouse, distribute, process, and consume basic commodities, such as grains, minerals, fossil fuels, and livestock.

1. 1. 1. 1. 2 Economic Efficiency

The evolution of the various commodity cash markets responds to the need of businesses to channel the flow of goods efficiently.

The following table (*Cash Market Participants*) illustrates the commodity cash markets and relationships and participants for selected markets.

1. 1. 1. 2 Commodity Producers

Commodity producers, such as gasoline refiners, seek the best (highest) price for what they produce, and buyers try to buy raw goods such as crude oil at the lowest possible price. **Middlemen** (such as grain elevators, importers and exporters, processors, and distributors) also try to buy commodities at low prices from producers and sell them for higher prices.

EXAMPLE

A chocolate bar producer tries to buy cocoa and sugar at a low price and sell its chocolate bars for a high price.

A significant risk of the cash market for commodity producers and users is that cash prices may change dramatically by the time they enter into a spot market transaction.

Although some cash markets operate globally, most are local. Cattle markets, for instance, are typically local businesses with a small number of buyers and sellers. Local markets have fewer participants, offer relatively little liquidity, and react to local supply and demand.

Cash Market Participants

	Agriculture (e.g., wheat)	Livestock (e.g., cattle)	Mining (e.g., copper)	Fossil Fuel (e.g., crude oil)
Producers	Family and corporate farms	Breeders and ranchers	Commercial mining companies	Foreign and domestic oil producers
Middlemen	Elevator operators and grain merchants	Feedlot operators and independent buyers	Copper fabricators and industrial supply houses	Importers, exporters, and pipeline operators
Primary Users	Millers and food supply distributors	Slaughterhouses and meat packers	Electrical wire and motor builders	Oil refineries
Down-Stream Users	Bakeries, food companies, and retailers	Meat product preparers and canned and frozen food manufacturers	Automakers and consumer goods manufacturers	Oil marketing companies and independent retailers

1. 1. 2 FORWARD CONTRACTS DEFINITION

Forward contracts, like cash contracts, are a direct commitment negotiated between one buyer and one seller and if traded, the transaction would take place OTC (over-the-counter) and deemed illiquid. A forward contract is nonstandardized in that the contract terms and provisions are defined only by the parties to the contract, with no third-party intervention or true-ups. The person selling forward is obligated to make delivery; the person buying forward is obligated to take delivery at a set future date. There is a risk that either party may ultimately renege. Because of this counterparty risk, a forward contract price may include a premium.

EXAMPLE

Although a standardized E-mini copper futures contract is set at 12,500 pounds, a forward contract may be for ANY weight, price, and maturity depending on the exact need. As time passes, the underlying copper price changes and the value of the contract changes. It may be negative or positive depending on the position.

1. 1. 3 FORWARD CASH CONTRACTS

Forward contracts were developed as a means for commodity users and producers to arrange for the exchange of the commodity at a time agreeable to both. Used in Europe as early as the Middle Ages, forward contracts evolved to eliminate the problem of finding a buyer or seller for an upcoming cash market transaction. They also reduce the price risk inherent in changing supply and demand relationships.

A forward contract is a direct commitment between one buyer and one seller. The **forward seller** is obligated to make delivery; the **forward buyer** is obligated to take delivery.

A forward contract is nonstandardized. Its unique terms are defined solely by the contract parties, without third-party intervention. This arrangement ensures a ready market or supply source because it presumes delivery.

Because forward contracts are direct obligations between a specific buyer and seller (the user and producer), they are not easily transferred and are considered illiquid. Further, each party risks the credit and trustworthiness of the other.

1. 1. 3. 1 Elements of a Forward Contract

The five components of a typical forward contract are:

- **quantity** of the commodity;
- **quality** of the commodity;
- **time** of delivery;
- **place** for delivery; and
- **price** to be paid at delivery.

Although the price for the commodity may be set when the forward contract is initiated, the agreed-upon price may be the cash market price on the delivery date, thus subjecting both parties to price risk.

EXAMPLE

The figure below shows a typical **specification sheet**, a buy order that sets out the terms of a forward cash transaction. In this example, the commercial buyer (a purchasing representative for a flour miller in Mississippi) needs to buy 50,000 bushels (bu) of #2 soft wheat to be milled into biscuit and cake flour.

Specification Sheet

MISSISSIPPI FLOUR MILLS, INC.

Cash Grain Purchase Order

Order # 758-22 **Date** 10/04/2016

Quantity 50,000 bu

Quality #2 soft red wheat

Price $7.15 per bu or better

Time To arrive, 60-day delivery

Place At track siding, Memphis mill

Remarks and additional specs:

To fill milling needs for Catherine's Kitchen Cakes, contract #0897-88 For 1,600,000 lbs cake flour @ $21/cwt for $336,000 FIRM (1,600,000 lbs flour/32 lbs bu = 50,000 bu #2 soft red wheat)

Authorization *Helen Cooper*

1. 1. 4 FORWARDS LIMITATIONS

There are a number of challenges with forwards contracts. For example, a rancher and its storage provider must check each other's creditworthiness. Furthermore, because forwards contracts are unregulated, there is an increased chance that one of the parties would not or could not complete the exchange, necessitating the counterparty to take legal action. This sort of liquidity problem can happen when the party contracting to sell an asset does not own that asset at the time the deal is made. The plan would be to buy the commodity just before the exchange in hopes that the price drops in order to make an immediate profit.

1. 1. 5 FUTURES EXCHANGES

Before going any further, it is important that we mention that in the United States, futures contracts trade on commodity futures exchanges registered with the **Commodity Futures Trading Commission (CFTC)**. Although all commodity markets are linked, an exchange provides a location for trading specific futures contracts. You should also keep in mind that clearing houses serve as a go-between for buyers and sellers, ultimately guaranteeing the performance of both sides of the transaction and eliminating the risk that the buyer or seller will renege on the obligation. We will discuss clearing houses further on in this unit.

1. 1. 6 COMMODITY FUTURES MARKET

There are essentially two major groups in the futures markets: hedgers and speculators. Futures may be very helpful to both. Trading in commodity futures helps solve the problems of price risk associated with cash transactions and liquidity and credit quality risks normally associated with forwards. Commodity futures markets are more liquid because assets can easily be converted to cash. As previously mentioned, commodities futures are standardized contracts that can be bought or sold. Futures may be used as a risk management, hedging tool for businesses involved in producing, processing, or distributing a physical commodity (an actual). Hedging is defined as the purchase or sale of a futures or option contract as a temporary substitute for a cash transaction to be made at a later date.

A hedger is a person participating in the physical commodity who also holds positions in futures and/or options in order to be protected from the risk of unfavorable price movements. Hedgers include farmers, ranchers, producers, exporters, and importers because, to state it again in a different way, they trade in the commodity or product underlying the futures contract they may use to hedge.

The futures market is also for speculators seeking rewards that may come from assuming risks that naturally fall on soybean farmers, lumbermen, orange juice producers, and so forth. Someone who believes that he can correctly forecast the price movement of a particular commodity can establish a position in an attempt to profit from that price move. For example, establishing a long position if prices are expected to increase. In which case, a forecaster could later sell the contract for a higher price and make a profit. Due to the considerable leverage involved, these profits can be significant. However, since this person has no need for the underlying commodity, this is referred to as speculation.

The futures market could not function as well as it does without speculators. Their activity in the market helps provide liquidity due to the number of bids and offers available. This also lessens price volatility because the number of traders minimizes price fluctuations. This also facilitates the execution of large orders.

TAKE NOTE

Keep in mind, do in the futures market today whatever you will be doing in the cash market in your normal course of business later.

1. 1. 6. 1 Futures Trades Versus Cash Trades

A futures trade differs from a cash trade in several important ways.

- The futures trade is not negotiated between the individual buyer and seller originating the trade.
- The futures trade specifies a grade and amount of a commodity. The contract specifies a range of acceptable grades, so another grade may be delivered at a discount or a premium to the agreed-upon price as long as it falls within an acceptable range (usually for grains).
- The commodity must be delivered from locations and at times conforming to exchange rules.

Futures trading occurs on a CFTC-designated contract market with trading facilities (typically, a trading floor). A **contract market** is the specific exchange where the particular commodity futures contract is traded.

1. 1. 6. 2 Exchange Regulated

Futures trading is regulated by the exchange where trading occurs. Participants include parties involved with the actual commodity (producers and users) and investors speculating on the commodity's future price.

1. 1. 6. 3 Liquidity

Active trading increases market **liquidity**, which is the ease with which a position can be converted to cash. Increased liquidity has the effect of reducing price volatility, thus reducing the magnitude of price changes.

1. 1. 6. 4 Market Efficiencies

Efficient risk transfer and competitive pricing depend on the number of participants—the more buyers and sellers involved, the more efficient the market. Efficient markets typically reduce price volatility and increase liquidity.

If markets are efficient at processing information, today's futures prices reasonably estimate tomorrow's cash market prices. This allows businesses to budget and plan effectively.

TAKE NOTE

Long:	**Short:**
Act of buying; position owned.	Act of selling something not owned; position sold but have not purchased.

1. 1. 6. 5 Futures Contracts

Futures contracts are **exchange-traded obligations**. The buyer or seller is contingently responsible for the full value of the contract.

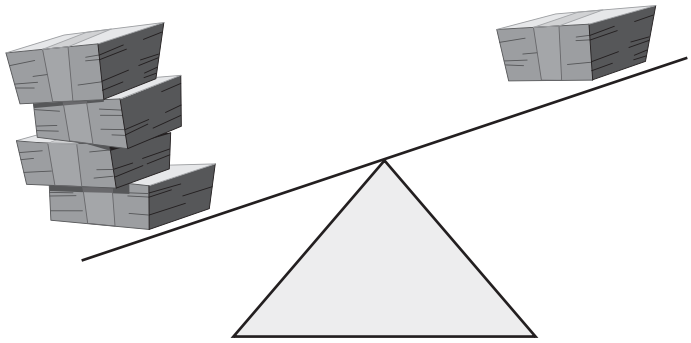
A buyer **goes long**, or establishes a long position, and is obligated to take delivery of the commodity on the future date specified.

A seller **goes short**, or establishes a short position, and is obligated to deliver the commodity on the specified future date. If the seller does not own the commodity, his potential loss is unlimited because he has promised delivery and must pay any price to acquire the commodity to deliver.

As prices change, gains or losses are computed daily for all open futures positions on the basis of each day's settlement price. Gains are credited, and losses are debited for each open position, long or short. All accounts for firms and traders must be settled before the opening of trading on the next trading day.

Buyers and sellers benefit from organizations that act as **clearing houses** for the contracts. Clearing houses enable futures positions to be **offset** easily prior to delivery. To offset, close, or liquidate a futures position before delivery, an investor must complete a transaction opposite to the trade that initiated (opened) the futures position. The offsetting transaction must occur in the same commodity, for the same delivery month, and on the same exchange. About 98% of futures contracts are offset before delivery.

Futures may be highly leveraged, that is, controlling large amounts of cash commodities with a comparatively small amount of capital.



TAKE NOTE

A long position in a futures contract is an **obligation** in the future—not an option in the future.

EXAMPLE

An investor that initiates a position by buying December wheat offsets, or closes, the position by selling December wheat.

TAKE NOTE

The last trading day is the day that the commodity or the option trades, as established by exchange rules. It is, therefore, the last day the contract may be offset by

means of entering closing orders. Any short futures contract not offset by the end of the last trading day must be settled by delivery; any long futures contract not offset by the end of the last trading day must be settled by acceptance of the commodity.

1. 1. 6. 6 Futures Contract Specifications

The exchange on which a futures contract is traded (designated contract market) establishes uniform contract specifications—making all contracts for a given commodity interchangeable.

EXAMPLE Any December wheat contract on the Chicago Mercantile Exchange (CME) is interchangeable.

Typically, there are four standardized parts to an exchange-traded futures contract:

- **Quantity** of the commodity (e.g., 5,000 bu corn or 100 oz gold)
- **Quality** of the commodity (specific grade [basis grade] or range of grades may be acceptable for delivery, including price adjustments for different deliverable grades); a lower quality commodity delivered will discount the price and a commodity delivered higher in quality over the basis grade will generate a premium price—exchanges set the grades that are eligible substitutes
- **Time** for delivery (e.g., December wheat to be delivered)
- **Location** (approved for delivery)

Trading hours for futures and options contracts are also specified by the designated contract market (DCM) or exchange, such as open outcry from 7:20 am to 2:00 pm CT for CBOT-regulated Ultra T-Bond options.

TEST TOPIC ALERT Although price is not standardized in a futures contract (it is determined between buyers and sellers), the exchange will specify a minimum incremental price movement (known as a **tick**) as well as the maximum price movement permitted in one day's trading (price limit).

Commodity Classification. A given futures contract specifies a range of acceptable delivery grades, assuming the base grade when pricing futures, and allows quality adjustments to the settlement price for delivery of other acceptable grades. The buyer pays the seller a premium for better than the base grade and a discount for an acceptable, but poorer, grade.

TAKE NOTE

Quality adjustments may not be made for soybean oil deliveries. Only one standard grade of soybean oil is eligible for delivery, and the grade must be acceptable following inspection by a member of the American Oil Chemists Society. The standard grade may also be called the basis grade. These grades are enforced by specific exchanges that standardize and enforce terms and conditions of all commodity futures contracts traded there.

The following table lists some of the most commonly traded Globex commodity futures and the contract size.

	Commodity	Futures Contract Size
Grains and Oilseeds	Wheat	5,000 bu
	Corn	5,000 bu
	Soybeans	5,000 bu
	Soybean meal	100 short tons
	Soybean oil	60,000 lb
Livestock and Meat	Cattle (feeder)	50,000 lb
	Cattle (live)	40,000 lb
	Hogs (lean)	40,000 lb
Food and Fiber	Cocoa*	10 metric tons
	Coffee*	37,500 lb
	Sugar*	112,000 lb
	Cotton	50,000 lb
	Orange Juice*	15,000 lb
	Milk (Class III)**	200,000 lb
Metals and Petroleum	Copper	25,000 lb
	Gold	100 troy oz
	Silver	5,000 troy oz
	Crude oil (light sweet)	1,000 bbl
	Heating oil	42,000 gal
	Gasoline	42,000 gal
Interest Rates	Treasury bonds	$100,000
	Treasury notes	$100,000
	Treasury bills	$1,000,000

* Cocoa, coffee, OJ, and sugar are often referred to as "softs." Cotton isn't food but is often grouped with softs because it trades on the same exchange.
** Class III milk is used principally for the production of cheese.

TEST TOPIC ALERT

The exam will provide the contract sizes. However, you may be required to make some simple calculations. Calculate the dollar value of a "point" in a particular commodity. Usually, you just have to move the decimal over two places to the left to determine the value of a single point. For example, if corn is up +2.50, then it made a total dollar price change of +$125 (2.5 x $50 = $125).

QUICK QUIZ 1.A

1. A futures contract is legally binding, but it does not always require the original buyer or seller to take or make delivery.
   A. True
   B. False
2. Forward contracts differ from futures contracts in that
   A. they are nonstandardized
   B. they are not regulated by the CFTC
   C. their prices are not set in a competitive market
   D. all of the above
3. To offset a long futures position, a trader must
   A. liquidate the purchase of a (long) futures contract by selling an equal number of contracts of the same delivery month on the same exchange
   B. liquidate the purchase of a (long) futures contract by selling an equal number of contracts of the same delivery month on any exchange
   C. recognize that only short positions can be offset
   D. never transfer the obligation to others
4. The efficiency of a futures market is primarily determined by the
   A. number of active traders
   B. leadership skills of exchange officials
   C. availability of cash supplies
   D. required margin amounts
5. The price of a futures contract is determined by
   A. the NFA
   B. the CFTC
   C. prearranged agreements between the floor brokers
   D. open bids and offers on the exchange
6. Hedging is using a futures contract (or a futures option) to reduce risk that you normally would have in relation to a particular commodity.
   A. True
   B. False
7. Hedging is making money in the futures contract to offset what you are losing in what you own or will acquire.
   A. True
   B. False
8. A futures contract is a legally binding agreement between a seller and buyer enforcing the delivery of a specified commodity, index, currency, or underlying instrument.
   A. True
   B. False
9. A buyer of a futures contract is called
   A. hedging
   B. speculating
   C. long
   D. short

10. Size, grades, and delivery locations of futures contracts are set by
    A. the NFA
    B. the CFTC
    C. the U.S. Department of Agriculture
    D. the exchange where the contract is traded

Quick Quiz answers can be found at the end of the Unit.

Use the following values from the previous table to answer the question below.

Sugar is $1,120 per point

Lean hogs is $400 per point

Corn is $50 per point (5,000 bu; move over 2 decimal places)

What are the dollar values of the following commodities?

A. Sugar at 7.22
B. Lean hogs at 62.35
C. Corn at 179.25
D. Sugar down .65

Answers:

A. $8,086.40
B. $24,940
C. $8,962.50
D. $-728

1. 1. 7 BASIS

The key to using commodity futures effectively is basis. Basis is used to ascertain the best time to buy or sell, when to hedge, or the futures month in which to place a hedge and more. Basis is the price difference between the local cash price of a commodity and the price of a specific futures contract of the same commodity at any given time.

Although basis compares two prices that usually move in the same direction, the two prices do not often move by the same amount.

Local cash price:	$3.00
January futures price:	–$3.15
Basis in January:	–$.15

Here, the cash price is $.15 lower than ("under") the January futures price. In the day-to-day speech of futures trading, you could simply say, "the basis is 15 under January." Conversely, if the local cash price was $.15 higher, the basis would be 15 over January. The basis calculation is deceptively simple:

Basis = cash – futures

Basis is often a negative number because of certain costs, such as the cost of carrying or storing physical commodities. Keep in mind that carrying charges only apply to commodities that are storable and deliverable, such as wheat, corn, cotton, coffee, gold, and copper.

Commodities that are not storable and do not have carrying charges include live hogs and live or feeder cattle. Other commodities, such as sugar or foreign currencies, do not fall neatly into a specific category and must be investigated individually and are not testable. In normal market conditions, cash prices on actuals are lower than nearby futures prices.

EXAMPLE

The following is an example of a question you might see on the exam.

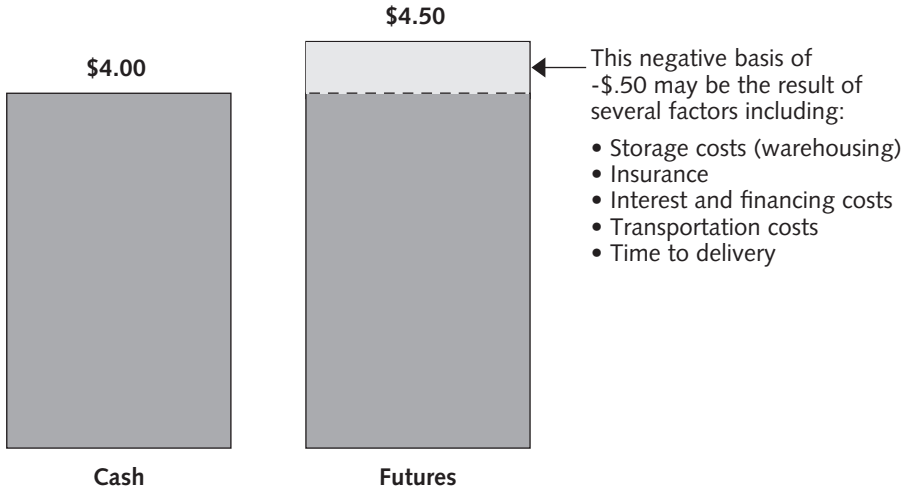
In which of the following circumstances are carrying charges not important?

A. Copper
B. Live hogs
C. Cotton
D. Sugar

Answer: B. The easiest way to determine this answer is to notice that only one of these choices is "alive." Hogs and cattle are not stored; they are raised.

With the approach of delivery on the futures, the price difference between cash and futures often decreases, or **converges**.

Graphical Representation of Negative Basis in a Normal Market



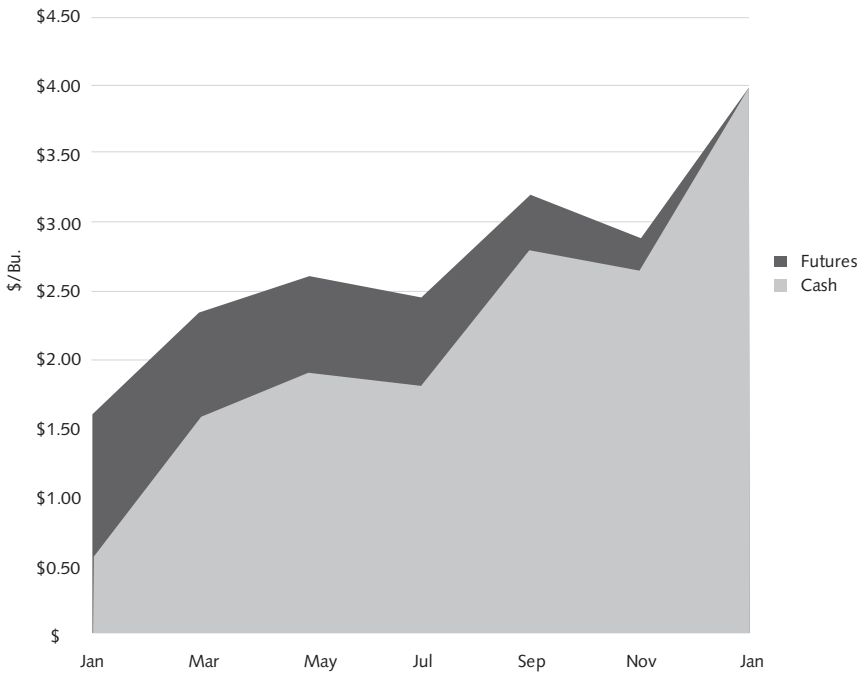
TAKE NOTE

The largest portion of the carrying charges is the financing costs. It is always assumed that the money necessary to buy and hold the cash commodity is borrowed. Even if the money is not borrowed, there is a cost to use it, as the user loses the opportunity to use the money in other investments. The borrowing cost used when calculating carrying charges is the prime rate.

TEST TOPIC ALERT

Convergence. Cash prices and futures prices tend to converge and are equal (basis of 0) at expiration of the futures contract.

Normal Market: Cash "Under" Futures—Strengthening Basis Toward Convergence



The space between the futures and cash lines is the basis. Basis converges to zero over time.

TAKE NOTE

A negative basis is also referred to as "cash under futures," which points to cash prices that are below the futures. A positive basis is referred to by many as "cash over futures."

1. 1. 7. 1 Strengthening Basis

A **strengthening basis** occurs when the cash market prices increases relative to the futures prices. In other words, the difference between cash and futures prices narrows, as seen in the following example.

EXAMPLE

Strengthening Basis

	Cash	–	Apr Corn Futures	= Basis
Mar 1	$4.20	–	$4.70	= –$.50
Mar 15	$4.55	–	$4.95	= –$.40
Apr 1	$4.50	–	$4.80	= –$.30

In the example above, we can see that basis can strengthen regardless of prices moving higher or lower.

A strengthening basis benefits the short hedger (a selling hedge). A **short hedger** is someone who owns or deals in a commodity and hedges (protects) its future sale price by selling futures. In other words, a short hedger is long the spot and short the futures. We will discuss hedging further in the next Unit.

TAKE NOTE

Think of basis as temperature on a thermometer: if the temperature goes from 10 below zero to zero, it has gone up (strengthened) by 10 degrees; if the temperature goes from 30 above zero to 20, it has gone down (weakened) by 10 degrees.

1. 1. 7. 2 Weakening Basis

A **weakening basis** occurs when either cash market prices increase more slowly than futures prices or cash prices decrease more quickly than the futures prices. In other words, the basis becomes more negative or less positive.

A weakening basis benefits a long hedger (a buying hedge). A **long hedger** is someone who will need to buy a commodity in the future and hedges (protects) its future cost by buying futures. In other words, a long hedge is short the spot and long the futures.

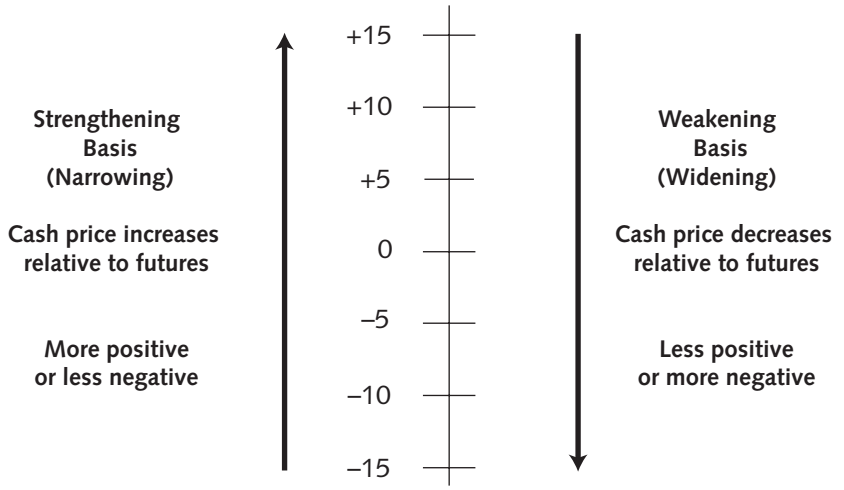
EXAMPLE

Weakening Basis

	Cash	–	Apr Corn Futures	= Basis
Mar 1	$4.60	–	$4.25	= +$.35
Mar 15	$4.45	–	$4.20	= +$.25
Apr 1	$4.55	–	$4.35	= +$.20

In the example above we can see that basis can weaken regardless of prices moving higher or lower.

The figure below illustrates a strengthening and weakening basis.



In summary, basis can increase due to an increase in spot price and/or a decrease in futures price, or futures increasing less than the spot, or futures decreasing more than spot.

1. 1. 7. 3 Other Types of Basis

Although strengthening basis and weakening basis are the key elements in understanding and using basis, country basis, and premium basis are also frequently used terms.

Country Basis. Country basis, or **local basis**, is used in the grain markets. It refers to the local cash market price compared with the nearby futures price (nearby month).

Compared with nearby futures, after adjustments for transportation and handling costs from the local markets to a terminal market (e.g., Chicago), local market prices can be tested for fairness.

Premium Basis. Premium basis refers to an inverted market in which the cash prices are higher than distant futures contracts.

TAKE NOTE

Futures contracts are not available for all commodities. For example, sorghum is a very useful and widely used commodity. Farmers wishing to calculate the basis for it could use the price of corn futures instead to calculate the basis for sorghum because they are related crops.

EXAMPLE

Local cash price	$3.00
Jan futures price	–$3.30
Basis	–$0.30

We see in this example that the cash price is $0.30 lower than the January futures price, or 30 under January.

Local cash price	$3.30
Jan futures price	+$3.00
Basis	+$0.30

We see in this example that the cash price is $0.30 higher than the January futures price, or 30 over January.

1. 1. 7. 4 Carrying Charge Relationship

The relationship between local cash prices and futures prices are affected by many factors, including:

- time, interest (financing costs);
- insurance;
- supply and demand (domestic and foreign);
- transportation;
- production cost;
- storage cost; and
- expectations about the future.

The largest portion of the carrying charges is the financing costs. It is always assumed that the money necessary to buy and hold the cash commodity is borrowed. Even if the money is not borrowed, there is a cost to use it as the user loses the opportunity to use the money in other investments. The borrowing cost used when calculating carrying charges is the prime rate.

EXAMPLE

Assume that the spot price for a commodity is $100/unit. Let us further assume that the carrying charge is $4 a month, while the one-month futures contract is priced at $110. A deft arbitrageur could pocket a riskless profit of $6 per unit in this case by buying the commodity at the spot price (and storing it for a month for $4) while simultaneously selling it for delivery in a month at $110.

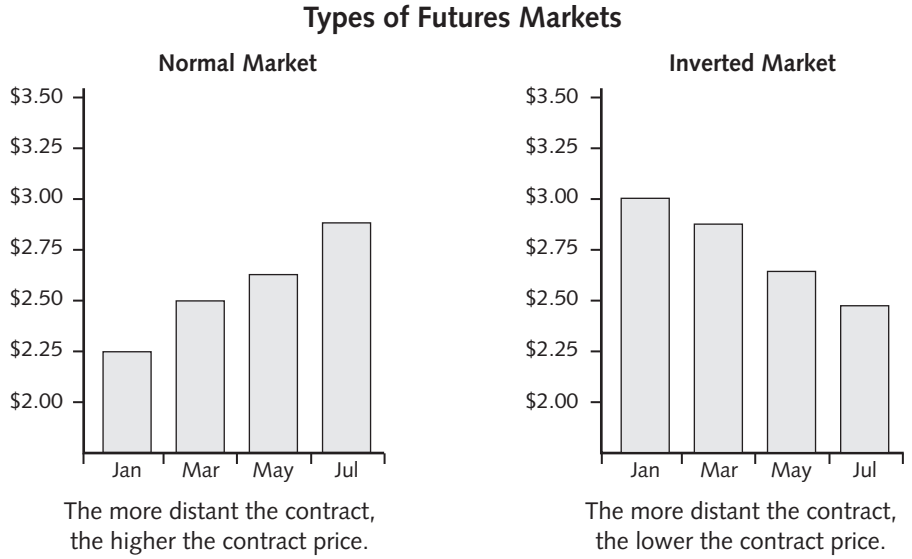
1. 1. 7. 5 Types of Futures Markets

The futures market of a particular commodity is either normal or inverted, on the basis of the price relationships of contracts in different delivery months.

1. 1. 7. 5. 1 Normal Futures Market

As we saw earlier, a **normal futures market** occurs when the price of the nearby futures contract is lower than the price of the deferred (**distant**) futures contract; in other words, a futures market in which the distant months are selling at a premium to the nearby months. This kind of market reflects an adequate supply of the commodity. A normal market reflects a **discount basis,** because cash prices are lower than the futures prices.

A normal futures market is also called a **carrying charge (storage) market or futures price in contango,** because the price difference between contracts for various deliveries reflects carrying charges. **Carrying charge** is the cost to hold (or store) inventory of the commodity.



In efficient markets, commodities futures contracts trade at a price that includes the cash price plus the carrying charge.

Carrying charges should account for the price difference between futures contracts of differing delivery months in a normal market. When futures contract prices equal or exceed the cash price *plus* full carrying charges, it is known as a **carrying charge market** or a contango market.

When the cash and futures price difference exceeds carrying charges, arbitrage opportunities exist. By buying the nearby contract and simultaneously selling a distant contract at a price that exceeds the carrying charges, the arbitrageur profits as prices return to their normal relationship. **Arbitrage** is the opportunity to profit from such temporary abnormal price differences and, when used correctly, is relatively riskless.

EXAMPLE

Assume that the carrying costs for silver (storage, interest, and insurance costs) are $.05 per month. The silver market reflects the following prices:

FUTURES		
Mar	May	Jul
6.94	7.04	7.16

By buying May futures and selling July futures, the arbitrageur will profit by $.02 per ounce. The $.10 cost of storing silver for two months added to the purchase price of $7.04 totals $7.14. Because the sale price was $7.16, the profit is $.02 per ounce.

TAKE NOTE

An arbitrageur exploits discrepancies (often very small) in price between cash and futures markets. Arbitrage is deemed risk free. However, transaction cost associated with trading could reduce or eliminate any profits.

1. 1. 7. 5. 2 Inverted Futures Market (Backwardation)

In an inverted market, the price of the cash market or the price of the nearby futures contract is higher than the price of the deferred (distant) futures contract. Because of the inverted relationship between cash and futures prices, an inverted market reflects a **premium basis**—in other words, cash prices are higher than futures prices.

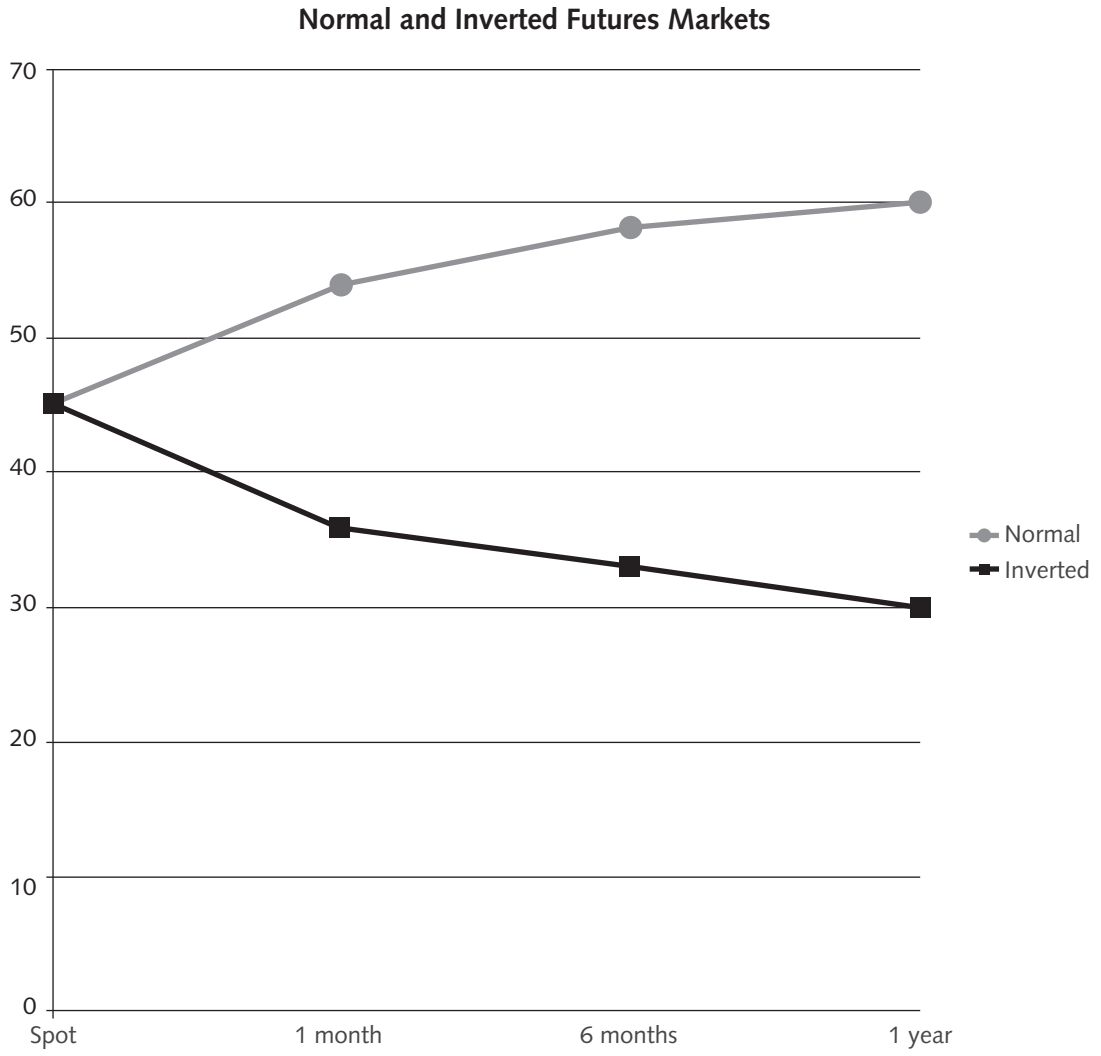
Inverted markets occur when supplies are not adequate, and they translate to relatively high cash market prices.

TEST TOPIC ALERT

An inverted market is always caused by short supply—not increased demand.

- **Normal futures market**: Prices of distant contracts trade higher than prices of nearby futures contracts. A normal market is also known as a carrying charge market or contango market.
- **Inverted futures market**: Prices of distant contracts trade lower than prices of nearby futures contracts except for interest rate futures markets, which is inverted when distant contracts are at a premium to near month contracts. This also known as a backwardation market. This may happen if there is a current shortage of a commodity.
- **Normal market:** Carrying charges limit price differences between nearby and distant month futures prices. A normal market is also known as a carrying charge market or contango.

An alternate way to visualize the differences between normal and inverted markets appears in the graphic.



QUICK QUIZ 1.B

1. Fundamentally, there is no difference between commodities spot and futures prices.
   A. True
   B. False
2. Which of the following is NOT part of carrying charges?
   A. Storage
   B. Insurance
   C. Transportation
   D. Interest
3. When spot prices are higher than the futures prices, this may be caused by
   A. premium basis
   B. short supplies
   C. inadequate storage space
   D. all of the above

4. A futures market is inverted when
   A. near delivery months sell at a premium to more distant delivery months
   B. near delivery months sell at a discount to distant delivery months
   C. cash price is higher than the futures price
   D. futures price is higher than the cash price

5. Understanding how the basis of a commodity changes is critical to calculating the effect of a hedge in questions that appear on the Series 3 exam. Fill in the blank spaces that identify basis and change in basis between the cash and futures prices.

Cash	–	Futures	=	Basis	Change
5.70		5.85		– 0.15	N/A
5.58		5.63		– 0.05	+ 0.10
5.30		5.32		– 0.02	+ 0.03
5.50		5.40		_____	_____
5.10		5.25		_____	_____
5.00		5.20		_____	_____

6. If cash cotton is 73.75 cents per pound and the nearby futures contract is 73.50, the basis is
   A. – .25¢
   B. + .25¢
   C. 73.50¢
   D. insufficient information

1. 2 COMMODITY FUTURES EXCHANGES

A commodity futures exchange provides a location (trading floor or electronic platform) for trading particular regulated futures contracts. To do so, the exchange must register with the CFTC. Exchanges are critical in providing an efficient means for farmers and ranchers (producers) and food manufacturers (users) to apply risk reduction strategies such as hedging. A rancher who wishes to lay off the risk of an adverse price movement against his 2,000 head of cattle may create an artificial cash market now by selling futures through an exchange. In the event cattle prices do fall, his losses on each head will be offset by gains in the futures market. Overall, futures tend to have a stabilizing influence on prices of goods. In addition, because the risk producers of commodities must work under is managed, the end result is a reduction in prices in supermarket shelves. Producers who do not have to factor in additional funds to cover risk can charge less. Your Wheaties®, Cheerios®, eggs, and bacon will come to your table a bit cheaper because of risk management tools available through exchange-traded futures contracts.

1. 2. 1 CONTRACT MARKETS, CLEARING HOUSES, AND MARGIN

1. 2. 1. 1 Contract Market

The CFTC designates a particular exchange as the permitted location for trading futures contracts for a particular commodity—the **contract market**.

Contract markets include the following.

- The **Chicago Mercantile Exchange Group (CME)** ("the Merc") is the contract market for butter, wood pulp, live cattle, and lean hogs, as well as financial instruments, foreign currencies, and equity futures, among other things. Trading is conducted on the Merc in two ways; open outcry and the CME Globex electronic trading platform. The largest percentage of total volume at the exchange occurs electronically on CME Globex and takes place up to 22 hours a day on CBOT futures on corn, soybeans, oats, rough rice, and ethanol.
- The **Chicago Board of Trade (CBOT)** (merged with CME Group)**,** for example, is the contract market for soybean, Treasury bond, and ethanol futures.
- The **New York Mercantile Exchange (NYM)** (part of the CME Group) is the contract market for energy futures such as crude oil, propane, electricity, and uranium, as well as copper, silver, gold, platinum, and paladium.
- The **Commodity Exchange Incorporated (COMEX)** (a division of NYMEX) is the contract market for precious metals futures such as gold, platinum, and palladium.
- The NYSE Liffe is the contract market for the U.S. dollar/euro, Rapeseed, and Robusta Coffee, among other things.

The CFTC may designate more than one exchange as a contract market for a particular commodity.

EXAMPLE

Other various types and grades of softs can trade on the NYSE Liffe, ICE, Minneapolis Grain Exchange, and so forth.

TAKE NOTE

The relationship between spot prices and nearby futures prices assumes a delivery point near the contract market. Grains and meats presume the spot market in Chicago because grain and meat futures contracts trade in Chicago.

TAKE NOTE

The CME, CBOT, KCBT, and NYMEX were independent and developed their own set of rules. Although merged into a single company, CME Group, they remain separate self-regulatory organizations operating under a single market regulation department.

1. 2. 1. 2 Clearing House

A **clearing house** is an organization separate from, but associated with, a particular exchange. By acting as a third-pary guarantor and counterparty to the ultimate buyers and sellers of futures contracts, it provides integrity to the marketplace. Buyers and sellers of futures contracts rarely have personal contact and do not settle directly with or deliver to each other. Each has a position against a clearing house rather than an individual.

Settlements and deliveries are handled through the clearing house; the clearing house acts as the buyer to all sellers and as the seller to all buyers. This "netting" or offsetting removes much of the risk from the system and makes modern futures trading possible. Furthermore, the clearing house handles many of the mechanics of the contract and is responsible for margin.

1. 2. 1. 2. 1 Liquidity

A clearing house increases market liquidity by enabling traders to establish (open) or offset (close) futures positions by buying from or selling to the clearing house rather than directly with another party. A reversing trade is important in bringing a trader's position back to a net zero.

1. 2. 1. 2. 2 Trading

Customer transactions must be executed by a professional trader on the exchange floor. The buying customer and the selling customer each place orders through their respective brokerage firms, called **futures commission merchants (FCMs)**. The FCMs direct the buyer's and seller's orders to the appropriate pit (or ring) for execution by the **floor broker (FB)**. If the trade is executed, the FB confirms the trade to the clearing house. If the clearing house receives matching confirmations from both FBs involved in the trade (one from the buy side and one from the sell side), it recognizes the trade.

1. 2. 1. 2. 3 Contract Guarantor

The buyer has a long position against the clearing house's short position, and the seller has a short position against the clearing house's long position. Thus, the clearing house buys from all sellers and sells to all buyers. Members of the clearing house set aside a percentage from their gross revenue to establish a **guarantee fund**. This is important in that if there is a major member firm (correspondent clearing firm) failure, the clearing house can draw on funds in the guarantee fund to settle on the trades of the failed clearing firm.

TEST TOPIC ALERT

The clearing house guarantees financial performance but not the delivery of the physical commodity for all outstanding contracts.

1. 2. 1. 3 Margin

Margin is earnest money deposited in cash (and occasionally the collateral value of U.S. T-bills present in the investor's account, a bank guarantee letter, or a letter of credit) an exchange requires an investor to have on account to establish and maintain positions in futures contracts. Margin covers, at least partially, the potential liability from adverse price changes to the investor's futures position.

Both initial and maintenance margin requirements are set by the board of directors of the exchanges and are changed mostly on the basis of volatility. Brokerage firms may set higher margin requirements than those set by the exchange—and most do—but they may not set margins lower than exchange requirements.

TEST TOPIC ALERT

Margin is not a "down payment." The volatility and price of a contract are used to determine its minimum margin requirement.

1. 2. 1. 3. 1 Initial Margin

Initial margin is the minimum amount needed to open, or establish, a futures position. Excess margin (i.e., money in the customer's account in excess of the initial margin requirements to open positions) can be withdrawn or used as margin to establish additional positions. Excess margin can come from additional deposits by the customer or profits on open positions.

As previously mentioned, since margin in commodities is solely a performance guarantee, there are no margin interest costs as there is no true possession of the underlying commodity.

Margin requirements on futures are different from security requirements. They are not a straight percentage (e.g., 50% in stocks) of the commodity contract value but instead are a predetermined dollar amount (e.g., $1,320 per live cattle contract).

TEST TOPIC ALERT

Excess margin can be used to open new positions, transferred to another account (stock, securities), or withdrawn by the client. The client does not have to close the position to remove excess margin.

1. 2. 1. 3. 2 Maintenance Margin

Maintenance margin is the minimum amount of money that must be present in a commodity contract at all times. If the margin prescribed by the exchange or brokerage firm in the position falls to or below a prespecified level (the maintenance level), a call for additional funds will be made in order to restore the account back up to the **initial** margin level. These funds are due the next business day.

Restating this definition, maintenance margin is additional money that the customer has to deposit into the account if the market moves against him.

Both initial and maintenance margin requirements may change while a customer's position is open. If so, the new requirements apply to both old and new positions. If a customer's existing margin is sufficient to satisfy changed maintenance margin requirements, no additional funds need be deposited. However, if it is not sufficient, additional funds must be deposited to satisfy the new initial margin requirement for open futures positions.

TEST TOPIC ALERT

Because margin requirement changes are retroactive, customers may be required to deposit additional funds to maintain their positions. If customers fail to meet changed margin requirements, their FCMs may liquidate (but are not obligated to liquidate) their futures positions.

EXAMPLE

A customer has an account with one position with an initial margin requirement of $1,000 and a maintenance margin requirement of $500. If the equity in the account falls below $500, the customer must deposit sufficient funds to restore the account value to $1,000.

1. 2. 1. 3. 3 Margin Percentage

Margin requirements are set in terms of cash deposit relative to the commodity, (e.g., $.35 per bu margin for soybeans). There are two methods of calculating margin percentage. The first is to take the investment margin per unit and divide it by the unit price.

EXAMPLE

If the soybean margin is $.35 per bu and soybeans are $5.00 per bu, .35 ÷ 5.00 = 7.00%. The margin percentage is 7.00%.

You can also calculate the margin percentage by dividing the margin investment by the total contract value.

Permissible Margin Deposits. Cash or securities may be used for margin deposits. When using cash, 100% of the deposit is applied toward the margin.

The market value of customer securities used as the margin are discounted by a set percentage to determine their margin collateral value. Discounting securities by a certain percentage (bonds by 10% or stocks by 25%) is known as **haircutting**.

TEST TOPIC ALERT

The value of the security that can be used for the margin is the complement of its haircut. For example, if bonds receive a 20% haircut, then 80% of the bond's value can be used to margin futures positions. If stocks receive a 25% haircut, then 75% of the stocks' value can be used to margin futures positions.

The margin in a securities account must be maintained separately from the margin in a commodity account. Funds can be transferred between a customer's securities and commodity accounts only if the customer has signed a written **supplemental agreement**, also called a **funds transfer form**.

1. 2. 1. 4 Rate of Return

The profit or loss from a position is stated in terms of the rate of return. The rate of return is the amount of money made or lost minus commission (if appropriate), divided by the amount of money invested (or margin requirements).

EXAMPLE

A client buys one contract of CME Group (CBT) corn (5,000 bu) for $3.25 per bu. The client later sells the futures contract for $3.41 per bu. The margin is $.20 per bu, and the commission is $30 per contract. The rate of return is calculated as follows:

Rate of Return Calculation

Number of units per contract	5,000 bu
× Gain per unit ($3.41 – 3.25)	× $.16/bu
= Gain per contract (.16 × 5,000)	= $800
– Commission per contract	– $30
= Net gain per contract	= $770
÷ $1,000 margin per contract ($.20 bu x 5,000 bu)	÷ $1,000
= Rate of return or profit percentage	= 77%

If problems require calculation of return without factoring commissions, leave out the commission portion of the calculation. In the example above, the rate of return would be 800 ÷ 1000 = 80%.

EXAMPLE

An individual takes a short position in soybeans when the price of soybeans is $5.00. The individual deposits a $.30 margin per bu, and the total investment is $4,500 for three contracts. The price of soybeans declines by 2%. Calculate the profit of this position as a percentage, as follows:

% Price change	.02
× Price/bu	× $5.00
= Gain per unit	= $.10
× Bu	× 5,000
× No. contracts	× 3
= Overall gain	= $1,500
and	
Margin/bu	$ .30
× Bu	× 5,000
× No. contracts	× 3
= Invested margin	= $4,500

So, $1,500 ÷ $4,500 = 33% profit.

Another more direct method is to divide the price change by the initial margin requirement:

% Price change	.02
× Price/bu	× 5.00
= Price change/bu	= .10
÷ Margin/bu	÷ .30
= Rate of return	= 33%

1. 2. 1. 5 Hedge Margin versus Speculative Margins

The margin requirements for bona fide hedgers are typically lower than that for speculators. Because the hedgers handle the commodity, their risk of loss due to adverse price movements is less than that for speculators.

1. 2. 1. 6 Spread Margin

It is recognized that spread positions are less volatile than outright futures positions, so the spread margins are accordingly lower than for separate, individual futures contracts.

1. 2. 1. 7 Withdrawal of Equity

In the commodity markets a trader may withdraw, at any time, any amount of equity in the account above the initial margin requirement. The withdrawal may even occur while the position remains open. The customer is not required to close out the position. The equity above the initial margin requirement is deemed a profit in the account. A withdrawal in this situation may be taken as cash or it may be applied to establish additional futures positions.

1. 2. 1. 8 Additional Benefits of Commodity Futures Trading

Because producers and consumers of cash commodities can offset a substantial portion of their risk by hedging, they generally have lower margin requirements than speculators do.

1. 2. 1. 8. 1 Speculative Opportunities

The commodity futures market allows speculators to assume the risks that hedgers want to minimize. A speculator's risk potential is great, but so is the potential reward.

1. 2. 1. 8. 2 Improved Credit Opportunities

Hedging through the futures market allows producers and users of cash commodities to get better credit terms from lenders than unhedged producers and users receive. Lenders believe that businesses that manage risk well are better credit risks.

1. 2. 1. 8. 3 Centralization

Trading on the various futures exchanges establishes central points for purchases and sales, making it easier to determine a realistic value for underlying cash commodities.

1. 2. 1. 8. 4 Alternative Marketplace

Commodity exchanges provide additional markets where producers, processors, and users of cash commodities can buy or sell goods relating to their businesses.

QUICK QUIZ 1.C

1. Margin is a down payment.
   A. True
   B. False
2. A customer has $3,000 on deposit in her commodities account. She enters an order to buy 1 COMEX gold futures contract that has an initial margin requirement of $2,000 and a maintenance requirement of $1,500. Under exchange rules, the customer may withdraw $1,250 from her account.
   A. True
   B. False
3. Changes in margin requirements are always retroactive.
   A. True
   B. False
4. Minimum initial margin is set by
   A. members of the exchange
   B. the CFTC
   C. the board of directors of the exchange
   D. all of the above
5. All of the following statements describe initial margin EXCEPT
   A. funds required by the broker when a futures contract is initiated
   B. the minimum amount of funds a customer must deposit with their broker
   C. established by the exchange on which the commodity trades
   D. established by the federal government
6. A customer shorts 2 soybean oil futures (60,000 lbs per contract) at $26.39 per hundred weight. Margin is $800 per contract. The ratio of margin to contract value is
   A. 3.30%
   B. 5.05%
   C. 6.60%
   D. 10.10%
7. The commission for a corn contract (5,000 bu) on the CBOT is $30, and the margin is $.12 per bu. If an account is long 2 contracts at $1.35 and offsets when the position has advanced $.06 per bu per contract, what percentage of margin is the profit?
   A. 25%
   B. 45%
   C. 50%
   D. 100%

8. A client buys one contract of CBOT corn (5,000 bu) at $3.25 per bu. He then sells his futures contract at $3.41 per bu. His margin is $.20 per bu, and the commission is $30 per contract. What is the percentage of the profit on the investment?

   A. 16%
   B. 22%
   C. 77%
   D. None of the above

9. A customer is long 1 contract of lean hogs (40,000 lbs) at $.86 per lb. She invests $5,000. If the price changes by 2%, the percentage change of her investment is

   A. 13.76%
   B. 16%
   C. 35%
   D. 50%

10. An individual takes a short position of 3 contracts in soybeans when the price of soybeans is $5.50. He deposits a $.35 margin per bu. His total investment is $5,250 on 3 contracts. The price of soybeans declines by 2%. This represents a profit on his investment of

    A. 7%
    B. 31%
    C. 35%
    D. 45%

11. Futures margin varies as a function of the individual's objective. Because of this, certain clients have a lower initial and maintenance margin level than others. The following clients all have this preferential margin requirement, with the exception of

    A. hedgers
    B. spreaders
    C. speculators
    D. both B and C

12. A customer may withdraw cash from a commodity futures account

    A. under no circumstances
    B. as long as equity is not reduced below the initial margin requirement
    C. as long as equity is not reduced below the minimum maintenance requirement
    D. only after all positions have been offset

13. The initial or original margin must be deposited within 24 hours after initiation of the first trade with the member firm.

    A. True
    B. False

14. Clearing members must always know if their customers' accounts are fully margined.

    A. True
    B. False

15. The initial margin requirement for corn is $1,000 per contract, and the maintenance requirement is $800. The contract for the commodity futures contract is 5,000 bushels. What are the margin requirements in cents per bushel?
    A. 5¢ and 4¢
    B. 10¢ and 8¢
    C. 20¢ and 16¢
    D. Cannot be determined

16. A short hedge (selling hedge)
    A. is similar to a long hedge (buying hedge)
    B. has less risk basis than a long hedge
    C. protects the hedger against an unexpected fall in prices
    D. helps a commodity dealer with unsold inventory remain competitive in the marketplace

1. 3 SUMMARY

Commodity futures contracts allow parties that produce and use commodities to hedge the price and credit risks inherent in the cash and forward contract markets. Hedgers attempting to reduce such risk still face basis risk, the risk that price relationships between their cash and futures positions can adversely affect their position.

When buying or selling futures contracts, investors deposit a margin amount that serves as a good faith deposit. The margin requirements are lower for true hedgers than for speculators, because hedged positions have less risk.

Trading of commodities futures contracts occurs on exchanges designated as the contract market by the Commodities Futures Trading Commission. Clearing houses associated with an exchange serve as the third party and guarantor of all futures contract transactions. Because the clearing house takes the opposite side of all futures transactions, it increases integrity and liquidity in the futures markets.

UNIT TEST

1. When a customer buys or sells a futures contract, that customer is contingently liable for
   A. only the original margin
   B. not more than 70% of the cash value of the futures contract
   C. the full value of the contract
   D. none of the above

2. A hedge position may NOT give full protection against adverse price movements because
   A. while the hedge is operative, the basis may change
   B. cash prices and futures prices seldom move in the same direction
   C. various futures months do not usually trade at the same price
   D. transportation costs vary from one location to another

3. A bona fide hedger must
   A. be a member of the exchange on which the commodity is traded
   B. trade through a member of the exchange on which the commodity is traded
   C. be so designated by a financial institution that he is approved by the CFTC
   D. purchase or sell the actual commodity hedged with futures

4. Spot prices above futures prices typically reflect
   A. premium basis
   B. tight supplies
   C. inadequate storage space
   D. all of the above

5. Futures contracts are settled by cash settlement or delivery at expiration.
   A. True
   B. False

6. An individual who sells a product and buys futures is
   A. a speculator
   B. a hedger
   C. a spreader
   D. a farmer

7. Futures contract details, including the delivery month, series, size of contract, trading limits, deliverable grades, and delivery locations, are determined by
   A. the CFTC
   B. the NFA
   C. the USDA
   D. the exchange where the futures contract is traded

8. Speculators provide liquidity.
   A. True
   B. False

9. Futures have price and position limits, expiration dates, and a long for every short.
   A. True
   B. False

10. Which of the following describe(s) the result(s) of hedging?
    A. Minimize the exposure to some types of risk
    B. Increased net income
    C. Lower production costs
    D. All of the above

11. The most important economic function of a futures market is to
    A. reduce price risk
    B. competitively establish forward prices
    C. attract speculators, to give liquidity to the market
    D. assemble, standardize, and grade the commodities traded

12. Which of the following determine(s) the efficiency of a market?
    A. Number of open contracts
    B. Number of traders
    C. Contract details
    D. All of the above

13. Which of the following best describes hedging?
    A. Represents an arbitrage between the cash and futures markets
    B. Involves assuming opposing positions in the cash and futures markets
    C. Is not used when prices are near all-time lows
    D. All of the above

14. In a normal market, the difference between near and deferred futures contracts is called
    A. basis
    B. crush
    C. reverse crush
    D. carrying charges

ANSWERS AND RATIONALES

1. **C.** A futures contract represents an obligation to make or take delivery, even though the customer need only deposit initial margin to open the position. The obligation means that, while a position is held, the customer is potentially liable for the full value of the contract, which may be unlimited.

2. **A.** A hedge would protect a cash position completely if cash and futures prices moved exactly parallel. However, cash and futures prices seldom move in tandem. Because basis may change, the hedge may produce either a profit or a loss. Choice B, although true, does not explain why a hedge is not perfect protection. Choice C, although true, is because basis may change that a hedge may not provide full protection. Transportation costs are not part of the contract price.

3. **D.** A bona fide hedger establishes a futures transaction that protects (hedges) against risk associated with the purchase or sale of an actual commodity.

4. **B.** When spot prices are higher than futures prices, a premium basis occurs. Premium basis reflects that the current supply of the physical commodity is tight. Inadequate storage typically causes current stocks to be sold in the cash market immediately. Increased supply drives today's cash prices down relative to prices for later delivery.

5. **A.** There are two ways to settle an open futures contract at expiration—delivery or cash settlement—as identified in the exchange rules for the specific contract.

6. **B.** Speculators have no interest in owning or providing the physical commodity. Speculators accept the risk that hedgers want to avoid. A spreader is simultaneously long and short futures contracts and is not involved in selling the actual commodity product. A farmer simply produces and sells the commodity product at the spot price in effect at the time of harvest. The investor may become a hedger by buying or selling futures contracts.

7. **D.** Exchanges set the terms of futures contracts traded on their premises, but buyers and sellers determine the price.

8. **A.** More participation by speculators (or anyone for that matter) provides more liquidity. Greater liquidity is a result of speculator involvement, but it is not why speculators trade.

9. **A.** Futures markets have price and position limits, expiration dates, and a long for every short.

10. **A.** Hedgers look to minimize risks associated with buying or selling select commodities, interest rates, currencies, and so on.

11. **A.** A futures market typically reduces risk in the commodity. Choices B and C are not the most important function of a futures market; they are characteristics that should make futures markets operate efficiently.

12. **B.** The number of participants in a market determines its efficiency. A market is efficient if it is easy to trade and if prices change continually rather than erratically.

13. **B.** A hedge involves equal, but opposite, cash and futures positions. The hedger buys futures when he has a short cash position. Arbitrage is a trading strategy, whereas a hedge is a protection strategy. Long hedging is likely when prices are near their lows.

14. **D.** In a normal market, deferred months trade above the price of the nearby contract. This difference reflects costs of holding inventory. Basis is the difference in prices of the cash and the futures markets.

QUICK QUIZ ANSWERS

Quick Quiz 1.A

1. **A.** An open long or short futures position is an obligation to take or make delivery of the actual commodity if the position is held until the contract's delivery date. Most contracts are offset (closed) prior to delivery.

2. **D.** Forward contracts are unique and nonstandardized and are direct obligations between a particular buyer and seller (with no clearing house in between). Nearly all forward contracts are delivered, unlike the futures markets, where most transactions are offset rather than delivered. Forward contracts are not currently regulated by the CFTC.

3. **A.** Liquidating a long position offsets an open futures position. To liquidate a long position, a customer must sell the same contract he is long; to liquidate a short position, a customer must buy the contract he is short.

4. **A.** Market efficiency depends on how well prices reflect available information. The greater the number of active participants, the more efficient the market. Choices B and C present factors that affect prices—not efficiency. Margin requirements have little effect on market efficiency.

5. **D.** Futures prices are established on futures exchanges.

6. **A.** Hedgers look to protect—to either protect crops against a decline in value or, as a buyer, insulate from a significant rise in prices. Futures may be used to hedge the risk in both of these situations.

7. **A.** The money hedgers make offsets some or all of the losses they may experience.

8. **A.** A futures contract is a legally binding agreement that delineates the future delivery of a commodity or other instrument. Keep in mind that these contracts are typically offset by another contract or cash settled rather than delivered.

9. **C.** Buying is synonymous with being long. Selling is being short. This is true for futures and options as well as stocks and bonds.

10. **D.** The exchanges set the standards and enforce all the terms and conditions of all futures contracts traded on their platforms.

Quick Quiz 1.B

1. **B.** Although both prices respond to similar influences, a cash price values a specific lot of a commodity at a specific place (the spot) and time; a futures price values a standardized (rather than specific) quantity and quality of a commodity for future delivery at a designated delivery point.

2. **C.** Costs to transport a commodity to a designated delivery point vary widely by location. Costs of holding (carrying) inventory include the cost of leasing storage space, insurance costs against spoilage, and interest charges on funds borrowed to hold the inventory. All of these costs are reasonably consistent.

3. **B.** Short (or tight) supply pushes spot prices higher than futures prices. Premium basis reflects that the current supply of the physical commodity is tight.

4. **A.** An inverted futures market occurs when the price of the nearby futures contract is higher than the price of the deferred (distant) futures contract.

5.

Cash	–	Futures	=	Basis	Change
5.70		5.85		–.15	N/A
5.58		5.63		–.05	+.10
5.30		5.32		–.02	+.03
5.50		5.40		+.10	+.12
5.10		5.25		–.15	–.25
5.00		5.20		–.20	–.05

6. **B.** Basis = cash price – futures price. In this case: 73.75¢ – 73.50¢ = +.25¢

Quick Quiz 1.C

1. **B.** In commodity futures, margin represents earnest money or a performance bond. It is not a down payment.

2. **B.** Withdrawals that could make an account fall below the initial margin level are not permitted. The most this customer may withdraw would be $1,000.

3. **A.** Customers must meet current margin requirements, even when they change. All changes are retroactive and apply to positions established before those changes.

4. **C.** A commodity exchange's board of directors establishes margin requirements on behalf of the exchange.

5. **D.** Exchanges establish minimum customer margin requirements. Specific firms may set higher (but never lower) margin requirements.

6. **B.** The value of each contract is $26.39 × 600, which equals $15,834 ($800 ÷ $15,834 = 5.05%).

7. **B.** Profit equals the price change times the contract size times the number of contracts, minus the commission per contract times the number of contracts:

   ($.06/bu × 5,000 bu × 2) – ($30 × 2)
   = $600 – $60 = $540

   The margin requirement equals the margin per bushel times the contract size times the number of contracts:

   $.12/bu × 5,000 bu × 2 = $1,200

   Profit as a percentage of margin is $540 ÷ $1,200, or 45%. When questions ask for percentages, the percentage per contract is the same as the percentage on the overall position.

8. **C.** Calculate the profit percentage as illustrated below.

Number of units per contract	5,000 bu
× Gain per unit ($3.41 – $3.25)	× $ .16/bu
= Gain per contract	= $ 800
– Commission per contract	– 30
= Net gain per contract	= $ 770
÷ Margin per contract ($.20/bu × 5,000 bu)	÷ 1,000
= Profit percentage from investment	= 77%

9. **A.** The contract value (40,000 × .86 = 34,400) times the percentage change (34,400 × .02 = 688) determines the dollar price change. $688 ÷ $5,000 (the investment) equals the percentage change of the customer's investment. Therefore, $688 ÷ $5,000 = .1376, or 13.76%.

10. **B.** Calculate the answer as illustrated below:

Percentage price change	.02
× Price/bu	× $5.50
= Price change/bu	= $.11
÷ Margin	÷ $.35
= Rate of return	= .31428 or 31%

11. **C.** Speculators pay regular margin; hedgers and spreaders have lower requirements. The actual amounts for each of the three classes of margin are established by the individual exchanges.

12. **B.** A customer may withdraw any equity in excess of the initial margin requirement.

13. **B.** The margin must be deposited prior to the execution of the transaction.

14. **A.**

15. **C.** $1,000 divided by 5,000 bushels equals an initial requirement of 20¢ per bushel. $800 divided by 5,000 bushels equals a minimum requirement of 16¢ per bushel.

16. **A.** A short hedge offers some protection against a decline in inventory price.

UNIT

2

Speculation, Hedging, and Spreading

Market activity and commodity prices are influenced by many variables, such as changes in supply, demand, and basis, and each variable has hard-to-predict effects on commodity prices. Because prices are unpredictable, when buyers and sellers enter into futures contracts, they both risk adverse price movement.

Hedging with futures provides an effective mechanism to reduce risk associated with buying or selling cash commodities. Speculators assume the risk that hedgers wish to avoid in the hopes of generating substantial returns and, by their activity, increase market liquidity. ■

OBJECTIVES

When you have completed this Unit, you should be able to explain:

- **hedging**
  - short hedge,
  - long hedge, and
  - hedging's effect on cost/revenue;
- **speculation** and speculative strategies; and
- **futures** spreads.

2. 1 SPECULATION

Speculators try to forecast price changes, and they take futures positions based on their forecasts. When their forecasts are correct, speculators make money; when they are wrong, they lose money.

Speculators also increase liquidity in the futures markets, thus enabling the markets to operate more efficiently. Successful speculators profit by accepting price risks that hedgers want to avoid.

Speculators have no interest in owning the physical commodity, so they offset their futures positions before delivery.

2. 1. 1 MARKET LIQUIDITY

By increasing the number of traders, speculators make the market more liquid. Although speculators enable hedgers to function, for every single trade by hedgers, there may be 20 or more contracts traded by speculators. Increased trading volume allows large trades to be executed without dramatically affecting prices.

Illiquid, or **thin**, **markets** have fewer participants. In a thin market, large orders can cause prices to change dramatically. The greater the volatility in a market, the greater the market risk.

TEST TOPIC ALERT The role of the speculator is to add liquidity to the market, not to forecast prices.

Increased market liquidity also improves market efficiency. When markets operate efficiently, their prices reflect realistic values. Speculators add efficiency to markets by assuming price risks that hedgers seek to reduce or avoid.

2. 1. 2 SPECULATING STRATEGIES

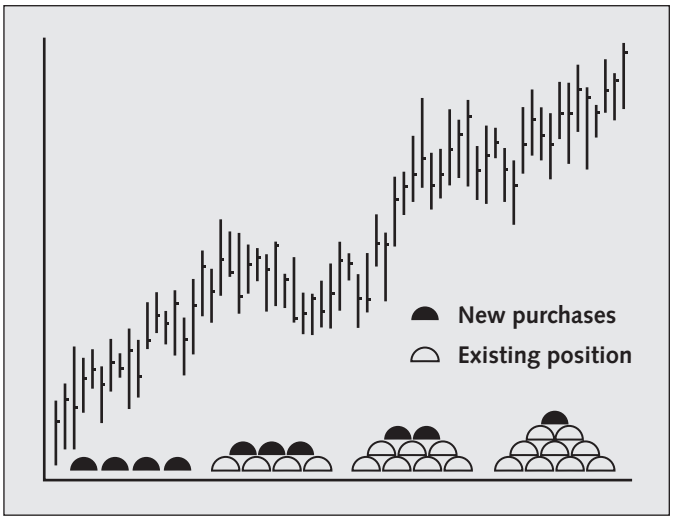
Several market strategies used by speculators serve as position management tools for their trading.

2. 1. 2. 1 Pyramiding

Pyramiding, which is illustrated in the following figure, involves increasing the size of an open, profitable position by declining increments as the commodity price rises. It is a speculative strategy that may be utilized in any profitable account, whether that account is long or short.

EXAMPLE A speculator buys four gold futures contracts. If the price of gold futures increases, she adds three more contracts to her position, using the profits from the original position to margin the new purchase. If prices continue to advance, the speculator will add two more contracts and, eventually, one more.

Pyramiding



Let's try it again. Keep in mind that pyramiding is a trading technique in which paper trading profits are used as margin to add to futures positions in decreasing increments.

		Initial Requirement	Cash Deposited
Step 1	Trader buys 15M (3 contracts) corn @ 3.00.	$1,500	$1,500
Step 2	Corn rises to 3.05/bu. There is a profit of $.05, or $250/ctr., so the profit on the position is $250 ×3 = $750. Trader decides to add 10M (2 contracts) to the position. The initial margin for these 2 additional contracts is $500 × 2 = $1,000; however, the $750 paper profits may be used to meet this initial call, so only $250 additional is deposited by the trader. There are now 5 contracts (25M bushels) in the account, which normally would have an initial margin requirement of $2,500. Using the paper profits, and pyramiding the position, the trader has deposited only $1,750.	$1,000	$250
Step 3	Corn rises to 3.07/bu. There is a new profit of $.02 (3.07 – 3.05), or $100/ctr. With 5 contracts, this is an additional profit of $500. Trader decides to add 5M (1 contract) to position. The initial margin for 1 contract is $500; however, the $500 paper profit may be used to meet this initial call, so no additional funds would be required to be deposited by the trader. At this point, there are now 6 contracts (30M bushels) in the account, which normally would have an initial margin requirement of $3,000. However, by employing the technique of pyramiding the account's paper profits, the trader only was required to put up $1,750. The additional funds required to meet the initial margin calls were attained through the withdrawal rules.	$500	$0
		$3,000	$1,750

TAKE NOTE

The risk of pyramiding is in the additional leverage that the trader gains. Any downturn in the price of corn and the trader would be subject to a possible severe loss due to high leverage.

2. 1. 2. 2 Switching (Rolling Forward)

When **switching**, a speculator extends the holding period by liquidating a position in a contract month nearing delivery and simultaneously establishes a position in a contract of a more distant contract month.

EXAMPLE

In late August, a speculator is long one September T-bond futures contract. He wants to maintain the long position in T-bond futures but does not wish to take delivery. He can roll forward the long position by selling the September T-bond futures and buying December T-bond futures. By switching, he has rolled the long position from September forward to December.

QUICK QUIZ 2.A

1. Speculators normally avoid a thin market.
   A. True
   B. False
2. Speculators provide liquidity.
   A. True
   B. False
3. The speculator's role is to forecast prices.
   A. True
   B. False
4. A thin market in any particular exchange involves
   A. better opportunity for profit
   B. less chance for unfavorable delivery
   C. risk of inability to efficiently offset positions
   D. rising open interest
5. Market volatility and market risk are
   A. inversely related
   B. directly proportional
   C. not related
   D. not related in determinable ways

Quick Quiz answers can be found at the end of the Unit.

2. 2 HEDGING

Commodity producers (e.g., farmers, ranchers, loggers) and users protect their respective interests by hedging with commodity futures contracts. **Hedging** is the purchase or sale of a futures contract as a temporary substitute for a later cash transaction. It is a method of transferring risk.

Hedging allows an individual or business to buy or sell in the futures market to protect against a price change that would affect a current or future cash position. A hedger is a buyer or seller of the actual commodity (or portfolio) being hedged with futures.

EXAMPLE

A farmer has a wheat crop planted that will be ready for harvest in three months and should yield 50,000 bu. He will break even on his crop at a price of $2.50 per bu, but would prefer to sell at the current price of $2.85 per bu. By selling (shorting) 10 wheat futures contracts (5,000 bu per contract), he can lock in his profit, regardless of wheat prices when he harvests his crop.

EXAMPLE

A cattle breeder who owns cattle (he is long cattle) hedges with a short cattle futures position (to short something is to sell it). The futures position acts as a temporary substitute for the transaction the breeder must enter into at a later time in the cash market. Furthermore, if cash cattle prices fall, he will suffer a loss on his cash market sale. He expects to offset this loss by a corresponding gain on his futures position.

2. 2. 1 SPECULATION

In the above examples, we see how the hedger transfers price risk to the **speculator**. The speculator accepts the risk of changing prices, whereas the hedger assumes only risk of a change in basis.

2. 2. 2 RISK TRANSFER

Although hedging is a way to reduce price risk, it does not eliminate it. In hedging, an investor shifts (or transfers) a significant portion (but not all) of the risk to another party. Buying or selling futures contracts allows an investor to reduce or increase the risk of his holdings.

Hedgers try to minimize risk, whereas speculators willingly assume risk in exchange for possible gain. If prices move against the hedger's cash (actuals) position, the loss in the value of the cash position can be largely offset by a gain in the value of the futures contract used to hedge the risk.

2. 2. 3 RISK REDUCTION

Obviously a hedged position is less risky than an unhedged position. In an unhedged position, however, an investor can lose the full price (or value) of the commodity if its price decreases to zero. If the position is hedged, the investor has acquired a degree of protection against an adverse move.

A hedged position still carries basis risk. **Basis risk** is the potential adverse change in the relationship of the cash price and futures price (a change in the basis) while the hedged position is open. Because basis is more stable than cash or futures market prices alone, a hedged position entails less risk than an unhedged position.

TEST TOPIC ALERT

A hedger is more concerned with basis risk than price change. Although cash and futures prices tend to move in the same direction, it is unlikely that both will change in price by exactly the same amount. Thus, a hedged position may not provide full protection against an adverse price movement because the basis (i.e., the cash and futures price relationship) may change.

EXAMPLE

Corn prices might swing from $3.62 to $5.41 per bu, but the basis might change only from $.31 to $.34, a $.03 difference. A perfect hedge results only if the basis remains unchanged. With a perfect hedge, the effective price to the hedger equals the cash market price at the time the hedge was placed.

Another advantage of hedging is that low-risk positions qualify for lower margin requirements. Lower hedge margins, also called **trade margins**, are available only to parties involved in the commodity business (a true hedger) and not to speculators.

2. 2. 4 SHORT AND LONG HEDGING OVERVIEW

Hedges are either short or long. Because a hedge position is intended to protect the investor from an adverse price move, it is critical to know which price direction will hurt the investor.

Someone who owns a commodity will want to hedge against a price decrease by locking in a future selling price. Someone who needs to buy the commodity will want to hedge against a price increase by locking in a future purchase price. Buying or selling futures can reduce each type of risk.

2. 2. 5 SHORT HEDGE

A **short hedger** sells futures to lock in a cash price (the price when the hedge was placed). Short hedges are used to protect the value of inventory or the future selling price of a commodity. Rule of thumb: in a short hedge, if the basis strengthens, there will be a profit, and if the basis weakens, there will be a loss.

Any owner or producers of a commodity, who may suffer from falling prices, may use short hedges as means of price protection.

When those who are long the basis sell a futures contract to protect against a decline in price, that is known as a short or selling hedge.

If the commodity is owned today, the hedger sells it into the future.

EXAMPLE

A farmer with a wheat crop in the field is long cash wheat. A price decrease will decrease the crop's value upon sale. To hedge, the farmer will sell (short) wheat futures that approximate the size of his crop. Because the short wheat futures position will increase in value if prices fall, a decrease in the cash price will be largely offset by a gain on the short futures position.

TEST TOPIC ALERT

To summarize, to determine which futures action to take to hedge risk:

- do the opposite in futures as the cash position;
- identify which price action is economically negative and take the appropriate futures actions; and
- do today in futures what will be done later with the cash asset; if you will be selling in the cash market later, then you should sell in the futures market **now**.

Each of these methods should provide the same answer.

QUICK QUIZ 2.B

1. Hedging eliminates price risk.
   A. True
   B. False
2. Basis risk applies to long hedges only.
   A. True
   B. False
3. To protect a future purchase price, a hedger sells futures.
   A. True
   B. False
4. Hedgers and speculators must meet different margin requirements.
   A. True
   B. False
5. A short hedger already owns (is long) the commodity.
   A. True
   B. False

Long the Basis. Short hedgers are **long the basis**. A short hedger wants the basis to **strengthen**, meaning that, in a normal market, the hedger wants the difference between the cash and futures prices to decrease. The cash price may increase more quickly than the futures price, or the cash price may decrease more slowly than the futures price. Either way,

regardless of the commodity's cash price, the basis narrows—that is, it strengthens.

Someone long the basis has a long actuals position (owns or will own the commodity), which is hedged with a short futures position.

Short hedgers want an increase (rise) in basis, or **strengthening basis**. This is illustrated in the following table.

	Cash	–	Futures	=	Basis
Place:	BOT $4.00		SLD $4.50		– $.50 (50 under)
Lift:	SLD $3.95		BOT $4.30		– $.35 (35 under)
Change:	– $ .05		$ .20		$.15 (15 over)

An improvement in the cash price relative to the futures price (strengthening basis) generates a gain from the basis change and makes the effective selling price higher than the cash price the hedger tried to secure.

Strengthening basis means that the basis increases between the times when the hedge is placed and lifted.

A faster decrease in the cash price relative to the futures price (**weakening basis**) makes the effective selling price lower than the cash price the hedger wants to protect.

2. 2. 5. 1 Short Hedge Summary

- Futures contracts are sold.
- The short hedge is a substitute sale.
- The hedge seeks to protect against falling prices.
- If prices decline, the profit on futures will offset cash market losses.
- If prices rise, loss on futures is offset by a higher sale price in the cash market.
- The short hedger is long the basis.
- The short hedger wants the basis to strengthen.

QUICK QUIZ 2.C

1. The margin requirements for speculative long positions and short positions are generally the same.
   A. True
   B. False
2. A hedge position may not give full protection against adverse price movements because
   A. while the hedge is operative, the basis may change
   B. cash prices and futures prices usually move in unison
   C. the various futures months do not usually sell at the same price
   D. transportation costs vary from one area to another
3. Trade margins for hedgers are usually lower than those for speculative customers because
   A. they are subject to smaller price fluctuations
   B. they are financially more stable
   C. there is less risk in their position
   D. they are subject to higher costs

4. The futures markets can be used to offset the cost of carrying commodities.
   A. True
   B. False

5. A futures market hedge is
   A. established only when prices are expected to move in the direction of the hedge (e.g., down if the hedge is a short futures position)
   B. a temporary substitute for a later sale in a long actuals position
   C. always placed in the nearby commodity futures contract
   D. established only by speculators

2. 2. 5. 2 Short Hedge Applications

2. 2. 5. 2. 1 Agricultural Short Hedge

A farmer has 60,000 bu of wheat in the field for harvest and delivery due in three months. The current spot price for wheat is $3.20 per bu, but the farmer worries that the price for cash wheat will decrease when his wheat is ready to sell.

The farmer seeks to protect the current $3.20 price with a short hedge in the futures market. If the farmer sells the futures and the price does decline, he may offset the loss in the cash (or spot) market with profit from the futures position. Assume, for this example, that the futures price is $3.60. The $.40 difference being the carrying charges.

Cash	–	Futures	=	Basis
$3.20		$3.60		– $.40 (.40 under)

In this short hedge the farmer wants the basis to remain the same or to strengthen; he is long the basis.

When the wheat is ready for delivery, the spot price is $2.90, and the futures are $3.20 per bu. This results in the following:

	Cash	–	Futures	=	Basis
Place:	BOT $3.20		SLD $3.60		– $.40 (.40 under)
Lift:	SLD $2.90		BOT $3.20		– $.30 (.30 under)
Change:	– $ .30		+ $ .40		$.10 (.10 over)

The farmer lost $.30 per bu in the cash market but made $.40 in the futures market, so his effective net price per bushel was increased by $.10 from the original $3.20 that he hedged, to $3.30.

Assuming that the farmer hedged his entire crop, he would have shorted 12 contracts (60,000 bu crop ÷ 5,000 bu per contract = 12 futures contracts).

His total revenue becomes 60,000 bu × $3.30, or $198,000. Had the farmer not hedged, he would have received only $174,000 (60,000 × $2.90). Hedging generated an additional $24,000!

2. 2. 5. 3 Problem One (Short Hedge)

Apply what you've learned so far to the following situation. Remember that the contract size for wheat is 5,000 bu.

A farmer has a wheat crop in the field.

Estimated production	25,000 bu
Estimated costs	$2.17/bu
Original cash price	$2.43/bu
Original futures price	$2.61/bu (5,000 bu/contract)
Cash market sale price	$2.21/bu
Futures hedge liquidation price	$2.32/bu

2. 2. 5. 3. 1 How Many Contracts Hedge the Farmer's Position?

To fully hedge a cash position, the hedger needs to know how many contracts (long or short) to place in the hedge.

To determine the number of contracts needed to fully hedge a position, divide the size of the actuals position (25,000 bu) by the size of the appropriate futures contract (5,000 bu). A crop of 25,000 bu divided by 5,000 bu futures contracts means 5 contracts hedge the crop completely.

2. 2. 5. 3. 2 The Farmer's Effective (True) Price with Hedging

Hedging will affect the price that the farmer ultimately receives upon sale. A hedger's effective price is calculated by adjusting his initial cash cost when the hedge is placed by the change in the basis.

To determine the change in basis, you must calculate basis when the hedge was placed and lifted, as illustrated below (remember, cash price – futures price = basis):

	Cash	–	Futures	= Basis
Prices when hedged	BOT $2.43	–	SLD $2.61	= –$.18 under
Prices when lifted	SLD $2.21	–	BOT $2.32	= –$.11 under
Basis change	–$.22		+ $.29	+ $.07 (over)

After the position was hedged, the basis changed from $.18 under to $.11 under, a strengthening of the basis by $.07 per bu. This is shown as a positive number (gain) because it benefits the short hedger.

To compute the farmer's effective price per bu, add the basis change to the initial cash price at the time the hedge is placed:

Cash cost (price) when hedge placed	$2.43/bu
(+) or (–) basis change	+.07/bu
Effective sale price per unit (bu)	= + $2.50/bu

TAKE NOTE

Another, perhaps easier, way to solve this problem is to adjust the actual sale price when the hedge is lifted by the profit or loss in the futures trades: ($2.21 + .29 = $2.50).

$2.50 – 2.43 = .07 × 25,000 bu = $1,750

TEST TOPIC ALERT

There are two types of questions relating to hedging transactions: the result of the hedge and the effective price. The effective price is the final cash price plus or minus the hedge of the futures or the original cash price plus or minus the basis change.

To calculate the effect of the hedge on revenue, multiply the basis change by the number of units hedged.

Gain (+) or loss (–) from basis change	+	$.07/bu
× bu hedged	×	25,000/bu
= Total gain (+) or loss (–) from hedge	=	+ $1,750

Had the basis weakened, the change in revenue would be calculated by multiplying the number of units hedged by a negative number. A weakening basis hurts the short hedger, who would receive less for the cash corn than anticipated.

2. 2. 5. 3. 3 The Farmer's Profit from Selling Hedged Corn

The farmer's profit is revenue from selling the hedged position minus production costs. Although profit is reduced by costs associated with placing the hedge, such as commissions or interest on money borrowed, these costs are not included in our example.

Once the effective selling price is known, profit can be calculated by comparing the effective selling price with the cost of production.

Effective sale price per unit	$2.50/bu
– Cost of production per unit	– 2.17/bu
= Profit (+) or loss (–) per unit	+ $.33/bu
× Number of units in hedged position	× 25,000 bu
= Profit (+) or loss (–)	= $8,250

QUICK QUIZ 2.D

Fill in the blanks for the following positions.

1.

Cash	Futures	Basis
BOT 4.10	SLD 4.40	_____
SLD____	BOT 4.20	–.20 (20 under)
Change		_____

2.

Cash	Futures	Basis
BOT____	SLD 3.75	–.40 (40 under)
SLD____	BOT 3.65	–.25 (25 under)
Change		_____

3.

Cash	Futures	Basis
BOT 6.10	SLD____	–.15 (15 under)
SLD 3.12	BOT____	–.12 (12 under)
Change		_____

4. Which of the following describes a selling hedge?
   A. Can be the same as a buying hedge
   B. Protects the hedger against an unexpected price increases
   C. Enables a dealer with unsold inventory to remain competitive no matter where prices subsequently move
   D. All of the above

5. In theory, a long hedge is a(n)
   A. substitute sale
   B. insurance procedure
   C. substitute purchase
   D. speculation

2. 2. 6 LONG HEDGES

As we saw earlier, short hedges are used to protect inventory by locking in a selling price for a later cash sale. **Long hedges**, by contrast, are used to protect a later cash purchase or a short actuals position. A short actuals position occurs from a forward sale of (or other promise to sell) goods yet to be purchased by a distributor or manufactured by a producer or processor.

TEST TOPIC ALERT

A forward sale is hedged with long futures because the person is promising to deliver a good she doesn't have. When a heating oil distributor agrees to deliver heating oil, she sells forward her heating oil and buys the futures contract to guarantee that she will be able to deliver the heating oil at a profitable cost.

A forward sale is hedged with long futures because the hedger agrees to deliver goods he does not currently own.

EXAMPLE

A flour miller will need to buy wheat in the future as the raw ingredient for flour she has committed to sell. A price increase in wheat will raise her cost and reduce her profit. The miller hedges by buying (long) wheat futures. If wheat prices increase, the higher cost of buying wheat in the cash market will be offset by a profit on the long futures position.

EXAMPLE General Mills sells forward boxes of breakfast cereal to grocers around the country and hedges by buying (long) futures for the ingredients.

A long hedger will hedge by going long (buying) futures.

EXAMPLE A flour miller is a long hedger if he goes long wheat futures, to lock in the cost of wheat he will eventually need to buy in the cash market to fill his forward contract to sell flour.

Long hedgers are short the basis. A long hedger has a short cash position (receiving now and owing later) hedged with a long futures position. Unlike short hedgers, long hedgers want the basis to weaken—from 10 under to 13 under, for example.

A long hedger benefits from a decrease in the cash price relative to the futures price (weakening basis) because it reduces the effective cost of the assets purchased later in the cash market.

To the extent that the basis weakens, the long hedger has a gain. The true cost of assets purchased through the hedge is the cash market price on the day the hedge was placed reduced by the amount by which the basis weakened. A strengthening basis (such as from 10 under to 7 under) during the hedge increases the effective purchase price above the original cash price.

2. 2. 6. 1 Agricultural Hedge (Long Hedge)

A miller has committed to a forward sale of flour and will need to buy 60,000 bu of wheat in three months to mill into flour.

The current spot price for wheat (the price he makes the forward sale) is $2.90, and the futures price is $3.20. When the hedge is lifted, the cash price is $3.20, and the futures price is $3.60.

The miller will buy 12 (long) futures contracts in order to protect against a price increase.

Original cash price wheat	$2.90
Original futures price wheat	$3.20
Cash price when hedge is liquidated	$3.20
Futures price when hedge is liquidated	$3.60
Miller makes .10 from weakening basis	–.10

Because the basis weakened by $.10, the effective purchase price improved by $.10 from the cash price of $3.20, to $3.10 per bushel. Because the miller buys 60,000 bu, the cost is $186,000 rather than $192,000 had the miller not hedged, resulting in a savings of $6,000.

2. 2. 6. 1. 1 Hedge Price/Effective Price

The result of the long hedge on the forward sale is the amount gained or lost while in the hedge position.

	Cash	–	Futures	=	Basis
Place	SLD $2.90		BOT $3.20		– $.30
Lift	BOT $3.20		SLD $3.60		– $.40
Change					– $.10

TAKE NOTE

If asked for the result of the hedge in dollars, multiply the result of the hedge per unit by the number of units being hedged.

When the miller buys wheat, he pays $3.20. However, the effective price is $3.10. The hedger bought the wheat at $3.20 on the cash market and made a gain of $.10 in the futures, for an effective price of $3.10.

The effective price reflects that change in basis.

If the person (i.e., the farmer or producer) is selling the commodity and lost money on the hedge, the effective price is lower than the original cash price being hedged. If the seller gains on the hedge, the effective cash price will be higher than the original cash price.

If the person is buying the commodity and loses on the hedge, the effective price will be higher than the original cash price the user was hedging. If the person gains on the hedge, the effective price will be lower than the original cash price that was hedged.

TEST TOPIC ALERT

The exam will expect you to know the effective price of a hedge and the result of the hedge.

2. 2. 6. 1. 2 Problem Two (Long Hedge)

An oil refinery needs 840,000 gallons of crude oil to fulfill commitments under a forward contract. (A crude oil contract consists of 1,000 barrels, with each barrel consisting of 42 gallons.)

Original cash price	$65.40/bbl
Original futures price	$66.15/bbl
Spot market purchase price	$67.20/bbl
Futures hedge liquidation price	$67.60/bbl

First, determine the number of futures contracts to buy to fully hedge this cash position in crude oil.

To convert gallons into barrels, divide the gallons needed by the gallons per barrel:

840,000 gallons ÷ 42 gallons per barrel = 20,000 barrels

Next, divide the actuals position in barrels by 1,000, the barrels per contract, to identify the number of contracts needed to initiate the hedge:

20,000 bbl ÷ 1,000 bbl = 20 contracts

The effective cost (price) is calculated by adjusting the cash price at the time the hedge was placed by any change (strengthening or weakening) of the basis after the hedge is lifted. As a long hedger, the refiner is short the basis and benefits from a weakening basis that will reduce its effective crude oil cost.

First, let us consider the following scenario with increasing prices and determine the change in the basis:

	Cash	–	September Futures	=	Basis
Hedge placed (May)	$65.40	–	$66.15	=	–$.75 ($.75 under)
Hedge lifted (August)	$67.20	–	$67.60	=	–$.40 ($.40 under)
Basis gain (+) or loss (–)	–$1.80	+	$ 1.45	=	+$.35 (strengthens)

The refiner buys the September futures at $66.15 in May. Note that both the cash and futures rise. When the hedger buys in the cash market in August for $67.20 and then simultaneously offsets the hedge by selling the September futures at $67.60, the basis has strengthened $.35 per barrel. The trader purchased the crude at $67.20 on the cash market and then realized a $1.45 gain in the futures market, effectively locking in the August purchase price of $65.75. When the basis strengthens, however, a long hedger such as the oil refinery stands to lose.

Even though the basis strengthened by $.35, increasing the refiner's cost from the original cash price, it still saved $29,000 ($544,000 – $515,000) by hedging.

To calculate the total savings, determine the per barrel price difference between the hedge price and cash price ($67.20 – $65.40 + $.35 = $1.45) multiplied by the number of barrels (20,000), which equals $29,000.

To calculate the effect of the hedge on the oil refinery's ultimate cost to buy the crude oil, compared with the original cash price, multiply the number of units in the position by the change in the basis:

Hedged position size	20,000 bbl
× Gain (+) or loss (–) from basis	× –$.35/bbl
= Decrease (+) or increase (–) in cost	= –$7,000

A minus sign is used to reflect increased cost over the original cash price to the refiner.

EXAMPLE

A wheat farmer in Wisconsin is planning to plant a 100,000-bushel crop in March, with delivery in September. The total cost of planting and harvesting the crop is expected to be about $7.30 per bushel. The current price is $7.60, with September wheat futures trading at $7.70 per bushel. The farmer is looking to lock in the current price with a short hedge by selling 20 September futures contracts on his projected 100,000-bushel production (5,000 bu/contract). The farmer is now said to be short the market and has a made a commitment to make delivery of the wheat.

In mid-August, his crop was ready for harvest, but the price of wheat fell at the elevator to $7.20 per bushel. September wheat futures also fell and are now trading at $7.33 per bushel.

Selling 100,000 bushels at the elevator works out to be $720,000 ($7.20/bu × 100,000 bushels), but the cost of growing the crops is $7.30/bu × 100,000 bushels = $730,000, leaving him with a $10,000 loss.

The September wheat futures contracts, however, dropped in value and were profitable. Wheat futures sold in March = $7.70 × 20 contracts × 5,000 bushels = $770,000. Value of wheat futures purchased in August = $7.33 × 20 contracts × 5,000 bushels = $733,000. Net gain in futures market = $770,000 – $733,000 = $37,000. Overall profit = gain in futures market – loss in cash market = $37000 – $10,000 = $27,000.

The farmer made a profit of $27,000 despite falling prices due to the short hedge. Note that the short hedge is not seamless. The cash price fell by $0.40/bu and futures prices fell by only $0.37/bu, so the short futures managed to offset most but not all the price drop due to a somewhat weakened basis.

Cash	**September Futures**	**Basis**
March		
$7.60	$7.70	–$0.10
August		
$7.20	$7.33	–$0.13
Net		
–$0.40/bu	+$0.37/bu	–$0.03 (weakened by $0.03)

2. 2. 7 OTHER USES OF HEDGING

In addition to minimizing risks, hedging can sometimes increase profits. A short hedger who knows how and why basis might change over time can benefit from that knowledge. Basis

tends to narrow as a contract's delivery month approaches. Typically, basis is at or close to zero when the contract becomes deliverable.

Under normal market conditions, the cash-to-futures relationship determines the amount of the basis. The basis should strengthen as the contract nears maturity.

EXAMPLE

A farmer with crops in storage who hedges presumes that the change in basis will be to his advantage as time elapses. Even if he does not intend to sell his crops soon, the farmer could place a short hedge and use the profits from the strengthening basis to cover additional storage fees before selling the actuals.

2. 3 FUTURES SPREADS

Spreads and some arbitrage positions combine long and short positions simultaneously in related futures contracts. Because prices of related contracts tend to move in the same direction, spreads may be less risky than simple long or short positions.

EXAMPLE

If a spreader is simultaneously long and short hog futures in different delivery months and if hog prices rise, any loss from the short position should be offset by a gain on the long position. If prices fall, any loss on the long position should be matched by a gain on the short position.

Spreads are not always safer than simple long or short speculative positions. Both **legs** of the spread (the long contract and the short contract) may move against the speculator simultaneously—in which case the spread actually loses money on both positions.

TAKE NOTE

Spreads can be used between crop years in grains, for different commodities, or in the yield-curve.

Because spreads are relatively low-risk strategies, the margin requirements on many spreads are lower than the margin requirement for speculative positions. However, the CME requires both legs of the spread to be fully margined once either contract becomes the spot month.

2. 3. 1 INTRA- AND INTERSPREADS

Preceding a spread with the prefix "intra-" means "the same" (or "within"). A spreader long and short futures contracts on the same commodity has an intracommodity spread. If the long and short positions traded on the same exchange or market, the spreader has an intramarket spread. If the contracts mature during the same delivery month, the spreader has an intradelivery spread.

Conversely, the prefix "inter-" means "different" (or "between"). Spreads involving different commodities are intercommodity spreads, contracts between different exchanges are intermarket spreads, and spreads with different delivery months are interdelivery spreads.

EXAMPLE

A customer long Dec hard red winter (HRW) wheat on the CBOT and short Dec HRW on the Kansas City Board of Trade (KCBT) has established an:

- intracommodity spread (the customer is long and short wheat futures);
- intermarket spread (the customer is long the CBOT and short the KCBT); and
- intradelivery spread (both contracts are deliverable in December).

TAKE NOTE

Remember that intrastate highways run only within *one* state, but interstate highways cross between states.

EXAMPLE

Your customer is long May international skimmed milk powder on the CME and short Jun nonfat dry milk on the CME. Because these agricultural products, although related, are different commodities, this is an intercommodity spread. An example of an intermarket spread is long Dec CBOT HRW wheat and short Dec KCBT HRW wheat.

A spread makes no sense if a spreader is long and short the same contract simultaneously. One side will offset the other, leaving the customer with no position. Thus, an intracommodity, intramarket, and intradelivery spread cannot exist, at least profitably.

2. 3. 1. 1 Bull or Bear Spreads

Spreads are either bull or bear, depending on which contract the spreader buys and which contract the spreader sells. In a **normal futures market** for agricultural commodities, the following are true.

- A **bull spread** is an investment strategy created with the view to profit if the price of the commodity rises. This investor goes long the nearby (near-term) futures contract and short the distant (long-term) contract. In a bull spread, the investor wants the price difference (spread) to narrow. In an **inverted futures market,** the bull spreader wants the price difference to widen.
- A **bear spread** is an investment strategy created with the view to profit if the price of the commodity falls. The investor goes short the nearby contract and long the distant contract. In a bear spread, the investor wants the price difference to widen. In a normal market, the spreader in this case would look for prices to widen. In an inverted market, the bear spreader would look for prices to narrow.

In **interest rate futures**, bull and bear spreads use reverse positions.

2. 3. 1. 2 Spread Price Relationships

Spreads gain or lose money from relative changes in price. Consequently, spreaders are less concerned with overall price trends than they are with the changing difference (spread) between prices.

A speculator assumes the difference between the prices of two contracts will either increase or decrease.

EXAMPLE

Jul corn futures are trading at 248, and Sep corn futures are at 252. The price difference is expected to widen. In a normal futures market, distant contracts have higher prices than nearby contracts. When the price difference is expected to widen, either the Jul contract should fall relative to the Sep contract, or the Sep should rise relative to the Jul. The spreader should sell (short) the nearby futures contract (Jul) and buy (long) the distant futures contract (Sep). This is a bear spread.

If prices move against the spreader's position, the spread between months narrows, and the bear spread faces unlimited risk. This is because the nearby contract, the short contract, can increase by an unlimited amount and the bear spreader must deliver or offset at any price.

In an inverted market, the objectives of a bull or bear spread become inverted as well.

EXAMPLE

Mar soybean futures are quoted at 578, and May soybean futures are quoted at 571. The price difference is expected to widen. What spread strategy profits from the expected relative price move?

Although the spreader expects the price difference to widen, she also notices that the futures market is inverted. To profit when the Mar contract price is expected to rise relative to the May (or the May is expected to fall relative to Mar), the spreader must buy (long) the nearby futures contract and sell (short) the distant futures contract. This is a bull spread.

The bull spreader profits if the market becomes more inverted—that is, prices widen further.

If, however, the spread narrows (i.e., the market becomes less inverted or turns into a normal market), the spread loses money. There is a limit to the amount of the loss in a bull spread because, in a normal market, price differences cannot exceed carrying charges. If differences do exceed carrying charges, arbitrage drives prices back to a level that reflects full carrying charges.

Bull spreads are **limited-risk spreads**.

TEST TOPIC ALERT

Normal Futures Market		Inverted Futures Market	
■ Bull spread	■ Bear spread	■ Bull spread	■ Bear spread
■ Also called long spread	■ Also called short spread	■ Also called long spread	■ Also called short spread
■ Long nearby and short distance	■ Long distant and short nearby	■ Long nearby and short distance	■ Long distant and short nearby
■ Profits if spread narrows	■ Profits if spread widens	■ Profits if spread widens	■ Profits if spread narrows

2. 3. 1. 3 Gains/Losses from Spreads

The profit or loss on a spread can only be calculated when the spread is lifted (closed).

EXAMPLE

A spreader went long (bought) 5 Dec live cattle (40,000 pounds per contract) at 57.55 and simultaneously shorted (sold) 5 Feb live cattle at 58.35. After a period of falling cattle prices, the spreader closed out the Dec contracts at 52.30 and the Feb contracts at 52.85.

Calculate profit or loss for each leg of the spread separately. Determine the gain or loss on the long and the short side of the spread, and then net these results together for the overall gain or loss from the spread.

	Dec (1st leg)		Feb (2nd leg)
Open	BOT –$57.55		SLD +$58.35
Lift	SLD +$52.30		BOT –$52.85
Net	= –$5.25	+	$5.50 = $.25

In addition to trying to profit from changes in relative price, speculators may spread for temporary risk protection. If speculators want to maintain their positions but worry that the market will move in the wrong direction, they may take other positions opposite to the original ones in a related futures contract. By spreading they may reduce their risk.

2. 3. 2 PROCESSING SPREADS

A processor is a business that buys raw material or semifinished goods (input) and adds value to make a finished product. Finished products (output) are ultimately sold to others.

In a processing spread, a manufacturer or processor buys futures to hedge a later purchase of raw material (input) and sells futures to hedge the later sale of a finished product (output). Processing spreads occur when processors simultaneously buy (long) and sell (short) related futures contracts.

Certain conditions are true of all processors.

- Processors are long hedgers on **input**—that is, they buy futures now to hedge against rising costs associated with the later purchase of inputs.
- Processors are short hedgers on **output**—that is, they sell futures now to hedge against declining prices from sales of their products (output).

A bona fide hedging spread, in which the processor buys futures on the input (raw material) and sells futures on the output (finished product), entitles the processor to lower margin requirements.

A spreader who buys the output and sells the input has higher speculative margin requirements.

TAKE NOTE

To hedge, a processor buys futures on his input and sells futures on his output. Any other type of position is a speculative position.

The following are examples of common processor spreads.

2. 3. 2. 1 Oil Refineries (Crack Spread)

A **crack spread** involves futures positions that are:

- long crude oil futures to hedge the later purchase of crude oil; and
- short heating oil and gasoline futures to hedge the later sale of the distillates.

When long and short in the proper proportions, these futures are called a crack or cracking spread. **Cracking** describes the process for turning crude oil into distillates.

2. 3. 2. 2 Cattle Feeders

Cattle feeders use futures positions that are:

- long feeder cattle and corn or soy meal futures to hedge the later purchase of young cattle and their feed; and
- short live cattle futures to hedge the later sale of fat (live) cattle.

It is important to distinguish between live cattle and feeder cattle futures contracts. Feeder cattle (thin cows) are processed (fattened) on feed lots; live cattle (fat cows) are the product of the cattle feeding process and are cattle ready for slaughter.

2. 3. 2. 3 Soybean Processors (Crush Spread)

A **crush spread** is long soybean futures and short oil and meal futures. Soybeans used to be crushed in vats to produce oil and meal—hence the name crush spread. In a crush spread, the processor goes:

- long soybean futures to hedge the purchase of the beans; and
- short soybean oil and soybean meal futures to hedge the later sale of the bean products.

The **gross processing margin (GPM)** identifies the gross return from processing one bushel of beans. It is also called **gross margin** because it accounts for the expense of only the input, the beans. From this gross margin, the processor must cover other costs, such as depreciation, interest, chemicals and energy used in the process, and profits to the processor. A negative GPM means that the business loses money.

2. 3. 2. 3. 1 Reverse Crush Spread

Speculators may profit from the same situation that hurts the bean crusher with a reverse crush spread. When the GPM is low enough to cause processors to buy fewer beans and produce less oil and meal, speculators attempt to profit from the expected change in relative prices. The speculator sells soybean futures and buys soybean oil and soybean meal futures to profit on a decrease in bean prices and an increase in bean meal and oil prices.

TAKE NOTE

The reverse crush spread is the opposite of how bean crushers hedge. Reverse crushers buy futures on the output and sell futures on the input. A reverse crush spread is speculative and does not qualify for lower spread margins.

QUICK QUIZ 2.E

1. A customer can buy and sell futures on the same commodity at the same time.
   A. True
   B. False
2. A soybean processor who buys beans and sells oil and meal establishes a crush spread.
   A. True
   B. False
3. The sale of Sep SRW wheat MGEX and the purchase of Sep HRW wheat KCBT through CME Globex is which of the following types of spreads?
   A. Intermarket
   B. Interdelivery
   C. Intramarket
   D. None of the above
4. The purchase of Oct futures contracts versus the sale of Aug futures contracts in the same commodity on the same exchange is which of the following types of spreads?
   A. Intradelivery
   B. Intermarket
   C. Intercommodity
   D. Interdelivery
5. The purchase of May oats futures on the CBOT and the sale of May HRW wheat futures KCBT is which of the following types of spreads?
   A. Intercommodity
   B. Interdelivery
   C. Intramarket
   D. None of the above
6. An investor is interested in a spread position on COMEX silver futures (5,000 troy oz). Using the prices indicated, which of the following would you recommend?

Nov	Dec	Feb	Apr	May
23.40	33.60	54.30	86.55	94.75

   A. Buy Dec, sell Feb
   B. Sell Dec, buy Feb
   C. Sell Feb, buy Apr
   D. Buy Feb, sell Apr

7. In a normal agricultural market, in which the difference between distant futures and near futures is expected to narrow, a spreader would

   A. buy near futures and sell distant futures
   B. sell near futures and buy distant futures
   C. buy short
   D. sell short

8. A spreader notes that Feb cotton is at $.60 and May is at $.65. If he believes that the May contract is overpriced relative to Feb, he should short

   A. Feb
   B. Feb and buy May
   C. May
   D. May and buy Feb

9. Feb cotton is at $.60 and May cotton is at $.65. If the Feb contract goes to $.63 and the May contract goes to $.66, a profitable spread would have resulted in

   A. a loss of $.01/lb
   B. a loss of $.02/lb
   C. a profit of $.02/lb
   D. a profit of $.03/lb

10. A customer is long one contract of lean hogs (40,000 lb) at $.86/lb. He invests $5,000. His margin percentage (investment as a percentage of total contract value) is

    A. 4%
    B. 8%
    C. 23%
    D. 14.5%

11. When a spreader sells soybean futures contracts and buys soybean meal and soybean oil futures contracts, he has initiated

    A. a hedge
    B. a spread
    C. a crush spread
    D. a reverse crush spread

12. Which of the following describes the gross processing margin?

    A. Seasonal
    B. Can be negative
    C. Of interest to soybean crushers
    D. All of the above

13. A soybean processor who buys soybeans futures and sells the products in the futures market places

    A. a reverse crush
    B. a processor conversion
    C. a crush hedge (putting on crush)
    D. an intercommodity spread

14. Which of the following describes a hedged commodity position?
    A. Reduces the chance for profit
    B. Increases the need for working capital
    C. Transfers risk to others
    D. All of the above

15. A hedger's primary goal in using futures contracts is to
    A. transfer the risk of a price change
    B. earn profits by speculating
    C. assure guaranteed profits
    D. avoid payment of taxes

2. 4 SUMMARY

Commodity producers and buyers use futures to hedge against adverse price changes that would increase the price they pay for a commodity or reduce the price they receive for selling a commodity.

Commodity producers use a short futures position to hedge against a price decline and, in doing so, become long the basis. Commodity buyers use a long futures position to hedge against a price increase and, in doing so, become short the basis. Although each type of hedge is subject to basis risk, price risk is reduced substantially.

Speculators take on the risks that hedgers' attempt to remove, in the hopes of generating substantial returns. Speculators use such strategies as pyramiding and rolling forward contracts to manage their futures positions.

Both hedgers and speculators use futures spreads as a means of reducing their risks. A futures spread involves two opposite futures positions in the same or similar commodity such that losses on one side will be offset by gains on the other. Processing spreads are used to hedge both the processor's input and output.

UNIT TEST

1. Which of the following is NOT part of carrying charges in the futures market?
   A. Storage
   B. Interest
   C. Transportation
   D. Insurance

2. COMEX platinum prices are as follows:

Aug	1,143.40
Sep	1,145.60
Oct	1,146.60
Dec	1,147.60
Feb	1,149.60
Apr	1,150.40

   If successively more distant delivery month prices for platinum futures are usually about $1 per month apart, which of the following spreads should be the most profitable?
   A. Buy Aug/sell Sep
   B. Buy Sep/sell Oct
   C. Buy Dec/sell Feb
   D. Buy Dec/sell Apr

3. Why is hedge margin lower than speculative margin?
   A. Opposite cash and futures positions involve less risk than net long and net short positions.
   B. Hedging is accomplished with relatively few contracts.
   C. Hedgers require more liquidity because of their cash positions.
   D. Hedgers are institutional customers.

4. The most important economic function of a futures market is to
   A. reduce price risk
   B. competitively establish forward prices
   C. attract speculators, to give liquidity to the market
   D. assemble, standardize, and grade the commodities traded

5. Any licensed futures commodity representative who is associated with an exchange member firm can handle discretionary accounts.
   A. True
   B. False

6. Regarding spreads, a representative may tell a customer that they
   A. involve no risk because the investor is both long and short
   B. are always less risky than simple long or short positions
   C. are always more risky than simple long or short positions
   D. may not be less risky than simple long or short positions

7. Research has shown that trading in the futures market
   A. eliminates price fluctuation in the cash market
   B. tends to reduce the frequency of price fluctuation in the cash market
   C. tends to reduce the magnitude of price fluctuation in the cash market
   D. has no effect on price fluctuation in the cash market

8. A long futures position in a commodity established on a certain exchange may be offset by selling the same futures on
   A. any other exchange trading that commodity
   B. any commodity exchange
   C. the same exchange
   D. any CFTC-regulated commodity exchange

9. A distributor is long the basis 840,000 gal of heating oil. While the position is hedged, the basis strengthens by .0060 points. The hedge represents how much increase or decrease in the effective sale price (contract size 42,000 gal)?
   A. Decrease of $2,520
   B. Decrease of $5,040
   C. Increase of $2,520
   D. Increase of $5,040

10. A heating oil retailer is short the basis 10,000 barrels of heating oil. After the retailer places the hedge, the basis narrows from 300 points under to 100 points under. What gain or loss results from the hedge (42,000 gallons of heating oil per contract; 1 barrel = 42 gallons)?
   A. $8,400 loss
   B. $8,400 gain
   C. $16,800 loss
   D. $16,800 gain

ANSWERS AND RATIONALES

1. **C.** Costs to transport a commodity to a designated delivery point vary widely by location. Costs of holding (carrying) inventory include the cost of leasing storage space, insurance costs against spoilage, and interest charges on funds borrowed to hold the inventory. All of these costs are reasonably consistent.

2. **A.** Buying Aug platinum and selling Sep platinum provides the greatest profit potential. The greatest profit potential comes from the largest price difference per month. To profit from the difference, the customer buys the lower-priced and sells the higher-priced commodity. To answer this particular question, find the greatest per month price difference between the contracts given in the four choices.

3. **A.** Hedgers generally retain basis risk, not the (greater) risk of net market positions.

4. **A.** A futures market typically reduces risk in the commodity. Choices B and C are not the most important function of a futures market; they are characteristics that should make futures markets operate efficiently.

5. **B.** NFA regulations require an AP to have 2 years' experience before being able to trade discretionary accounts.

6. **D.** Because it is possible for both legs of a spread to move against a customer, a spread is not always less risky than a simple long or short position. The CFTC requires that this be disclosed in a Risk Disclosure Statement. It is possible for both parts of the spread to move against the customer, creating risk. Choice B is not always true, although it is usually the intent of creating the spread. Choice C is not usually true; the intent of the spread is usually to reduce risk.

7. **C.** Futures markets typically reduce the size of price movements, but they tend to increase the number of price fluctuations in cash and futures prices.

8. **C.** Selling a futures contract on the same commodity but for different delivery (or different exchange) would give the customer a spread; it would not liquidate her original position. To offset a long futures position, a customer must sell the same contract—the same commodity, same delivery month, same exchange, same everything. Choice A would create a spread (intermarket spread) and would not offset the original contract. The sale must occur on the same exchange as the long position, not just any exchange. Offsetting sales must be on the same exchange as where the long position was created, not just any commodity exchange.

9. **D.** This hedge seeks protection against falling prices. It sells futures and is long cash and, therefore, is long the basis. The effective transaction price is the cash price on the day the hedge is placed, adjusted for change in basis. Because the distributor is long the basis (long cash, short futures), strengthening of the basis increases the effective sale price.

$.0060/gal	Basis change per unit
× 42,000 gal	Units per contract
+ $252.00	Profit (+) or loss (–) from hedge per contract
× 20	Number of contracts
$5,040.00	Increase in effective sale price from hedge

10. **A.** With the retailer short the basis (short cash, long futures), the hedge will reduce the effective buying price if the basis weakens. Because the basis strengthened, the effective price will increase by that worsening of the basis.

$.0200/gal	Basis gain (+) or loss (–) per unit
42,000 gal	Units per contract
–$840	Gain (+) or loss (–) per contract
10	Number of contracts
–$8,400	Loss from hedge

QUICK QUIZ ANSWERS

Quick Quiz 2.A

1. **A.** A thin market is an illiquid market. Both speculators and hedgers seek liquid markets with more participants and greater volume. When markets are liquid, positions can be initiated or closed without causing undue price volatility.

2. **A.** The more participants in a market, the greater the liquidity.

3. **B.** A speculator's role is to provide liquidity to the market. Speculators try to forecast price movements, however, in deciding whether to buy, sell, or not trade.

4. **C.** A thin market involves the risk of low liquidity—not enough buyers or sellers to offset positions efficiently.

5. **B.** The greater the volatility of a future contract, regardless of the reason for the volatility, the greater the risk of a position in that contract.

Quick Quiz 2.B

1. **B.** Hedging can reduce, not eliminate, price risk.

2. **B.** Long and short hedges both face basis risk.

3. **B.** To protect a future purchase, a hedger buys futures.

4. **A.** Hedgers have more favorable margin requirements than speculators do.

5. **A.** A long hedger will need to buy the commodity, so goes long the futures.

Quick Quiz 2.C

1. **A.** Margin is determined by whether the position is speculative or a hedge. Margin is not based on whether the position is long or short.

2. **A.** Although cash and futures prices respond to many of the same influences, they do not move together. Over time, the cash-to-futures difference will change.

3. **C.** Trade margins are the same as hedge margins—margin requirements for traders in the related trade or business. Hedgers assume less risk than speculators because they have opposite positions in cash and futures; price movement adverse to one position benefits the other.

4. **A.** True. The futures price of a commodity needing to be stored reflects some of the cost of storage, insurance, and interest to carry a commodity until the futures contract expires. Those looking to offset some of the costs may sell futures.

5. **B.** Hedges are established to avoid the risk that prices will change between now and the time a cash transaction will take place.

Quick Quiz 2.D

1.

Cash	–	Futures	=	Basis
BOT 4.10		SLD 4.40		**–.30 (30 under)**
SLD 4.00		BOT 4.20		–.20 (20 under)
Change				**.10 (10 over)**

2.

Cash	–	Futures	=	Basis
BOT 3.35		SLD 3.75		–.40 (40 under)
SLD 3.40		BOT 3.65		–.25 (25 under)
Change				**.15 (15 over)**

3.

Cash	–	Futures	=	Basis
BOT 6.10		SLD 6.25		–.15 (15 under)
SLD 3.12		BOT 3.24		–.12 (12 under)
Change				**.03 (.03 over)**

4. **C.** A selling hedge involves a short position, which protects against a fall in prices. If prices fall, a gain in the futures position will offset the loss in the cash position.

5. **C.** A long hedge is placed to lock in a purchase price; therefore, it is a temporary substitute for a later cash transaction.

Quick Quiz 2.E

1. **A.** Buying (long) and selling (short) the same commodity for different delivery months (interdelivery) or on different exchanges (intermarket) is permitted and makes the customer a spreader.

2. **A.** A processor who buys bean futures and sells oil and meal futures establishes a crush spread.

3. **A.** This is an intermarket spread. It is also an intracommodity (wheat/wheat) and intradelivery (Sep/Sep) spread.

4. **D.** Same commodity (intracommodity), same exchange (intramarket), and different delivery months (Aug/Oct) is an interdelivery spread.

5. **A.** Long May oats on the CBOT and short May wheat on the KCBT is an intercommodity (oat/wheat), intradelivery (May/May), intermarket (CBOT/KCBT) spread.

6. **D.** Each of the months differs from the succeeding month in a range (spread) of $8.20 to $10.50, except for April, which is overpriced, compared with February. This creates a profit opportunity for a bull spread because the price difference should narrow.

7. **A.** This is a bull spread. In a normal market, distant months carry higher prices than near months. If this difference is expected to decrease, the nearby contract should rise relative to the distant contract (or the distant should fall relative to the nearby). A bull spread is profitable if the speculator is long (buys) the nearby contract and short (sells) the deferred contract.

8. **D.** Because the May contract is overpriced relative to the other futures, the spreader would short May cotton and go long Feb cotton.

9. **C.** Because the May contract is overpriced relative to the other futures, the spreader would want to go long February cotton and short May cotton. Given this situation, the spreader makes money when the price difference narrows. Because the spread narrowed from $.05 to $.03, there is a profit of $.02.

Long leg profit (+) or loss (–) (Feb)	$.63 – $.60 = $.03
Short leg profit (+) or loss (–) (May)	$.65 – $.66 = – $.01
Gross gain (loss)	= $.02

10. **D.** The investment ($5,000) divided by the contract value ($.86/lb × 40,000 lb) equals the customer's margin percentage ($5,000 ÷ $34,400 = .14535, or 14.5%).

11. **D.** A speculator taking an opposite position (the reverse of the processor) would have a reverse crush spread. A soybean processor (crusher) will hedge his later purchase of beans by going long bean futures and will hedge a later sale of the bean oil and meal by shorting oil and meal futures (a crush spread).

12. **D.** The gross processing margin is the difference between the cost of a bushel of beans and the sale proceeds of the oil and meal obtained from processing a bushel of beans. There are fairly regular seasonal variations in this relationship. It can be negative, which naturally would discourage processors from crushing additional beans. Processors are certainly interested because these prices indicate the supply and demand situations in the processors' raw material markets and product markets.

13. **C.** This is a definition of a crush hedge.

14. **C.** A hedged position transfers price risk to others but is still subject to basis risk.

15. **A.** The principal idea behind hedging is to reduce the risk associated with the underlying commodity or instrument.

UNIT

3

Technical and Fundamental Analysis

Commodity market participants use two important tools to forecast prices: technical analysis and fundamental analysis. Each type of analysis uses a variety of methods to interpret and forecast price movements.

The fundamental analyst forecasts prices by studying the influences of supply and demand for a particular commodity. Such influences include inventories, imports and exports, government programs, and weather. Economic forces, such as producers, consumers, and supply and demand, help fundamental analysts shape their opinions.

Technical analysis is based on commodity price patterns and trading volume. Technical analysts use charts and computer programs to identify and forecast price changes and trends. Unlike fundamental analysts, technical analysts pay little attention to economic activities. ■

OBJECTIVES

When you have completed this Unit, you should understand:

- **fundamental** analysis and the factors that affect commodity prices
  - supply,
  - demand, and
  - government support and lending programs;
- **technical** analysis tools used to project price movements
  - support and resistance levels,
  - charting techniques, and
  - price, volume, and open interest;
- **economic** factors that contribute to price levels
  - fiscal and monetary policies,
  - expansionary and contractionary government policies, and
  - currency exchange rates.

3. 1 ANALYSIS—FUNDAMENTAL AND TECHNICAL

3. 1. 1 FUNDAMENTAL ANALYSIS

Fundamental analysis attempts to anticipate prices by trends in supply and demand for a commodity. By comparison, **technical analysis**, discussed in 3.2, looks to predictions based on price movements that follow historical patterns. Those who favor this method are known as chartists.

TAKE NOTE

Keep in mind the effect of supply and demand on prices:

- prices move **directly** (in the same direction) with demand (increased demand with supply constant points to increasing prices)
- prices move **inversely** (in the opposite direction) from supply (increased supply with a constant demand leads to decreasing prices)

3. 1. 1. 1 Supply

For the fundamental analyst, the available **supply** of a good or commodity has an important impact on its price. Two supply rules affect prices.

- An increase in supply puts selling (downward) pressure on a commodity's price.
- A decrease in supply puts buying (upward) pressure on a commodity's price.

The quantity of a good available for use or consumption—its supply—is affected by several factors.

3. 1. 1. 1. 1 Producer Expectations

Producers' expectations about upcoming market conditions influence the amount of a good they produce.

EXAMPLE

If a manufacturer expects the price of its product (output) to drop, it might increase production and sales now. If the anticipated price drop occurs, the business benefits from having sold goods at the earlier high price.

3. 1. 1. 1. 2 Number of Producers

The number of firms producing a good affects the supply of that good. Typically, more suppliers produce more goods. Logically, the more goods produced, the more likely it is that prices will drop (supply increases without a comparable increase in demand).

3. 1. 1. 1. 3 Technological Advances

Technology affects production costs and, therefore, supply. Improvements in production technology reduce production cost. In turn, decreased production costs motivate producers to supply increasing quantities, which puts downward (selling) pressure on prices.

3. 1. 1. 1. 4 Resources

Resources are the raw material used as inputs for a good's production—such as seeds, labor, and fuel—and are a major portion of production costs. According to the laws of supply and demand, the amount and price of available resources affect the end prices of finished goods.

3. 1. 1. 1. 5 Inventories

Inventories of commodities from previous production also determine the total supply for storable (but not perishable) commodities.

TAKE NOTE A business requires a certain level of inventory to operate efficiently.

Although a supplier needs goods to sell immediately to ready buyers, supplies do not always match unpredictable demand. Bad sales forecasts, excessive production, and unforeseen events, such as drought, make inventory-demand matching difficult. Excessive inventories put downward (selling) pressure on prices because suppliers often drop prices to sell (move) the goods.

Many commodities cannot be stored for long periods, so inventories do not affect total supply; for example, fattened cattle will not benefit from extra time on the feedlot, because additional feeding may reduce the quality of the carcass.

Certain goods that could be stored are not. Soybean meal inventories are seldom held. Instead, the beans are stored because beans are less likely than meal to spoil as a result of lengthy warehousing.

3. 1. 1. 1. 6 Imports

Imports also affect the supply and price of a commodity. The ability of foreign producers to sell goods in the United States increases the available supply and, therefore, can reduce prices.

3. 1. 1. 1. 7 Exchange Rates

Relative currency values affect the flow of commodities in international trade. As the value of the U.S. dollar (domestic currency for U.S. citizens) increases relative to the Japanese yen (foreign currency for U.S. citizens), imports from Japan become cheaper, which should increase the demand for imported goods.

3. 1. 1. 2 Demand

Demand for a commodity affects the price of a good. Increasing demand should make prices rise, whereas decreasing demand should cause prices to fall. Consumer demand for a commodity is affected by many factors.

3. 1. 1. 2. 1 Domestic Use

Domestic use is the largest element of total demand. Demand comes from end-use consumers as well as producers and processors who need a good for production.

3. 1. 1. 2. 2 Consumer Expectations

Consumer expectations also affect demand. When consumers expect a price increase in the future, they will buy now; if they expect a price decrease, they'll buy later.

EXAMPLE

If consumers expect a price increase in automobiles soon, they are likely to buy cars now while the price is lower. If they expect auto prices to fall, they will delay their car purchases to save on price.

3. 1. 1. 2. 3 Number of Consumers

The demand for a commodity relates to the number of consumers that use it. The greater the number of consumers, the higher the demand and the higher the price.

3. 1. 1. 2. 4 Consumer Preference

Consumer preference also influences demand.

EXAMPLE

If red meat (beef) caused cancer, cattle prices would plummet, and pork and poultry prices, as substitutes, would increase.

3. 1. 1. 2. 5 Disposable Income

Consumer income has a direct effect on demand. Demand rises when consumers have more money to spend. A healthy economy, rising stock market, or tax cuts all increase disposable income.

3. 1. 1. 2. 6 Exports

Exports are domestically produced items sold to satisfy foreign consumer demand. Foreign demand is often unpredictable.

3. 1. 1. 2. 7 Exchange Rates

Currency exchange rates also influence foreign demand. When U.S. grain prices plummeted in the early 1980s, some analysts attributed the drop to a rising dollar. Exports declined, making domestic supplies swell, and, eventually, prices dropped.

3. 1. 1. 2. 8 Inflation and Interest Rates

Periods of high inflation are accompanied by high interest rates. High inflation typically depresses bond prices but increases the price of precious metals (gold and silver). A decrease in inflation has the opposite effect.

When interest rates are high, bonds and money market accounts attract investors more than non-interest-paying inventories, where carrying charges cost money. When interest rates fall, the difference in costs to carry inventories and interest received from bonds becomes less important.

3. 1. 1. 2. 9 Substitution

A commodity is a substitutable good if it can be used instead of a different commodity. Because commodities that are substitutable for one another are affected by similar factors, their prices move in the same direction.

EXAMPLE

Because beef, pork, and chicken are all consumable meats, they can be used interchangeably. Corn, oats, and soy meal are relatively interchangeable animal feeds. Feeders will determine the cheapest way to bring animals to slaughter weight.

Prices of substitute commodities are positively related. A change in the price of one good changes the price of the substitute in the same direction.

EXAMPLE

An increase in cattle prices will cause beef demand to decline as consumers shift to cheaper substitutes, such as pork. The increased demand for pork should cause pork prices to rise. If corn prices fall, animal feeders buy more corn to benefit from lower prices. Demand for other animal feeds will drop along with their prices.

3. 1. 1. 2. 10 Elasticity

Elasticity measures the effect of changing prices of a commodity on its supply and demand. As the price of a good changes, supply and demand for the good may also change.

Demand Elasticity. If the price of a commodity increases by 10% but demand stays the same, demand for that good is **inelastic**—that is, price has no effect on demand. If the price of a commodity increases by 10% and demand falls by 50%, demand for that product is **elastic**—that is, demand is influenced by price.

TAKE NOTE

- Elastic demand changes significantly in response to price changes.
- Inelastic demand changes insignificantly in response to price changes.

Demand elasticity for a commodity is often determined by the number and nature of substitute commodities.

If corn prices rise, cattle feeders demand less corn because they can substitute other feeds (demand is elastic). If the supply of other goods is inadequate, however, demand for corn becomes inelastic (if there are no substitutes, cattle feeders must continue buying corn regardless of price).

Supply Elasticity. Elasticity of supply is affected by the number of suppliers. When there are many suppliers, or when new suppliers enter a market easily, supply is elastic.

The supply of agricultural products is elastic because there are many farmers and few barriers to people who wish to farm.

With few producers and many obstacles for new suppliers to enter the market, supply is inelastic.

The supply of gold and platinum is inelastic because it is difficult to mine those metals.

3. 1. 2 SUPPLY/DEMAND SUMMARY

Although the real-world study of supply and demand is complex, the following statements will help you understand supply and demand for the Series 3 examination:

3. 1. 2. 1 Supply (Assuming Other Factors Stay Constant)

- Supply increases mean prices should drop.
- Supply decreases mean prices should rise.

3. 1. 2. 2 Demand (Assuming Other Factors Stay Constant)

- Demand increases mean prices should rise.
- Demand decreases mean prices should drop.

3. 1. 3 GOVERNMENT INFLUENCES

Fundamental analysts also study how government programs affect commodity prices.

3. 1. 3. 1 The Commodity Credit Corporation

The **Commodity Credit Corporation** (CCC) is operated by the U.S. Department of Agriculture to help stabilize farm prices by administering a loan program. Farmers may pledge harvested, stored, and inspected grains as collateral against a loan from the CCC.

CCC loans are renewable each year for up to three years. The loans are **nonrecourse** loans, meaning if the farmer defaults, the loan and interest are forgiven, but the farmer must forfeit the collateral—the crop—to the CCC.

Stocks of grain acquired by the CCC through loan defaults or forfeiture cannot be sold in any manner competing with sales by U.S. agricultural producers unless there is imminent danger of spoilage.

3. 1. 3. 2 Acreage Control Programs

Acreage control programs (ACPs) attempt to reduce supplies of certain commodities to support price levels. The government agrees to pay farmers (in cash or in kind) not to cultivate all acreage. If supply is indeed reduced, prices move higher.

3. 1. 3. 3 Tariffs

A **tariff** is a tax on goods sold from businesses in one country to buyers in another. Import tariffs increase the cost of imported goods, which makes domestically produced goods more price competitive. If tariffs are reduced or eliminated, domestic producers face tougher price competition from foreign suppliers, which will depress the prices of domestic goods.

3. 1. 3. 4 Commodity Reports

Commodity reports provide the fundamental analyst with useful statistics for forecasting prices.

3. 1. 3. 4. 1 USDA Report

The **United States Department of Agriculture (USDA)** releases the *USDA Report* monthly. The report includes the government's estimate of the supply and demand of various agricultural commodities.

3. 1. 3. 4. 2 The Commitments of Traders (COT Reports)

COT reports provide a breakdown of open interest for market reports in which 20 or more traders hold positions matching or exceeding reporting levels established by the CFTC. These data are generally pulled from the large producers and commercial traders: those companies that actually use the commodity, such as sugar, cocoa, soybeans, and so forth.

The Commission releases the report each Friday at 3:30 pm ET. The report reflects the commitments of traders on the prior Tuesday.

TAKE NOTE

Open interest, also known as *open commitments*, refers to the current total number of futures contracts for which delivery is obligated and expected. Large open interest points to plenty of activity and liquidity for a contract.

QUICK QUIZ 3.A

1. The fundamental study of a commodity entails a knowledge of
   A. basic economic forces of supply and demand
   B. seasonal price patterns
   C. daily volume and open interest numbers
   D. past and future prices

2. In appraising the fundamental situation with regard to a specific commodity, one should consider, in part, all of the following EXCEPT
   A. whether the price level is higher or lower than a year ago and whether it is currently rising or falling
   B. the amount of hedging by short sellers in the commodity
   C. whether any forms of governmental or international price support programs, either direct or indirect, exist
   D. whether the production and use of competitive products are more or less than in the previous season

3. Which of the following describes a farmer who places his crop under a CCC loan agreement?
   A. Receives a cash advance
   B. Need not repay the loan
   C. Pays interest, but only if the loan is repaid
   D. All of the above

4. If a farmer pledges his crop under a government loan program, he
   A. has 90 days in which to pay off the loan or pay the difference if the market declines
   B. has an unlimited redemption time
   C. may elect to forfeit the collateral without recourse, even if the value of the commodity pledged is below the cash he borrowed
   D. may redeem only when the government says he may do so

5. Agricultural commodities acquired by the government through its price support programs can be
   A. disposed of in various ways in the United States if the commodities remain noncompetitive with farmer marketings; they are usually disposed of at a specific percentage of current price support programs and carrying charges
   B. sold only at auction to the highest bidder
   C. moved only at auction to the highest bidder
   D. moved only into the export market

6. Which of the following constitutes the COT?
   A. Public elevator stocks
   B. Open interest from commercial traders
   C. The nearby price of cotton contracts
   D. The Chicago Board of Trade's report on position limits

Quick Quiz answers can be found at the end of the Unit.

3. 2 ANALYSIS—FUNDAMENTAL AND TECHNICAL (CONTINUED)

3. 2. 1 TECHNICAL ANALYSIS

Technical analysis attempts to forecast price movements of individual commodities and entire markets. Technical analysts (also called **technicians** or **chartists**) base their forecasts on patterns displayed on charts that record price changes. Certain patterns are called **signals** because they signal the technical analyst to buy, sell, hold, or avoid trading.

3. 2. 1. 1 Cycles and Patterns

A technical analyst believes history repeats itself and, therefore, that markets move in regular patterns. By closely monitoring developing patterns revealed on charts, technicians try to spot buy or sell signals.

EXAMPLE

A chartist (technician) notices that, over the past three years, a particular trading pattern occurred 11 times and that, 9 out of those 11 times, the pattern was followed by a significant price drop. Believing in the cyclical nature of patterns, the chartist forecasts that when the pattern next occurs, a price drop should follow, and acts accordingly.

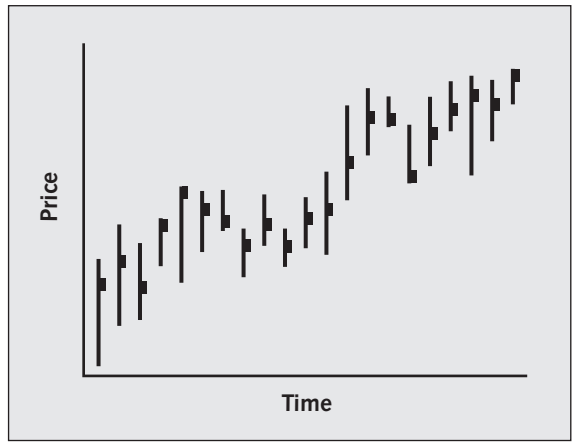
3. 2. 1. 2 Collecting Data

Technical analysts plot market statistics on charts to provide a graphic interpretation of market activity. Three popular charts include bar charts, moving-average charts, and point-and-figure charts.

3. 2. 1. 2. 1 Bar Charts

Bar charts (see the next figure) show price trends over consecutive time periods. Price levels appear vertically (i.e., on the vertical axis), and time appears horizontally (i.e., on the horizontal axis). One vertical line displays the **trading range** for each trading period (e.g., day, week, or month). The highest price during that period tops the line, the lowest price is the bottom, and a small horizontal notch (cross hatch) indicates the settlement price.

Bar Chart



A single period of trading activity (i.e., day, week, or month) is insignificant until a chartist compares it to previous trading periods.

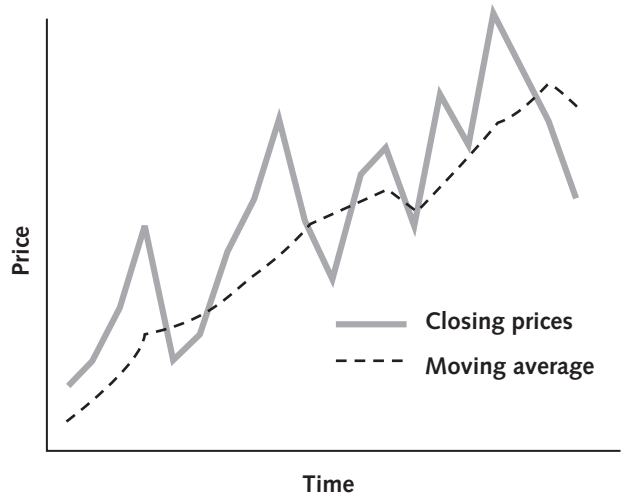
Whether a technician uses daily, weekly, monthly, or yearly bar charts depends on the time frame analyzed (daily bar charts might provide too much data to analyze a year of activity, and monthly bar charts might not provide enough). Many technicians believe that weekly charts most accurately reveal longer-term trends with sufficient detail.

3. 2. 1. 2. 2 Moving-Average Charts

Like the bar chart, the **moving-average chart** is plotted on a graph, with price on the vertical axis and time (usually expressed as days) on the horizontal axis.

A moving-average chart (see the next figure) depicts price trends. It plots average daily settlement prices over a defined time period, such as three days, 10 days, or 30 days, as points on a chart.

Moving-Average Chart



If the technician uses a three-day moving average, the first point is the average closing price for days one, two, and three. The second point will be the average price for days two, three, and four. Each day, the latest day's settlement is added to compute the average, and the oldest price is dropped.

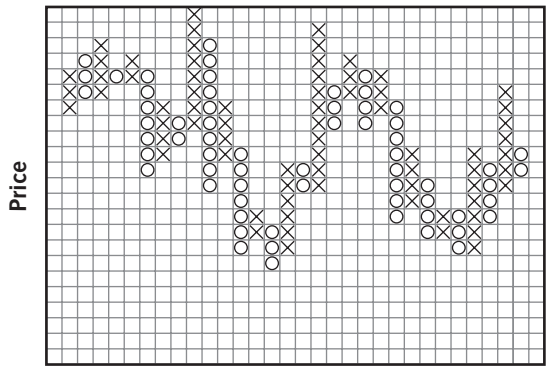
Moving-average charts normalize daily price swings to provide the chartist with a clearer view of the underlying trend. Because moving averages lag behind current prices, a change in direction in a moving-average chart should signal a change in market direction.

Moving average is usually used with other technical tools, such as bar charts or point-and-figure charts.

3. 2. 1. 2. 3 Point-and-Figure Charts

Point-and-Figure (P&F) charts, also called **X-O charts** (see the next figure), reveal the effects of price reversals over time. Unlike bar charts, P&F charts ignore small price fluctuations, trading volume, and time.

Point-and-Figure (P&F) Chart



Analysts using P&F charts establish the size of the price variation to track (e.g., 10 points, 50 points, or 100 points), and then mark the chart each time the price moves by that amount. If the price moves up by that increment, the analyst marks an X on the chart; if the price moves down by that increment, the analyst marks an O. Each time the market moves by that increment in the same direction, the analyst makes another mark in the same column. If the market moves by that amount in the other direction, the analyst marks in the next column. If the price moves, but by less than the minimum interval, no new marks are made, no matter how much time passes.

Each column shows a price movement, and each new column indicates a change of direction (reversal). P&F charts are also called **reversal charts** because each trend change is indicated with a new column. Reversal charts record between-day trading activity, which makes them good indicators of congestion areas.

3. 2. 1. 3 Chart Patterns

Patterns depict the market direction and alert technical analysts to likely changes in price trends. Three respected patterns are:

- head and shoulders formations;
- triangles; and
- double (and triple) tops and bottoms.

3. 2. 1. 3. 1 Head and Shoulders Formations

A **head and shoulders** pattern is an indicator of a major trend reversal. The next figure illustrates the two head and shoulders formations.

Head and Shoulders Top. A **head and shoulders top** has three price peaks. The center peak (the head) rises above the two outer peaks (the shoulders). A head and shoulders top is a bearish signal in that it depicts a price pattern that is unable to move above the resistance level. In the bull phase of a cycle, prices rise and fall, but the general trend is up. The left shoulder of a head and shoulders formation displays this increase. The head shows the top of the cycle—that is, the point at which prices fail to move higher and then begin to descend. As prices fall from the peak, they may fluctuate up again for short periods, but this third movement (the right shoulder) never trades as high as the head. Once prices fall below the neckline on the second shoulder, the head and shoulders is finished.

To the technical analyst, a head and shoulders top indicates the beginning of the bear phase of a cycle, and prices should decline.

Head and Shoulders Bottom. A **head and shoulders bottom** is an upside-down head and shoulders top. This pattern shows three valleys (with the middle one the deepest). A head and shoulders bottom is a bullish signal in that it depicts a price pattern that does not decline below support levels. As such, a head and shoulders bottom often indicates the beginning of the bull phase of a cycle.

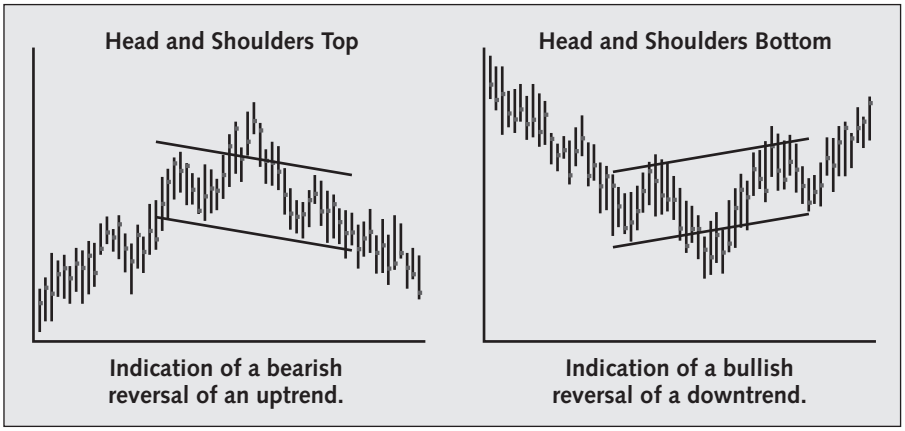
TAKE NOTE

Charts help determine when there might be a reversal of trend, such as a price reversal. These determinations occur with certain signals from one or more indicator or pattern. Some examples of patterns that might indicate a reversal in price or trend are:

- the charted prices breaking a trendline;
- the recognition of certain patterns, such as head and shoulders, double tops/bottoms, and triangles; and
- the closing of the moving averages with respect to the daily prices and trendlines or a reversal in the direction of the moving averages.

In order to have reasonable accuracy, it is usually standard to have signals from more than one indicator in order to confirm the price (trend) change.

Head and Shoulders Formations



TEST TOPIC ALERT

If you see the expression **rounded tops** on the test, know that it points to a possible reversal of the current uptrend. It is a gradual indicator sometimes referred to as an inverted bowl or saucer top.

A sample question might read as follows.

A rounded top chart pattern is an indicator of

A. a volatile market.
B. a bullish market.
C. a gradual change pointing to a possible bear market.
D. a decrease in volume.

The answer is C.

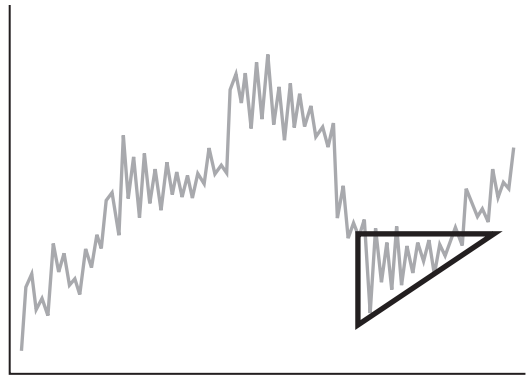
Once the top is reached and the price pattern starts its downward turn, volume often increases.

3. 2. 1. 3. 2 Triangles

Triangles (or **pennants**) are chart patterns indicating the range of prices is narrowing over time. They are called pennants or **banners** because they look like triangular flags, with the pole at the left. The relationship of the tip of the triangle to the wide left side (that is, whether it is even with the bottom, the middle, or the top of the left edge) indicates the probable direction of price movement.

An **ascending triangle** (illustrated in the next figure) usually appears after a drop in prices. The market trades back and forth through this range, not exceeding recent highs (resistance), but with lows gradually moving somewhat higher. The long side of the triangle slopes upward. An ascending triangle is a bullish indicator.

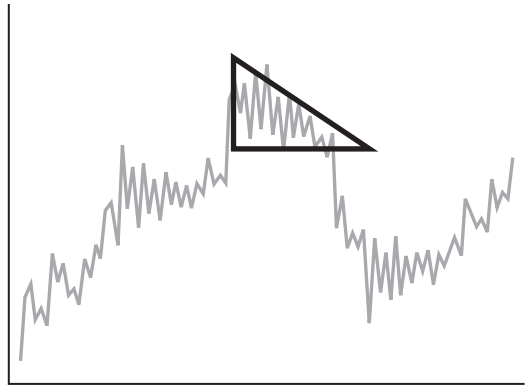
Ascending Triangle



An upward-sloping triangle is a bullish indicator.

A **descending triangle** (illustrated in the next figure) is the opposite of an ascending triangle. The descending triangle represents a narrowing range after a sharp run-up in prices. A descending triangle signals that prices should break out of the trading range on the downside. A descending triangle is a bearish indicator.

Descending Triangle



A downward-sloping triangle is a bearish indicator.

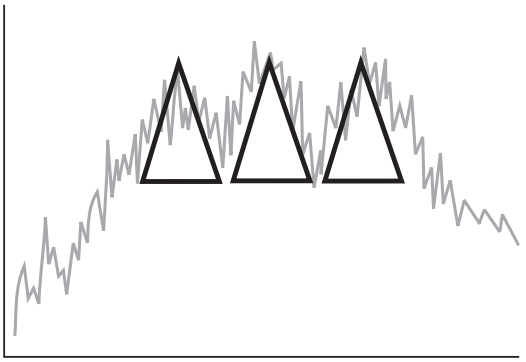
TAKE NOTE

In a descending triangle, the chief characteristics are the bottom of the triangle lying on (or near) a support level, with the higher prices consistently declining. In a triple bottom, the higher prices are not necessarily consistently declining, but the support level has been tested three times without penetration.

3. 2. 1. 3. 3 Double (and Triple) Tops and Bottoms

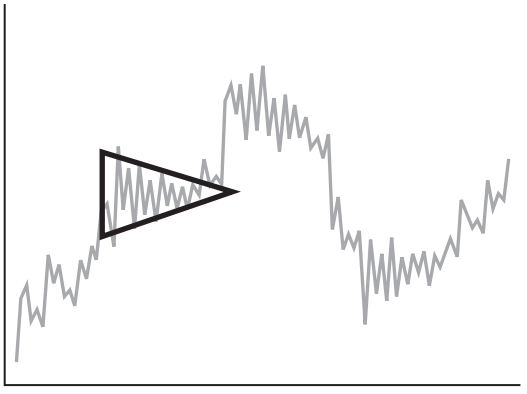
Double and triple tops and bottoms indicate **support** or **resistance**. When prices test a certain level two or three times, but fail to break through it, technicians expect the market will stay in the established range. A double or triple bottom is a bullish formation. A double bottom looks like a "W." A double or triple top is bearish and a double top looks like an "M."

Triple Top Pattern



A bearish reversal pattern

Symmetrical Triangle



A symmetrical triangle is a neutral indicator.

EXAMPLE

Here are some examples of questions you may see.

A market situation in which the net supply of futures contracts available for sale exceeds the net demand for these futures is

A. buying pressure
B. support area
C. congestion area
D. selling pressure

Answer: D.

A price range in which one can expect a possible increase in the demand for a commodity futures contract is called

A. buying pressure
B. bull market
C. support area
D. resistance area

Answer: C.

A price range in which one can expect a possible increase in the selling of a commodity futures contact is called

A. buying pressure
B. bear market
C. support area
D. resistance area

Answer: D.

3. 2. 1. 4 Interpreting Charts

3. 2. 1. 4. 1 Support and Resistance

Support and resistance describe price levels that a futures contract fails to penetrate. When prices move below a support level or above a resistance level, a **breakout** occurs. Analysts expect a major price movement (i.e., a downtrend if a support level is violated, or an uptrend if a resistance level is surpassed) to follow.

Support creates a **floor price** that may prevent further price declines. As a commodity's price drops to a certain level, traders may perceive that the commodity is undervalued and, consequently, buy futures. This buying trend, in turn, supports prices. A support level is not an absolute floor below which prices cannot drop; if enough selling occurs, prices break through the floor and fall until a new support level develops.

Resistance creates a **ceiling** capping a commodity's price rise. When prices reach a certain point, some traders perceive that the commodity is overvalued and sell futures. This selling pressure stops further price increases. If prices break through resistance, it signals a bullish trend.

3. 2. 1. 4. 2 Congestion

A pattern without strong indications of a direction or trend is known as **congestion** or **consolidation**. Under congestion, a market trades in a fairly narrow range of prices, perhaps limited by support and resistance.

3. 2. 1. 4. 3 Overbought and Oversold

An excess of buying or selling in futures contracts is described as overbought or oversold. Overbought and oversold are not related to supply and demand. An **overbought market** occurs with a large increase in price over a short time. An overbought market is a bearish signal. To a technician, the excessive price increase should be followed by a price drop.

The market is **oversold** when there is a large price decline in a short time. An oversold market is a bullish signal. Technicians expect the price drop to be followed by a rally. Thus, technical analysts sell overbought commodities and buy oversold ones.

TEST TOPIC ALERT Keep in mind that the terms *overbought* and *oversold* express technical, rather than fundamental, ideas and are not actually related to supply or demand.

3. 2. 1. 4. 4 Key Reversal

A **key reversal** occurs when the day's price range remains above or below the previous trading day's trading session and is accompanied by heavy volume. This indicates a reversal from the prior trend.

3. 2. 1. 5 Other Technical Indicators

3. 2. 1. 5. 1 Volume and Open Interest

Volume. Volume expresses the total number of contracts traded in a market over a specified period (e.g., a day or a week). Technicians use volume to validate signals from charts. Signals received during periods of heavy volume are respected more than similar signals received during periods of light volume. This presumes that greater market participation more accurately reflects the general sentiments of traders.

During periods of light volume, prices can reflect greater volatility. As a result, chart signals with low volume are considered to be less reliable.

Because there is a buyer for every seller, total volume counts only the number of contracts traded (either bought or sold, but not both).

Open Interest. Open interest is the number of contracts (positions that have been opened) that have not been offset either by delivery or liquidation. For each contract outstanding, there must be one (long) buyer and one (short) seller. Open interest is defined as the number of open long positions.

Short covering (or offset) is a term used to describe a short who is buying the contract to remove himself from the market. A short who is buying is coming out of the market and reduces open interest in the contract.

When a trader goes long, open interest increases. When the trader offsets the long position by selling it, open interest decreases.

A **liquidating market** indicates a drop in open interest, because more investors offset (close) their positions. This usually occurs as the contract becomes deliverable at the same time as an increase in trading volume.

Entering Market	Exiting Market
(Open interest increases)	(Open interest decreases)
Longs are buying	Liquidating market
Shorts are selling	Longs are selling
	Shorts are buying

TAKE NOTE

Open interest increases when traders enter the market. A long who is buying and a short who is selling are traders entering the market. Open interest decreases when traders close their positions and remove themselves from the market. A long who is selling and a short who is buying are offsetting their positions and, thus, are removing themselves from the market.

3. 2. 1. 5. 2 Bullish and Bearish Technical Indicators Summary

The following summary will help you remember which technical indicators are bullish and which are bearish:

Bullish indicators (commodity's price should rise [uptrend]) include:

- head and shoulders bottom (inverted head and shoulders);
- double bottom;
- triple bottom;
- ascending triangle;
- oversold market;
- key reversal bottom; and
- price action increasing in an uptrend and open interest rises.

Bearish indicators (commodity's price should fall [downtrend]) include:

- head and shoulders top;
- double top;
- triple top;
- descending triangle;
- overbought market;
- key reversal top;
- increasing open interest in falling market; and
- price action rising but open interest in decline (shorts covering, money leaving the market).

Neutral indicators (no discernible direction [no trend]) include congestion/consolidation.

QUICK QUIZ 3.B

1. Congestion indicates sideways price movement within a trading range and shows no discernible price trend.

   A. True
   B. False

2. An overbought futures market means there are more long positions than indicated by the harvest.

   A. True
   B. False

3. An overbought condition occurs when there are more contracts outstanding than there is supply available.
   A. True
   B. False

4. Volume equals open long or open short positions in a commodity.
   A. True
   B. False

5. Open interest is the total number of long and short positions.
   A. True
   B. False

6. Both the purchase and sales sides of a transaction are added together to arrive at the total volume of trading for a given period.
   A. True
   B. False

7. The total open interest for all delivery months during a crop year for a particular commodity cannot amount to more than the available supply of the commodity.
   A. True
   B. False

8. Selling pressure indicates more aggressive sellers than buyers, which causes prices to decline.
   A. True
   B. False

9. Stronger than expected demand and bullish technical factors caused substantial short covering in the Apr hog contract. The most likely result is a price
   A. rise with increased open interest
   B. rise with decreased open interest
   C. fall with increased in open interest
   D. fall with decreased open interest

10. Which of the following areTRUE if prices are rising and open interest is also rising?
    I. Shorts are covering.
    II. Longs are buying.
    III. Longs are selling.
    IV. Shorts are selling.
    A. I and II
    B. I and III
    C. II and IV
    D. III and IV

11. The purpose of charting is to identify
    A. a major trend
    B. the reversal of a major trend
    C. a possible price objective
    D. all of the above

12. The most popular types of charting are
    A. moving averages of closing prices
    B. point-and-figure methods
    C. daily high-low close bar (or line) charts
    D. all of the above

13. A reversal chart is most like
    A. a bar
    B. a line
    C. a point and figure
    D. a moving average

14. Previous support and resistance areas are trading zones in which prices have moved in a sideways direction, and they tend to
    A. set the objective of a subsequent move when prices break out
    B. contain price declines and limit price increases, respectively
    C. determine maximum daily price fluctuations
    D. project the direction of the next price trend

15. In a particular futures contract, aggressive buying during small declines and aggressive selling during small rallies is known as
    A. support
    B. resistance
    C. congestion
    D. reversals

3. 3 SUMMARY

Fundamental and technical analysts use different tools to predict commodity price changes. Fundamental analysts focus on factors that affect the supply and demand for a commodity to determine the direction of its price.

Technical analysts rely on patterns displayed on charts relating to a commodity's price, volume, and open interest, to discern buy, sell, or neutral signals for the commodity. Technicians pay particular attention to support and resistance levels of a commodity.

UNIT TEST

1. Futures trading occurred in Europe long before the U.S. commodity futures markets developed.
   A. True
   B. False

2. Demand elasticity exists when price change
   A. results in little or no change in consumption or production
   B. creates an increase or a decrease in consumption
   C. creates an increase or a decrease in production
   D. none of the above

3. The primary significance of volume and open interest lies in
   A. their respective changes in connection with the direction of the price movement
   B. their changes relative to connection with each other
   C. whether they change significantly or very little
   D. whether the market is inverted or normal

4. Open interest is the number of futures contracts
   A. bought or sold that have not been liquidated
   B. bought minus the number sold that have not been liquidated
   C. bought plus the number sold that have not been liquidated
   D. sold minus the number bought that have not been liquidated

5. The clearing house guarantees fulfillment and economic integrity of futures contracts.
   A. True
   B. False

6. An ascending triangle indicates to a technical analyst that the market price is likely to move
   A. up
   B. down
   C. sideways
   D. none of the above

7. A commodity futures settlement price is determined by
   A. the clearing house
   B. the exchange
   C. the CFTC
   D. the floor committee

8. A large number of available futures contracts with no demand describes which of the following markets?
   A. Buyers
   B. Sellers
   C. Overbought
   D. Oversold

9. In an inverted market, a futures bear spread has
   A. limited risk and limited profit potential
   B. unlimited risk and unlimited profit potential
   C. limited risk and unlimited profit potential
   D. unlimited risk and limited profit potential

ANSWERS AND RATIONALES

1. **A.** Commodities futures trading has occurred since people have been exchanging goods for other items of value.

2. **B.** Demand elasticity describes the responsiveness of demand to change in the price of that commodity. Choice C describes supply elasticity.

3. **A.** Volume and open interest are technical indicators, which are analyzed relative to their impact on other technical indicators. Choice B is incorrect because while both factors affect market prices, they are not related to each other. Choice C is incorrect because changes and sizes of each of these factors affect prices, not whether they change or not. Choice D is incorrect because this relates to which prices are higher, nearby or distant futures contracts.

4. **A.** The total number of futures contracts of a given commodity that has not yet been offset is known as the open interest. Each open transaction has a buyer and a seller, but, for calculation of open interest, only one side of the contract is counted (i.e., although there are two parties involved, there is only one contract).

5. **A.** The term fulfillment can mean performance, which the clearing house guarantees. The clearing house does not guarantee delivery.

6. **A.** Ascending triangles are a bullish indicator to most technical analysts.

7. **A.** The clearing house determines the settlement price; this price is the closing price if there is only one closing price. When there is a closing range, it is near the midpoint of the range. Settlement price is used to determine whether additional margin is required.

8. **A.** Large supply with little demand is a buyers' market because the many sellers cause the price to go down to levels that should eventually attract buyers.

9. **D.** A bear spread involves selling the near and buying the deferred. In an inverted market, risk is virtually unlimited. If the anticipated price climb in the deferred month does not occur, the deferred future will be sold at a loss.

QUICK QUIZ ANSWERS

Quick Quiz 3.A

1. **A.** Fundamental analysis involves the study of the basic economic relationships that affect price.

2. **A.** The other choices refer to economic factors that might affect the supply of or demand for a commodity.

3. **D.** A farmer can receive a loan from the CCC program by pledging his crops as collateral. If the farmer defaults on the loan, the CCC takes possession of the grain, but the debt, both principal and interest, is forgiven.

4. **C.** The loan can be renewed for up to 3 years, though it must be repaid at that time with interest or the pledged crops will be forfeited.

5. **A.** A commodity acquired by the CCC can be disposed of only when the commodity is in danger of spoiling or is in noncompetitive sales. This is to prevent any surpluses held by the CCC from depressing prices in the open market.

6. **B.** The Commitments of Traders (COT Reports) provide a breakdown of open interest published by the CFTC.

Quick Quiz 3.B

1. **A.** Congestion indicates sideways price movement within a trading range and shows no discernible price trend.

2. **B.** In an overbought market, prices rise faster than expected in light of other technical indicators.

3. **A.** With an overbought market, it is not unusual to have more futures contracts outstanding than the deliverable physical commodity available.

4. **B.** Volume indicates the number of contracts traded. Every trade involves both a buyer and a seller. Volume equals the number of contracts bought or sold. So that each trade is not counted twice, volume does not equal the number of contracts bought and sold.

5. **B.** Open interest indicates the number of contracts outstanding—that is, positions initiated earlier that have not yet been liquidated. For each contract outstanding, there is one trader long and another trader short.

6. **B.** A single trade consists of both a buy and a sell. Although there is a buyer and a seller in each transaction, there is still only one transaction.

7. **B.** Open interest may vary widely over a contract's life. At expiration, it tends to become more in line with actual supply and demand.

8. **A.** When there are more sellers than buyers at a given price, the price drops.

9. **B.** If shorts are covering (getting out) substantially, open interest must be falling. Because this occurs during a period of bullish technical and fundamental factors, it would also seem that prices should rise.

10. **C.** Rising open interest means the number of open contracts (and, thus, long and short positions) is increasing. On balance, longs are buying, and shorts are selling.

11. **D.** Charting is a technical tool for predicting the expected direction and size of price changes.

12. **D.** All examples are popular charting methods.

13. **C.** A point-and-figure chart is also called a reversal chart because, when the price direction changes (reverses), the chartist then displays prices on a new column to the right.

14. **B.** If a futures contract trades between support (i.e., the price level at which buyers keep prices from dropping) and resistance (i.e., the price level at which sellers keep prices from going higher) the commodity is in congestion (also called consolidation).

15. **C.** A period of limited price fluctuations with aggressive buying and selling is known as congestion.

UNIT

4

Interest Rate, Stock Index, and Foreign Currency Futures

Financial futures provide investors with opportunities to speculate and hedge financial instruments. Interest rate futures are futures contracts in which debt obligations (e.g., bonds and eurodollars) serve as the underlying instrument or commodity.

Stock index futures are based on a basket (or list) of common stocks. A stock index mirrors the market activity of the stocks in the index. Various indexes underlying futures contracts contain different numbers of stocks—for example, there are 30 in the Dow Jones Industrial Average.

Foreign currency futures are based on currencies of selected countries. Contracts are chosen based on the importance of a particular currency in international trade or finance: the so-called hard, or convertible, currencies. The exchange value of hard currencies is set by the market. Importers and exporters hedge their currency risk in transactions involving foreign exchange with currency futures. ■

OBJECTIVES

When you have completed this Unit, you should:

- **know** how to hedge
  - — stock or bond portfolios,
  - — import or export transactions from currency risk, and
  - — the cost of borrowing; and
- **understand** single stock futures.

4. 1 INTEREST RATE FUTURES

4. 1. 1 DEBT SECURITIES

4. 1. 1. 1 U.S. Treasury Securities

Debt securities, such as United States Treasury notes and bonds, are sold by an issuer as a means to raise money. The issuer of debt is a **borrower**. The buyer (holder) of a debt security is a **lender** and expects to earn interest and have the principal returned when the debt security matures.

The issuer of a debt security typically makes fixed-dollar interest payments to holders of its debt at specified times until the debt instrument matures. Debt issuers include the federal government, municipal governments (such as states, cities, and counties), and corporations.

The buyer of a U.S. Treasury security, in effect, loans money to the U.S. government. The buyer receives semiannual interest payments from the government. When the bill, note, or bond matures, the holder receives the par value ($1,000) back from the U.S. government as repayment of the principal.

Interest rate futures contracts use U.S. Treasury debt obligations (i.e., bonds, T-bills, and notes) as the underlying instrument or commodity.

4. 1. 2 PRICE-YIELD RELATIONSHIP

4. 1. 2. 1 Market Value and Face Value

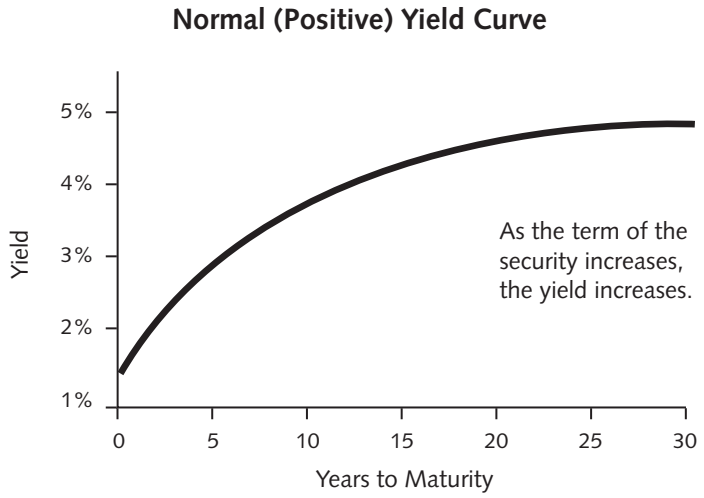
The purchaser of a debt security may hold it until it matures or may sell it any time before maturity. The market price of bonds traded in the cash market can be at, above, or below par value.

The market prices of bonds are determined by many factors, the most important of which is the relationship of the bond's stated interest rate, its **coupon rate**, to current interest rates. Bond prices and interest rates are inversely related. A change in interest rates causes bond prices to move in the opposite direction. Thus, if interest rates fall, bond prices rise; if interest rates rise, bond prices fall. The market value of all bonds is subject to interest rate risk.

Corporate and municipal bonds also face default risk—that is, the risk that the issuer may lack the means to pay interest and principal on its debt.

Treasury bills, notes, and bonds are backed by the full faith and credit of the U.S. government, which is empowered to raise taxes and create money. T-bonds are highly liquid and can be readily converted to cash. The market price of Treasury securities changes along with overall interest rate changes (that is, they are interest rate sensitive).

Most bonds pay a fixed amount of interest every six months. In a falling interest rate environment, previously issued bonds that pay more than prevailing rates will rise in price. To keep it simple, a five-year-old $10,000 Treasury bond with a coupon rate of 10% pays $1,000 in interest each year until maturity. If interest rates drop and new T-bonds pay 6%, purchasers of the newly issued bonds receive only $600 in annual interest, whereas the 10% bond still pays $1,000 per year.



4. 1. 2. 2 Yield Curves/Positive versus Negative Carry

Normal (Positive) Yield Curve. The yield curve illustrates the relationship between bond yields and maturities. Lower yields for short-term debt and higher yields for long-term debt are typical, and the curve they produce when depicted on a graph is a normal (positive) yield curve. A normal yield curve has an upward, or positive, slope. The normal yield curve, as shown in the figure above illustrates the relationship between the yield for U.S. government debt securities, ranging from one-year T-bills at 1% through 30-year T-bonds at 5%. A normal yield curve has an upward, or positive, slope. This is normal because of risk: the shorter the maturity, the less volatile (hence safer); the longer the maturity, the more volatile (hence riskier). The public will normally require a higher return for riskier investments.

Inverted (Negative) Yield Curve. An inverted yield curve indicates that short-term debt securities provide higher yields than long-term debt securities. In the inverted yield curve shown in the figure on the next page, the yields on one-year T-bills are 5%, and the yields on 20-year T-bonds are 1%. Because the yield on short-term debt is higher than that of long-term debt, the yield curve is inverted; that is, the normal yield-to-maturity relationship is reversed. An inverted yield curve has a downward, or negative, slope. The inverted yield curve is usually a temporary phenomenon and occurs when the supply of money is tight.

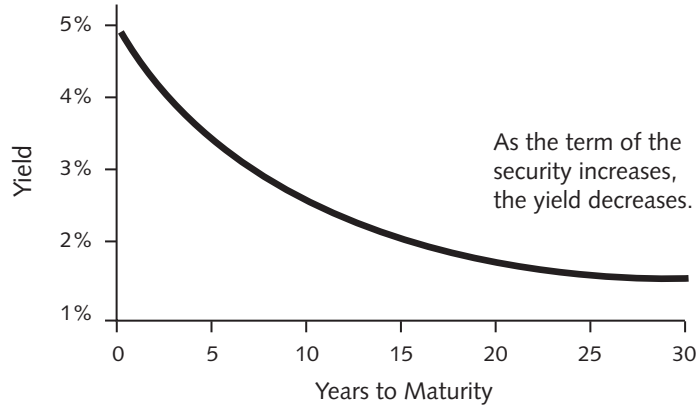
TAKE NOTE

Carrying cost is the overall cost of money, referring to the income received from coupon yields less the expenses for the money as determined by the prevailing short-term interest rates. The carrying cost figure may be either positive or negative and is referred to as a positive carry or a negative carry.

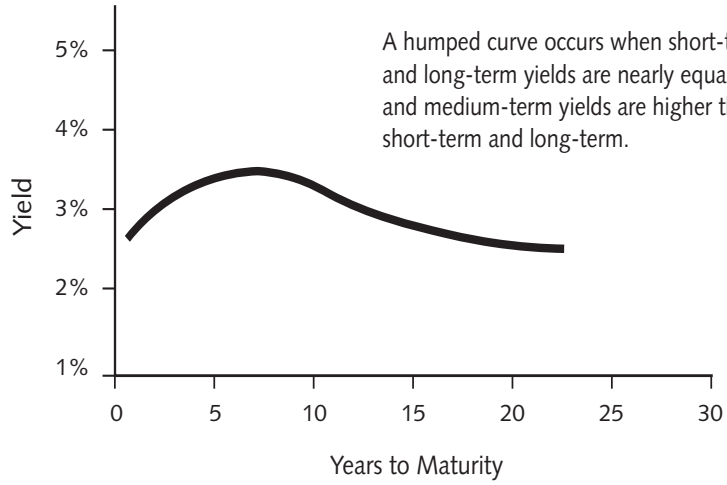
A positive carry is when the short-term interest rates are lower than the long-term interest rates, thereby creating a positive yield curve.

In this case, money may be borrowed at low rates and lent out at higher rates. With positive carry, financial institutions can profitably offer lower quotes on the more distant money market vehicles, thereby creating a situation where the further-out contracts are quoted at a discount to the nearbys. So interest rate futures prices are progressively discounted on a monthly basis in the normal, positive carrying charge environment.

Inverted (Negative) Yield Curve



Humped Yield Curve



Yield Curve Summary

Positive. Long-term rates greater than short-term rates

Negative. Long-term rates less than short-term rates

Flat. Long-term rates and short-term rates about the same

Humped. Short-term and long-term yields are nearly equal, and medium-term yields are higher.

4. 1. 2. 2. 1 Other Price-Yield Considerations

Yields on debt securities with similar maturities tend to move together. Therefore, yields (and consequently, prices) on T-bills, CDs, and eurodollar deposits—which are all short-term debt obligations—tend to move in the same direction and at the same speed. Similarly, yields on long-term T-bonds, and T-notes tend to change together.

The yield curve can change its slope and curvature, so although both long- and short-term bonds react to similar influences, they may react with varying intensity.

Volatile Short-Term Yields. Short-term yields are more volatile than long-term yields. Interest rates on new three-month T-bills vary from week to week, depending on economic expectations. Conversely, 20-year bond yields react less to daily events because short-term events mean little relative to the bond's 20-year life.

Volatile Long-Term Prices. Long-term bond prices are more volatile than short-term bond prices. Interest rate changes have little effect on the price of short-term bills because they mature (and repay principal) quickly. Because of the long time frame and the subsequent risk to the buying power of the bond income and principal due to inflation, long-term securities have greater interest rate risk.

4. 1. 2. 3 Interest Rate Futures Contracts

Interest rate futures include:

- contracts on short-term debt obligations; and
- contracts on long-term debt obligations.

The futures contracts for short- and long-term debt have many similarities.

4. 1. 2. 4 Short-Term Debt Obligations

Futures contracts on short-term debt obligations include T-bill and eurodollar futures, both of which:

- have contract sizes based on $1 million par values;
- have three-month maturities;
- are priced at a discount and mature at par (100%); and
- reflect that the underlying commodity is a discount debt obligation.

4. 1. 2. 4. 1 T-Bill Futures

T-bill futures were contracts on the shortest maturity U.S. government debt obligations—three-month T-bills. For each expiring futures contract, there was only one specific issue of 90-day maturity T-bills for delivery. Although not currently traded, there may be some lingering questions about the contract on the actual exam.

The yield of a T-bill is the difference between the discount price and par. The yield for short-term debt instruments is stated in annualized terms.

TAKE NOTE

If a T-bill priced at $1,000 is bought for $985 and it is worth $1,000 three months later, then its rate of return is 1½% for 3 months, or 6% annualized (1½ × 4).

Futures Pricing. Futures prices on discount debt are the same as the debt pricing (100%) minus the annualized yield.

EXAMPLE

Given a T-bill discount of 6.7%, the futures price is calculated as: 100 – 6.70 = 93.30.

A full (percentage) point is 1.00 (1%) and represents $2,500 because the contract is based on T-bills, which mature quarterly. A one-point change equals a 1% change in T-bill yields.

TAKE NOTE

A basis point is .01 (one-hundredth of 1%) or $25. Because the futures contract as mentioned previously is based on a 3-month, $1 million T-bill, 1% of that is $10,000. Divide that by a quarter to come up with $2,500. One-hundredth of that is $25, the minimum tick.

4. 1. 2. 4. 2 Eurodollar Futures

Eurodollar futures are CME contracts on short-term, $1 million, eurodollar deposits, U.S. dollar-denominated time deposits at banks anywhere outside the United States.

EXAMPLE

A deposit of U.S. dollars at the Bonn, Germany, branch of the Dresden Bank is a eurodollar deposit, as is a U.S. dollar deposit at the Hong Kong and Shanghai Bank's Singapore branch.

Eurodollar futures are a cash-settle upon expiration. Any futures position that is not liquidated before the closing bell of the last trading day is settled through cash adjustments based on the final settlement price. There is no deliverable instrument for eurodollar futures contracts.

The final settlement price is computed by subtracting the three-month **London Interbank Offered Rate (LIBOR)** from 100. The LIBOR is the rate at which banks lend to one another in the London interbank market.

4. 1. 2. 5 Long-Term Debt Obligations

Futures on long-term debt obligations include T-bonds and T-notes, and they each:

- have $100,000 par values;
- are treated as having 6% coupon rates; and
- have delivery months of March, June, September, and December.

Delivery of futures on long-term debt obligation contracts can be made with qualified securities of different coupon rates. In the case of T-bonds or T-notes, the settlement price at delivery depends on the coupon rate on the bonds and the appropriate adjustment factor. The amount that the long futures holder who takes delivery would have to pay (excluding accrued interest) is calculated as follows:

Contract settlement price × adjustment factor = amount

The adjustment factors for various deliverable Treasury issues are published by the CME using CBOT rules.

EXAMPLE A customer will deliver 9¾% bonds and futures settled at 76 – 12 (76$^{12}/_{32}$—a contract cash value of $76,375). Given an adjustment factor of 1.055, the long position holder taking delivery would have to pay $76,375 times the adjustment factor of 1.055, for a total of $80,575.63 per $100,000 par value of the 9¾% bonds being delivered.

Long-term contracts are typically quoted as a percentage of par, with a tick size of 1/32 of a point or a fraction thereof. Each full point, representing 1% of the par value of the contract (1–00, or 1.00) equals $1,000. Each tick (1/32, –01, or .01) equals a $31.25 change in the cash value of the contract.

4. 1. 2. 5. 1 T-Bond Futures

T-bond futures are contracts on the longest maturity U.S. government debt obligations. To qualify for delivery, securities must have 15 years or more remaining until maturity or the first call date. Delivery can be made by depositing the appropriate dollar amount of T-bonds in any Federal Reserve System bank for wire transfer over the Federal Reserve wire. T-bond futures are the most actively traded of all futures contracts.

4. 1. 2. 5. 2 T-Note Futures

T-note futures are contracts on intermediate-term U.S. government debt. To qualify for delivery, the Treasury securities must have at least 6½ years, but no more than 10 years, remaining until their maturity date or first call date. Delivery is the same as for T-bond futures.You may see price fluctuations for a T-note is one-half of one thirty-second. It can be even smaller under certain conditions. Working with small and irregular fractions is a time consumer on the test. It would be wise to do arithmetic push-ups by making up a series of your own fraction questions during your studies to get comfortable with small and irregular fractions.

Summary Table of Contracts

Exchange	$	Futures	Tick
CME	$1,000,000	T-bills, Eurodollar	.005 = $12.50
CME/CBOT	$100,000	T-notes, T-bonds	1/2 of 1/32 = $15.625

4. 1. 2. 6 Intermaturity Spreads

When using intermaturity spreads, which entails buying T-bill futures while selling T-bonds futures, the greater volatility of longer term bond prices (rather than bond yields) must be assumed. Buying T-bill futures and selling T-bond futures may seem odd at first, but it is okay in creating an intermaturity spread.

An investor can place a dollar-weighted hedge by selling one T-bill futures contract ($1 million par) and buying 10 T-bond futures contracts ($100,000 par per contract × 10 contracts = $1 million par). With this spread weighting, if both long-term and short-term interest rates change by approximately the same amount, the change in price of the longer term T-bond position is greater.

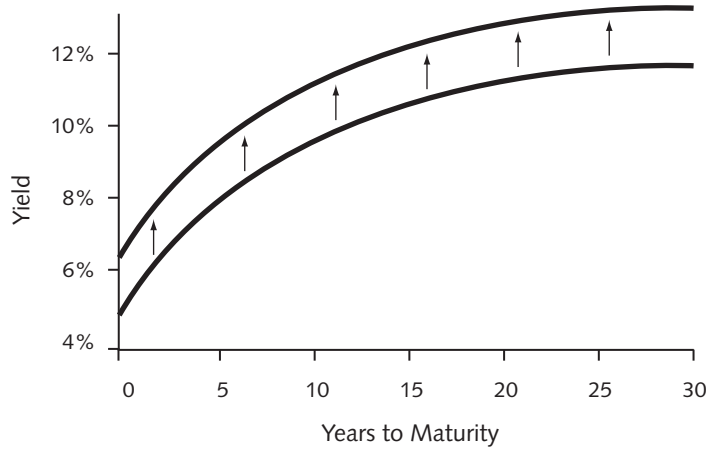
TAKE NOTE

In this hedge, the ratio of short-term debt futures (T-bills) to the long-term debt futures (T-bonds) should balance the different price volatilities.

Short-term debt instruments have three-month maturities (one-fourth of a year) resulting in a 4:1 ratio.

Because of the different dollar size of each contract ($1 million for T-bills and $100,000 for T-bonds), a properly weighted spread includes two T-bill futures contracts ($2 million par) and five T-bond futures contracts ($500,000 par), providing the 4:1 ratio. Given a similar change in long-term and short-term rates (that is, a **parallel shift** of the yield curve, as shown in the figure below), the price changes in this example's T-bill and T-bond positions are approximately equal.

Parallel Shift of a Yield Curve



QUICK QUIZ 4.A

1. The T-bond contract trades on
   A. the IMM in units of $100,000
   B. the IMM in units of $1 million
   C. the CBOT in units of $100,000
   D. the CBOT in units of $1 million

2. A customer shorts 3 T-bill futures ($1 million par, 1.00 pt. equals $2,500) at 95.24. She offsets her position when the T-bills are at 94.36. What is her gain, excluding commission and transaction charges?
   A. $2,200
   B. $3,700
   C. $6,600
   D. $8,800

3. When the yield curve is inverted, one would expect to see
   A. T-bond yields higher than T-note yields
   B. Japanese Government Bond yields higher than T-bill yields
   C. T-note yields higher than eurodollar yields
   D. T-bill yields higher than T-bond yields

4. An investor sells 2 Dec T-bond contracts ($100,000 par, 1.00 equals $1,000) when they are trading at 76-24. He closes the position when the contracts are trading at 74-16. Assuming a commission of $75 per contract, the transaction would result in
   A. a $150 loss
   B. a $4,800 loss
   C. a $2,100 gain
   D. a $4,350 gain

5. An inverted yield curve shows that
   A. T-bond yields are higher than T-note yields
   B. Japanese Government Bond yields are higher than T-bill yields
   C. T-note yields are higher than eurodollar yields
   D. T-bill yields are higher than T-bond yields

Quick Quiz answers can be found at the end of the Unit.

4. 2 INTEREST RATE ANALYSIS AND HEDGING

4. 2. 1 INTEREST RATES AND BOND PRICES

Fundamental economic conditions affect interest rates and, therefore, bond prices. Interest rates and bond prices are determined by the supply and demand for money or credit. Changes in demand for credit drive the cost of credit (that is, interest rates) higher or lower. Increased government, business, or consumer borrowing (higher demand) moves interest rates up, thus depressing bond prices.

Conversely, when governments, businesses, or consumers borrow less, lower demand for credit pushes interest rates lower, thus making bond prices rise.

Bond prices are inversely related to interest rates: as rates rise, bond prices decline; as rates decline, bond prices rise.

Changes in the supply of money to lend, the **money supply**, also move interest rates. Increased money supply moves interest rates lower, and declining interest rates are bullish for bond prices (i.e., bond prices should rise). A decrease in the money supply moves interest rates higher, which is bearish for bond prices (i.e., bond prices should fall).

4. 2. 2 GOVERNMENT ECONOMIC POLICY

The U.S. government's economic policy affects the economy in general and interest rates in particular. As America's largest buyer, the government's actions influence the economy more than do the actions of individuals and businesses. Economic policies fall into two broad

categories: fiscal policy and monetary policy. These policies may be **expansionary** (easy), encouraging economic growth, or **contractionary** (tight), discouraging excessive economic growth to reduce inflation.

4. 2. 2. 1 Government Fiscal Policy

Fiscal policy, established by Congress and the president, is also called **budgetary policy** because it reflects government spending and taxation.

Increased government spending and tax cuts are **expansionary fiscal policies**. Certain economists argue that expansion, because it increases government's borrowing, worsens deficits. Increased credit demand typically raises interest rates and depresses bond prices.

Government spending cuts and tax increases are **contractionary fiscal policies**. Such deficit-reducing activities reduce government demand for credit, which typically lowers interest rates—making bond prices rise.

4. 2. 2. 2 Government Monetary Policy

Monetary policy is directed by the **Federal Reserve Board (FRB)**. The FRB uses specific tools to control the rate of growth of the money supply. The tools used by the FRB to influence the money supply include:

- the **Federal Open Market Committee (FOMC)**—using **open market operations**, the FRB buys and sells Treasury securities (from and to banks) for its own portfolio;
- **discount rate**—the rate at which the FRB charges member banks to borrow money;
- **reserve requirement**—the percentage of a bank's deposits required to be held in reserve (deposits at Federal Reserve banks); and
- **open market operations**—effect the interest rates, the money supply, and the economic cycles of recession or inflation.

Banks may use the loan proceeds to meet their reserve requirements. If the discount rate is increased, the expense to member banks increases. The banks in turn are then forced to raise their interest rates to their customers. The effect is that increases in discount rates lead to higher interest rates. Similarly, decreases in discount rates lead to lower interest rates.

By changing the reserve requirements, the amount of money that the banks have to lend to individuals and businesses will vary. For example, assume that the reserve requirement is 20%. That is, for every dollar of deposits, a bank must keep 20 cents in reserve, therefore being able to lend out 80 cents. If the requirement is raised to 25%, there will be only 75 cents to lend, and the money supply will tighten. The opposite also holds true; a decrease in the reserve requirements will cause a loosening of the money supply.

The Fed will either be buying or selling U.S. Treasury obligations in the open marketplace. This is the most effective method in controlling the monetary policies of the economy! This is also the factor that exerts the greatest influence on U.S. T-bill rates.

When the Fed buys, they are paying, hence putting money into the system. This eases credit, reduces interest rates, and stifles recessions.

When they sell, they are receiving funds, hence taking money out of the system. With less money available, credit becomes tighter, interest rates increase, and inflation decreases.

Expansionary FRB actions include purchasing securities, lowering the discount rate, and cutting reserve requirements. These activities, alone or in combination, pump money into the economy and, thus, increase the money supply (credit supply), which causes interest rates to fall.

Contractionary monetary actions of the FRB include selling securities, raising the discount rate, and increasing reserve requirements. These actions extract money from the economy, and, thus, typically shrink the money supply, which causes interest rates to rise.

TEST TOPIC ALERT

The most effective way for the FRB to increase or decrease interest rates is to use open market operations.

4. 2. 2. 3 Federal Debt

The U.S. Treasury borrows money on behalf of the government by issuing T-bills, notes, and bonds. Most outstanding federal debt is owned by financial institutions, such as banks, insurance companies, investment companies, and pensions.

4. 2. 2. 4 Business Conditions

Business conditions influence demand for credit as well. General economic activity is measured by the **gross domestic product (GDP)**. A growing GDP reflects economic expansion and business' demand for credit, which may drive interest rates higher. A contracting GDP reflects declining business activity and lower demand for credit, which cause interest rates to fall.

4. 2. 3 HEDGING INTEREST RATE RISK

An investor can establish either a short hedge or a long hedge to hedge interest rate risk. Two fairly common short hedging situations that might be encountered are:

- hedging the future cost of borrowing; and
- hedging a current investment in debt securities.

Corporations will frequently use long hedges to hedge an upcoming investment in debt securities.

Corporations that borrow funds by issuing bonds are concerned with interest rate risk. Rising interest rates increase a firm's interest payment costs on its borrowed funds. To reduce this risk, a corporation can take a futures position that appreciates in value as interest rates increase.

TAKE NOTE

In a normal market for debt instruments, cash prices are higher than futures prices, unlike other futures contracts in which cash prices are normally lower than futures prices. This is because the holder of a debt instrument earns interest during the holding period, whereas the holder of other commodities (such as grain) incurs carrying charges. Interest received is factored in the basis.

The key to understanding the performance of bonds in the marketplace is the relationship of yield-to-price movement. When yields increase, bond prices decline. Conversely, as yields decline, prices rise. In a rising rate market, bondholders see the secondary market principal value erode. Keep in mind that if the bondholder keeps the bond to maturity, he will expect to see a full return of principal. In a declining rate environment, the market value of fixed-income securities rises. Therefore, to hedge against an interest rate increase, a corporation sells (short) bond futures. Treasury bonds are shorted because there are no corporate bond futures contracts. If rates rise before the bond issue date, the increased interest cost of the debt will be offset by profit on the short futures position.

A corporation expects to borrow $10 million by issuing long-term bonds in three months. The corporation can hedge its interest rate risk by shorting a T-bond futures contract.

The current price for cash bonds is 92-23 (92 and 23/32), and the current price for T-bonds in the futures market is 90-10.

When yields rise ↑	Then prices decline ↓
When yields decline ↓	Then prices rise ↑

Weighting Cross-Hedges. Cross-hedges may need to be **weighted** to balance the difference between the size and/or volatility of the protective futures position and the hedger's cash position.

If T-bill rates and commercial paper rates have different price volatility, a dollar-weighted hedge must be adjusted by an appropriate weighting factor.

EXAMPLE

Assume a weighting factor of 1.08, meaning that commercial paper is 8% more volatile than T-bills. The appropriate futures position is calculated using the following formula: cash position times weighting factor divided by futures contract equals number of contracts; or, for a $25 million commercial issue paper, $25 million × 1.08 ÷ 1 million = 27 contracts.

The corporation hedges the upcoming $25 million commercial paper issue by selling (short) 27 T-bill futures contracts.

Assume that the corporation wants to lock in today's 8% cost of borrowing. If rates rise to 9% before the debt is issued, the corporation must offer a 9% return on its short-term commercial paper to satisfy investors and raise the desired funds.

The futures hedge reduces the issuer's interest rate risk. Even though the corporation must pay a higher rate to investors on its commercial paper, the rise in rates makes its short futures position profitable, offsetting the higher interest rate that the corporation must pay to raise its capital.

When cross-hedging with interest rate futures, it is most effective to hedge with a futures contract that matures at approximately the same time as the cash instrument being protected. If the cash and futures instruments have significantly different maturities, a shifting yield curve could result in both higher borrowing costs and loss on the futures position.

An example of a common short interest rate futures hedger would be a corporation intending to issue long-term bonds hedges by selling (short) T-bond or T-note futures.

4. 2. 3. 1 Hedging a Current Investment

A short hedge also protects debt obligations purchased for investment.

4. 2. 3. 1. 1 Short and Long Hedges

Hedgers are either long hedgers or short hedgers. Borrowers, issuers, or sellers of debt securities are **short hedgers**. Anyone who wants to lend money or buy or invest in securities is a **long hedger**. Corporations either borrow or lend, as circumstances dictate.

An investor holding bonds is long the actuals and hedges by **shorting (selling) futures**. When interest rates rise, the market value of bonds declines. To hedge against rising interest rates, a bondholder can take a position in futures that will profit if rates increase.

As interest rates increase, bond prices decrease; therefore, the bondholder sells futures for protection. A bond price decline due to rising interest rates is offset by profit on the short futures position.

Any of the following debt holders would sell (short) futures to protect their investments against rising interest rates:

- investors in corporate or government bonds, including individuals, portfolio managers, banks, pension funds, mutual funds, and bond dealers can sell T-bond or T-note futures for protection; and
- investors in T-bills, eurodollar deposits, or commercial paper hedge by selling (short) futures contracts on short-term debt obligations (T-bill futures or eurodollar futures).

4. 2. 3. 2 Hedging an Anticipatory Investment

If interest rates are expected to decline, a planned investment in debt obligations is hedged by purchasing interest rate futures contracts. This creates an **anticipatory hedge**. An anticipatory hedger buys futures today to lock in a relatively high yield on an anticipated purchase of an interest rate instrument.

TEST TOPIC ALERT

The terms *lend*, *buy*, and *invest* reveal that an exam question is about anticipatory long hedging. Prospective investors intend to lend money to earn interest by buying a borrower's debt obligations. An upcoming investment in bonds may be hedged with a long futures position.

An investor with funds (cash) who intends to buy bonds is short actuals (the bonds). An investor that finds current yields attractive but will invest at a later date can use futures to lock in current yields. To hedge, the investor goes long (buys) futures.

On the other hand, an investor who intends to buy bonds in some months risks losing today's interest rates if rates drop before the purchase. The anticipatory buyer hedges against a drop in yields with futures that profit as interest rates decrease. As interest rates decrease, bond prices increase, so the hedger buys (goes long) the futures position.

EXAMPLE

A pension fund portfolio manager will receive $2 million in 2 months and intends to invest it in T-bonds. To hedge against falling interest rates, the manager would buy T-bond futures today. If rates drop before the portfolio acquires the bonds, the lower yields will be offset by profits from the long futures position. This profit can be used to purchase additional bonds, thus increasing the total dollars invested at the lower rate, which increases the income to the level it would have achieved had interest rates not dropped.

Other examples of hedging a later investment in debt instruments by using interest rate futures include:

- a future investment in corporate or government long-term debt securities that is hedged with a long position in T-bond or T-note futures; and
- a pending investment in short-term debt instruments that is hedged with a long position in T-bill or eurodollar futures.

QUICK QUIZ 4.B

1. An investor fearing falling interest rates buys a T-bond futures contract.
   A. True
   B. False
2. A company intending to issue commercial paper within 9 months would buy a financial contract.
   A. True
   B. False
3. If an investor expects a general decline in interest rates but wants to use a spread to avoid too great a risk exposure, he would buy
   A. T-bills and sell T-bonds
   B. Eurodollars and sell T-bills
   C. Eurodollars and sell T-bonds
   D. T-bonds and sell T-bills
4. A corporation will issue a $10 million mortgage in 1 year. How is this transaction hedged most effectively?
   A. Buy financial futures
   B. Sell financial futures
5. An investor looking to hedge using futures would seek for each of the following EXCEPT
   A. a position with the opposite risk from his cash market position
   B. a position the same size as his cash market exposure
   C. a position with the same risk elements as his cash market position
   D. a cash market position
6. A portfolio manager holding a portfolio of long-term fixed-income securities would be most likely to hedge against an increase in interest rates by
   A. buying T-bill futures
   B. selling T-bill futures
   C. buying T-bond futures
   D. selling T-bond futures
7. A corporation planning to issue $20 million of long-term bonds next year is concerned about rising interest rates. With T-bond futures at 96.12, they hedge their future borrowing. They offset at 94.20. The hedge results in
   A. a $175,000 loss
   B. a $175,000 gain
   C. a $350,000 loss
   D. a $350,000 gain

4. 3 STOCK INDEX FUTURES

Stock index futures are contracts based on a basket (or list) of common stocks. Movements of a stock index mirror the activity of the stocks included in that index. Various indexes underlying futures contracts contain different numbers of stocks—for example, 30 in the DJIA.

4. 3. 1 INDEX STRATEGIES AND SPECIFICATIONS

4. 3. 1. 1 Index Futures and Hedgers

Hedgers use stock index futures to minimize systematic risk associated with common stock portfolios. Systematic risk is the risk of adverse movement in the stock market as a whole. Nonsystematic risk is the risk associated with individual stocks, such as bankruptcy.

4. 3. 1. 2 Index Futures and Speculators

Index futures provide investors a means to speculate on the direction of the stock market without actually buying a portfolio of specific stocks.

4. 3. 1. 3 Hedging with Stock Index Futures

Stock index futures protect (hedge) common stock positions. However, preferred stock positions are hedged with futures contracts on long-term debt (such as T-bond or T-note futures) because preferred stock prices are affected more by changing interest rates than by other factors.

TEST TOPIC ALERT

Hedging questions that refer to preferred stock involve long-term debt instruments because preferred stock pays a fixed dividend, just as long-term debt instruments pay fixed interest.

Institutional investors who own stock include mutual funds, trust companies, pension funds, insurance companies, and individual investors. Such investors use futures to hedge their portfolios, a practice known as **portfolio insurance**.

TAKE NOTE

Common stock portfolios use a short hedge in stock index futures to protect against a loss in the stocks with a gain on the short futures position.

An investor who expects a stock market decline will hedge rather than sell stocks because:

- the stocks in a particular portfolio may not decline at all or not decline as much as market averages;
- transaction costs for trading securities (selling and buying back later) often exceed the costs associated with trading stock index futures contracts (expensive commissions gener-

ated by actively trading a securities portfolio make futures trading a cost-effective way to protect a common stock portfolio); and

- holders of large portfolios or large positions in individual stocks may see their own buying and selling of large blocks of stock cause the price of that stock to move against the investor's remaining position—that is, the market may have difficulty absorbing relatively large orders.

Hedging with index futures potentially offsets such risks.

4. 3. 1. 3. 1 Lower Systematic Risk

A short hedge minimizes the systematic risk of a portfolio. The return on a hedged common stock portfolio depends on how that portfolio's stock performs relative to the stock market. If both the market and the portfolio decline, but the portfolio stocks drop less than the market, the hedged portfolio still produces a positive return.

4. 3. 1. 3. 2 Anticipatory Hedge

Long hedges in stock futures lock in the cost of an upcoming common stock purchase. If an investor will invest at some future date and fears the stock market will rise, buying stock index futures as an anticipatory hedge offsets the extra cost if the market rises because the long futures position profits from the market rally.

Long hedges also protect short common stock positions taken by bearish speculators. If market prices rise, short stock positions—that is, selling borrowed stock expecting a price decline—lose money if not hedged.

4. 3. 1. 3. 3 Weighting and Beta Coefficients

To hedge effectively with stock index futures, a hedge should be properly weighted to the portfolio to be protected. The **beta (beta coefficient)** is a number describing the volatility of an asset relative to the volatility of a benchmark. For example, the volatility between a stock or a portfolio and the overall stock market.

The **Standard & Poor's (S&P)** 500 Stock Index serves as the market barometer and so has a constant beta coefficient of 1. Any stock with a beta coefficient of more than one, such as 1.3 (30% more volatile), is more volatile than the market. Conversely, any stock with a beta coefficient less than one, such as .7 (30% less volatile), is less volatile than the market.

EXAMPLE A stock portfolio with a beta coefficient of 1.2 is 1.2 times as volatile (or 20% more volatile than) as the stock market in general. If the market rises by 10%, the portfolio should increase by 12% (1.2 times the market). Conversely, if the market falls by 5%, the portfolio should decrease by 6%.

Hedges are weighted by the beta coefficient to compensate for portfolio volatility. The formula for weighting a hedge is as follows:

(stock portfolio cash value ÷ index contract cash value) × portfolio beta
= number of contracts.

EXAMPLE

The S&P 500 stock index futures contract is quoted at 250. To hedge a portfolio of common stocks with a current value of $625,000 and a beta of 1.2, an investor sells (short) twelve S&P 500 index (quoted at 250) contracts: [$625,000 ÷ (250 × 250)] × 1.2 = 12.

4. 3. 1. 4 Stock Index Contract Specifications

Typically, there are no traditional daily price limits on stock index contracts. Thus, there is no restriction on the increase or decrease from the previous day's settlement price. There are, however, trading restrictions when a substantial move in stock market price occurs.

All stock index futures share certain features.

- No delivery of actuals (stock) can be made to close a short position.
- Open positions settle in cash (rather than stock).

By requiring the expiring settlement of futures to equal the index (actuals) price, exchanges presume that, as delivery approaches, futures prices and stock index prices converge. Before delivery, futures can trade at a premium or discount to the underlying stock index.

The last trading day is the third Thursday of the contract month. Each index contract contains a unique mix of stocks and has different contract specifications.

4. 3. 1. 4. 1 Dow Jones Industrial Average (DJIA)

Dow Jones & Company, Inc., has granted permission for a futures contract on the DJIA to the CBOT. DJIA futures:

- are a price-weighted index of 30 of the largest (most heavily capitalized), most liquid U.S. stocks;
- have a contract value equal to $10 times the quoted index price; and
- have a minimum price fluctuation of one point, or $10.

4. 3. 1. 4. 2 Standard & Poor's 500 Index

The S&P 500 trades on the CME by open outcry and CME Globex. For the S&P 500 futures:

- contract cash value equals $250 times the quoted index price;
- 1.00 equals $250; and
- the minimum tick (.10 × 250) equals $25.
- Position limits are 20,000 net long or short in all contract months combined.

TEST TOPIC ALERT

The exam will identify the multiplier for the stock index futures.

4. 3. 1. 5 Margin Requirements

Initial margin requirements for index futures vary according to the rules of the exchanges where each index contract is traded.

4. 3. 1. 6 Carrying Costs

Carrying charges for stock index futures include interest costs on a stock portfolio, which is a negative, outflow expense, and the dividend income that a stock portfolio might provide an investor, which is a positive, inflow feature.

In general, bullish investment sentiment tends to expand prices of the more distant months at a faster rate than nearer months. Therefore, in a bullish environment, the further months are stronger.

Carrying Charges:
1 – Interest Paid
2 – Dividends Received

Since the most distant months are stronger in a bullish environment, we now have the exception to the general spreading rule: in index futures only, a bull spread is to buy the far-out month, thus expecting the spread to widen.

QUICK QUIZ 4.C

1. An investor would protect a stock portfolio of large capitalized stock with which stock index future?
   A. DJIA
   B. NJIA mini-sized
   C. 30-day Fed Funds
   D. Value Line Index
2. An investor buys 1 Jun S&P 500 futures contract when it is trading at 158.15 (1.00 equals $250). If the position is closed out when the Jun contract is trading at 157.75, what would be the investor's gain or loss (commission is $75 per contract)?
   A. $175 loss
   B. $475 loss
   C. $175 gain
   D. $475 gain
3. Which of the following is least likely to use the S&P 500 futures contract as a trading or hedging vehicle?
   A. Speculator
   B. Bond portfolio manager
   C. Stock portfolio manager
   D. Stock underwriting syndicate

4. 4 SINGLE-STOCK FUTURES

Although lightly tested on the exam, you need to know that single-stock futures contracts (security futures) represent the obligation to buy or sell the shares of an individual company in the future at a price agreed upon now. These are futures traded on, for example, **OneChicago**, a joint venture of the CBOE and the CME Group, was formed specifically for the purpose of trading single-stock futures.

At present, most single-stock futures contracts represent a round lot of 100 shares, although there are some representing 1,000 shares. Each contract requires the delivery of the actual shares, rather than cash settlement.

For instance, an investor long a futures contract is obligated to take delivery of the underlying stock if the contract is held to maturity. The investor who is short is obligated to make delivery of the shares. Naturally, with any futures contract, security futures contracts may be offset at any time up to the last trading day.

EXAMPLE

Mr. Brown owns 1,000 shares of MNO stock. The MNO company shares have risen in value substantially since he purchased them. He believes the stock is still worth keeping but he's concerned about a possible downturn. He decides to sell 10 Jan MNO futures contracts. The stock falls in value following the earnings announcement. The futures on MNO common decrease by nearly the same amount. Mr. Brown then makes a closing purchase of the short MNO futures position with a profit offsetting the decline in share value. On the other hand, if the price of MNO had risen, his loss on the futures position would have been offset by the corresponding gain on the shares of stock.

4. 4. 1 NARROW-BASED STOCK INDEXES

As mentioned earlier in this unit, futures on broad-based stock indexes are not considered to be security futures but, rather, have been regulated by the CFTC solely as futures.

Contract terms of narrow-based stock index futures differ from those of single-stock futures in that:

- single-stock futures are denominated as 100-share contracts, whereas the multipliers for narrow-based stock index futures are not uniform; and
- indexes that underlie narrow-based stock index futures are not traded on exchanges, although the component stocks of the index trade on exchanges.

EXAMPLE

Mr. Brown has been carefully watching events unfold in the gold markets and has concluded that gold prices will be falling soon. This leads him to believe that there may be a recovery in the semiconductor sector, but he doesn't know which semiconductor manufacturer will benefit the most from the reduction in the cost of gold. Mr. Brown decides to buy futures on the SEMCOND index, a narrow-based security futures contract focused on the semiconductor industry. Mr. Brown has taken a position in the sector in which he is interested rather than in a single company.

4. 4. 2 SEC AND CFTC LISTING REQUIREMENTS FOR SECURITY FUTURES

The SEC and CFTC have set certain initial and ongoing criteria for a security futures contract to be listed. The securities underlying a single-stock futures contract and those securities that underlie a narrow-based stock index must meet the following standards.

- Listing standards for security futures must be at least as rigorous as comparable standards set for stock options.
- The underlying securities must maintain a specified minimum trading volume, number of shareholders, and outstanding shares.
- Trading in the underlying securities and their security futures contracts must not be easily manipulated.
- Coordinating intermarket surveillance to detect manipulation and insider trading must be enforced.
- Physical delivery must be made by a body that has arrangements with a registered clearing corporation.
- The stocks that underlie security futures must be common stocks or other securities registered under the Exchange Act and approved by the two Commissions, such as ADRs and Exchange Traded Funds (closed-end mutual funds also qualify).
- Procedures must be in place to provide for and coordinate trading halts for security futures and the underlying securities.

TAKE NOTE

As we read in Unit 1, the role of a clearing house is to guarantee the financial obligations of every contract it clears. The clearing house acts as the buyer for every seller and as the seller for every buyer. Therefore, a member who has bought or sold a futures contract has an obligation not to the party on the other side of the transaction but to the clearing house.

4. 4. 3 SECURITY FUTURES MARGIN REQUIREMENTS

Security futures offer the advantages and risks of leveraged trading, compared with trading in the shares individually. To buy shares of stock, investors must deposit at least 50% of the purchase price and borrow the balance with interest charged on the debit balance. Security futures, by contrast, require the investor to deposit 20% of the market value of the futures contract.

Because a single-stock futures contract does not require payment for the stock unless the contract is held to term, no financing is needed and, therefore, no interest is charged on the remaining 80% of the futures contract's market value. Investors of either stocks or security futures are subject to calls for additional capital if prices move against them. The FINRA minimum maintenance requirement for stock purchases is 25% (30% for short sales). For security futures, there is no difference between the initial and maintenance margin. It is 20% for both.

TAKE NOTE

If a trader is bearish on a stock or index, she can sell short without borrowing the shares and without a plus tick.

4. 4. 3. 1 Margin Requirements

Unlike securities and securities options, futures margin requirements are set by exchanges and their clearing houses without any government involvement. However, security futures differ. The Commodity Futures Modernization Act of 2000 requires that security futures margin be consistent with margin for comparable securities options. The industry has taken this to mean that the initial and maintenance margin requirements for security futures must be 20%. This is similar to naked short securities options positions. Naturally, exchanges and broker-dealers often set higher requirements than those established by regulators. Whether the single-security contract is held in a futures or securities account, they will be largely comparable, although the mechanics may differ.

4. 4. 3. 2 Provisions

The following indicate the major provisions of security futures margins.

4. 4. 3. 2. 1 Regulation T

Although Regulation T does not apply to futures accounts, some provisions of Regulation T have been adopted for futures accounts to be consistent with the margin rules of security futures held in securities accounts. Regulation T covers margin in securities accounts and security futures in security accounts.

4. 4. 3. 2. 2 Cross-Margin

Cross-margin is not permitted. Security futures positions in a futures account and those held in a securities account may not be, at this time, cross-margined (i.e., the lowering of margin requirements on risk-reducing positions on any related futures contracts).

4. 4. 3. 2. 3 Strategy Offsets

Strategy offsets are permitted. Strategy-based margins, also known as strategy offsets, are permitted for security futures. This is used in securities accounts of public customers that contain securities options. Strategy offsets provide lower margin for related, counterbalancing positions, such as spreads, than for the combined margin of the individual positions.

TEST TOPIC ALERT

Portfolio-based margin systems are not permitted for single-stock futures at this time.

TAKE NOTE

For many years, the CME Group has used its proprietary SPAN® (Standard Portfolio Analysis of Risk) Margin system for calculating risk and thereby calculating margin on futures contracts. Similarly, the OCC has offered its TIMS (Theoretical Intermarket Margin System) to calculate risk and margin, including cross-margining, neither of which is currently used for security futures.

Unlike traditional futures contracts, security futures margin requirements are specified in terms of a percentage of the contract's value rather than in a specific dollar amount per contract. When a stock's price declines, the maintenance margin call for a long security futures position is less than the full mark-to-market loss on the futures contract because the margin requirement is now 20% of the new, lower market value of the position. If the price of a security futures contract rises, the maintenance margin call for a short security futures position will be 120% of the loss. In this case, the additional 20% represents the increased margin that must be maintained against the new, higher value of the securities futures contract.

4. 4. 4 FUNGIBILITY OF SECURITY FUTURES

Fungibility is defined as the ability to trade the same instrument interchangeably across exchanges or other marketplaces. For futures contracts to be fungible, the terms of the contracts trading on different exchanges must be identical.

To be fungible, a clearing house must be able to offset or effect delivery on a futures contract on an exchange other than the originating exchange. Options on stocks often trade on more than one exchange and are largely fungible. Stock index options, however, are not fungible. They are generally traded on a single exchange. It is possible for identical contracts to trade on different exchanges, although this is rare. Futures options and single-stock futures are not fungible.

4. 4. 5 PRICING OF SECURITY FUTURES

Theoretically, the price of a security futures contract should equal the value of the underlying stock or index plus the net cost of carrying the stock or index position, over the term of the futures contract. Such a price would be considered as the futures fair, or arbitrage, price. The net carrying cost is the interest expense of owning the securities less the dividends to be received, each calculated over the life of the futures contract. In practice, the calculation of the fair or arbitrage price of a security futures contract is complicated by the choice of interest rates, the timing and uncertainty of dividends, and the selection of a compounding method, among other considerations. Despite these complexities, the basic idea is straightforward: security futures prices should reflect current stock or index prices, relevant interest rates, and expected dividends over the life of the futures contract. Otherwise, arbitrage possibilities would exist. These variables affect the price of a security futures contract in the following manner.

- If stock or index prices increase, security futures prices should increase.
- If interest rates increase, security futures prices should increase relative to the price of the underlying stock or index.
- If dividends increase, security futures prices should decrease relative to the price of the underlying stock or index.

4. 4. 5. 1 Simplified Pricing Formula for Single-Stock (or Index) Futures Contracts

Although you will not need to do any calculations, you may need to identify elements of calculation. For example, is time a factor in considering the value of a SSF contract?

Single-stock futures price = stock price (1 + it – dt), where:

i = the broker loan or other appropriate interest rate, annualized;
d = the rate of dividends of the underlying stock, annualized; and
t = time to maturity of the futures contract, expressed as a part of a year.

EXAMPLE

Stock price = 100
Broker call loan rate = 4% annualized
Dividend rate = 2% annualized
Time = 3 months (.25 year) or 6 months (.5 year)
Price of a 3-month security futures contract
= 100 [1 + (.04 × .25) – (.02 × .25)]
= 100 [(1.01) – (0.005)]
= 100 (1.005)
= 100.50

Price of a 6-month security futures contract:
= 100 [1 + (.04 × .5) – (.02 × .5)]
= 100 (1.01)
= 101 (single-stock future price)

4. 4. 6 STOCK SPLITS

Corporate actions are changes a company makes to the number or nature of its shares. Corporate actions, such as stock splits, reverse splits, mergers, spin-offs, stock dividends, and extraordinary cash distributions, generally require adjustments to the terms of a single-stock futures contract.

EXAMPLE

Unit 2 used a 2-for-1 stock split as an example in which shareholders would own twice the number of shares, at approximately half the price, following the split. The market value of their holdings would be about the same before and after the split, pending any new price changes in the marketplace. Single-stock futures undergo a similar process. In particular, following a 2-for-1 stock split, a trader's position would double: an investor long (or short) one 100-share contract at 50 would now be long (or short) two 100-share contracts at 25. Any even or integral split (2-for-1, 3-for-1, or 4-for-1, etc.) would result in an increase in the number of 100-share single-stock futures contracts and a corresponding reduction in the future price.

In the case of a fractional split, the number of single-stock futures contracts remains the same, but the number of shares per contract is adjusted.

EXAMPLE

If an XYZ company declares a 3-for-2 split, each of its outstanding single-stock futures contracts would be for 150 shares, not 100. After the split, the price of the futures contract would commence trading at approximately two-thirds of its presplit price. All adjusted contracts would continue to be traded and honored until they mature. At the same time, the exchange would begin trading in new 100-share contracts based on the post split shares.

4. 4. 7 REGULATION OF SECURITIES FUTURES

The Commodity Futures Modernization Act of 2000 (CFMA) provides a regulatory framework for trading security futures, with the CFTC and the SEC (the Commissions) as well as the self-regulatory organizations of FINRA and NFA having joint jurisdiction over these instruments. To this end, they have worked closely to develop security futures regulations and minimize inconsistencies and duplication.

New rules applicable to security futures, but not necessarily to other futures trading, include requirements in the following areas:

- Federal margin rules
- Special risk disclosure
- Supervision of security futures accounts
- Suitability and best execution requirements
- Approval of clearing house rules specific to security futures
- Application of both securities and futures antifraud and antimanipulation rules
- Regulatory trading halts and circuit breakers
- Registration of markets and brokers with both the SEC and CFTC
- Additional proficiency training

4. 4. 8 BROKERS, MARKETS, AND CLEARING HOUSES

4. 4. 8. 1 Registration of Markets with the SEC and CFTC

Because security futures are defined as both securities and futures, the markets on which they trade and the firms that offer them to the public are required to register with both Commissions.

The SEC and CFTC have developed procedures to minimize the burden of dual registration, called **notice registration**, with requirements that are substantially less burdensome than those of full registration.

Marketplaces desiring to trade security futures may register as follows:

- Futures markets registered with the CFTC may notice register with the SEC to trade security futures (but not other securities).
- Securities markets registered with the SEC may notice register with the CFTC to trade security futures (but not other futures).

4. 4. 8. 2 Registration of Brokers with the SEC and CFTC

Brokers must register with both Commissions if they do a security futures business. Firms that engage in security futures brokerage must be broker-dealers as either futures commission merchants or introducing brokers. There are notice registration provisions for brokerage companies as well, whereby firms that are not already registered with both Commissions may notice register with the other regulator. However, those firms that are notice registered with the SEC cannot offer and sell any securities other than security futures, whereas firms that are notice registered with the CFTC cannot offer and sell any futures contracts other than security futures.

Many large brokerage firms are fully registered as broker-dealers with the SEC as well as with the CFTC. These firms can offer both futures and securities.

4. 4. 8. 3 Regulatory Approval of Clearing House Rules

Only a registered clearing house whose security futures rules have been approved by or certified by its regulatory authority may clear such trades. All the currently active and prospective security futures exchanges have selected the Options Clearing Corporation (OCC), which clears security options, to be their clearing agency. The SEC has certified the OCC's security futures rules. The CME will also be clearing security futures.

4. 4. 9 FUTURES OR SECURITIES ACCOUNT INSURANCE AND PROTECTION

For those investors who have positions in securities and securities futures, the Securities Investor Protection Corporation (SIPC) protects securities customer accounts from broker-dealer failure. The Commodity Exchange Act and CFTC rules, on the other hand, protect customers' funds by requiring the segregation of customer funds separate and apart from the firm's assets. Security futures can be held in either a securities or a futures account, depending on the firm's primary registration.

A brokerage firm that is registered with one regulator and notice registered with the other must offer only an account that matches their primary jurisdiction. That is, a firm that is fully registered with the SEC and notice registered with the CFTC can offer its security futures customers only a securities account. The firm that is fully registered with the CFTC and notice registered with the SEC can offer its security futures customers only a futures account. Firms that are fully registered with both Commissions may offer a choice of either a futures or a securities account.

TAKE NOTE

The selection must be made at account opening, when an existing account is approved for security futures trading, or when a security futures account is transferred to a broker-dealer firm that is fully registered with both the CFTC and the SEC.

4. 4. 10 SUITABILITY AND BEST EXECUTION

The National Futures Association (NFA) has adopted rules for security futures that are applicable to NFA members that are not FINRA members that are similar to FINRA's rules

requiring firms to determine the suitability of securities trading for their customers and to provide best execution of client's security orders. As a result, all brokers who offer security futures to their clients are covered by these requirements.

Firms and brokers are prohibited from making unsuitable security futures recommendations to customers. All brokers offering or selling security futures have a duty to make timely and cost-effective executions of customer orders. Brokers are required to execute customer orders quickly and at the best price in competing markets offering similar security futures contracts. Criteria for best execution include, among other things, the size and type of the transaction, liquidity of the market, and different execution costs on different exchanges.

4. 4. 11 RISK DISCLOSURE STATEMENT

Every security futures account holder must receive a risk disclosure statement that clearly delineates the risks of trading security futures. NFA and FINRA rules require that a copy of this risk disclosure statement be given to a customer at or before the time the account is approved by a principal. The following may be found in the risk disclosure document:

- Security futures margins
- Settlement procedures
- Customer account protections
- Stock splits
- Leverage
- The severe risks of day trading futures
- Description of security futures
- The differences between the underlying securities and options on such securities

4. 4. 12 REGULATORY TRADING HALTS AND CIRCUIT BREAKERS

Security futures are subject to the trading halt requirements in force. When trading in a stock is halted pending a release of market-sensitive information, trading in single-stock futures based on that stock is stopped as well. For futures on narrow-based stock indexes, trading is suspended when trading is halted in stocks that constitute 50% or more of the index's market capitalization.

In addition, **circuit breakers** apply to security futures in the same way as they apply to equities, equity options, broad-based stock index futures, and options on stock index futures. Circuit breakers are triggered by larger than normal percentage changes in the S&P 500 Index.

4. 4. 13 ANTIMANIPULATION AND ANTIFRAUD REQUIREMENTS

Fraudulent activities in securities futures may be prosecuted under either futures or securities antifraud laws or both. Federal securities and futures antimanipulation laws apply to security futures as well. These laws cover a wide variety of circumstances, from prohibitions against trading on insider information and trading ahead of research, to trading ahead of customers' transactions in blocks of stock.

4. 4. 14 SUPERVISION OF SECURITY FUTURES ACTIVITIES

FINRA and NFA member firms offering security futures must designate a security futures principal to supervise each office where these products are offered to an investor. Chief among the many responsibilities of a security futures principal are:

- approve new or existing accounts to trade security futures products;
- review all incoming and outgoing correspondence with regard to security futures accounts;
- approve discretionary accounts for security futures; and
- review activity in discretionary accounts.

4. 5 CURRENCY FUTURES AND HEDGING

Currency futures are contracts based on currencies of selected countries. Contracts are chosen on the basis of the importance of a particular currency in international commercial or financial trading. Typically, currencies of relatively stable countries are **hard**, or **convertible**, in that their exchange value is set by the market. However, the relative value of different currencies constantly changes, subjecting currency-related transactions to exchange rate risk.

Foreign currencies and assets related to foreign currencies trade in many markets, including cash, forward, futures, options, and futures options markets. Major international banks, foreign currency dealers, and national governments through their central banks are principal players in foreign currency markets.

4. 5. 1 CASH MARKETS

Cash markets in foreign currencies involve the immediate exchange of one currency for another.

EXAMPLE When a U.S. citizen visiting Toronto exchanges U.S. dollars for Canadian dollars, a cash market transaction occurs.

A U.S. company that must pay for imported goods in the exporter's currency can buy the necessary foreign currency in the cash market.

4. 5. 2 FORWARD MARKETS

Active forward markets in foreign currencies enable banks to offer clients forward contracts to protect against exchange rate risk, which is the price at which one country's currency can be converted into another's.

Banks and foreign currency dealers trade billions in cash and forward markets to limit exposure to and to speculate on exchange rate movements.

4. 5. 2. 1 Trading

Foreign currency futures (or FX) trade on the IMM division of the CME Group. Options on currency futures trade on the IOM of the CME. Exercise of an option on currency futures results in the option holder or the writer or both receiving positions in the foreign currency futures contract underlying the option. Options on futures are detailed in the next chapter.

4. 5. 3 HEDGING WITH FOREIGN CURRENCY FUTURES

Exchange rate risk is hedged by using either currency futures or options on currency futures. Foreign currency risk occurs when one holds assets denominated in a foreign currency or has unmatched revenues or expenditures in a foreign currency.

EXAMPLE

If a U.S. garment manufacturer needs 1,000 bolts of medium-weight wool for next fall's line, there are two choices—buy the yard goods now or wait until cutting begins to buy the cloth. If he buys now, he can lock in today's price and exchange rate. If he delays buying until late summer, both the wool price and the exchange rate might change. Depending on his anticipation of the relative direction of the dollar, the garment maker establishes either a short or long foreign currency hedge.

4. 5. 3. 1 Short Hedges

Holders of assets denominated in a foreign currency risk a change in the asset's value if the other country's currency value declines against their own. Short hedges protect against a fall of a foreign currency's exchange value relative to their domestic currency, in this case the U.S. dollar.

Exporters accepting payment in a currency other than their domestic currency also face currency exchange risk. This is relatively unusual in international trade because exporters typically demand payment in their domestic currency.

EXAMPLE

An English wool mill normally demands payment in British pounds rather than U.S. dollars.

Occasionally, however, an exporter will accept payment in foreign currency. A short hedge protects the exporter receiving payment in a foreign currency against a decline in that currency's value relative to his own country's currency.

4. 5. 3. 2 Long Hedges

Long hedges protect against increasing foreign currency values or declining domestic currency values. Rising foreign currency value increases costs to those making payments in a currency they do not hold. Most importers are long hedgers in foreign currencies. Once an importer, such as a U.S. clothing manufacturer, agrees to pay an exporter, such as an English

wool mill, in an agreed-upon foreign currency (British pounds), the importer must pay a fixed amount of the foreign currency at a specified future date.

If the foreign currency rises relative to the domestic currency and the position is not hedged, the purchase of foreign currency will cost more than expected. This results in lower profits or possible losses when the imported goods are sold.

If the transaction is hedged with a long (buy) position in futures on the currency in which payment is to be made, the higher costs of the currency purchased in the spot market are offset by profits on the long futures position.

TAKE NOTE

Delivery on foreign currency futures occurs by depositing the appropriate amount of the foreign currency in any designated depository in the currency's home country.

EXAMPLE

Foreign Currency Hedge (Long Hedge)

A U.S. jeweler contracts to buy watch parts from a Swiss manufacturer for delivery in three months and payment of 1 million Swiss francs. The current spot price on the franc is .47.

The jeweler worries that, when he buys the Swiss francs to pay for the parts, the spot franc will be higher than today's .47 per franc. (He is afraid that the Swiss franc will strengthen relative to the U.S. dollar.)

Because he will need francs in the future, the jeweler will buy them now in the futures market by placing a long hedge. When the hedge is placed, the futures price is .50 per franc.

Spot	Futures	Basis
SLD .47	BOT .50	– .03 (3 under)

Because the jeweler placed a long hedge, he wants the basis to weaken. When the hedge is lifted, the spot price for Swiss francs is .49, and the futures price is .51. The basis strengthened by .01 (from –.03 to –.02), resulting in an effective price of .48 (.47 initial cash price plus .01).

Spot	Futures	Basis
SLD .47	BOT .50	– .03 (3 under)
BOT .49	SLD .51	– .02 (2 under)
Change		+ .01 (1 over)

Although the jeweler was not able to protect the .47 price, he limited the increase to .01 (per franc) instead of .02. By hedging, the jeweler's effective cost is $480,000. Had he not hedged, the francs would have cost $490,000. Although the jeweler paid $10,000 more for the watch parts than he originally figured, hedging enabled him to save $10,000 of the cost increase.

4. 5. 4 HEDGING SUMMARY

- Futures contracts are purchased in a long hedge.
- A long hedge protects against rising prices.

- If prices increase, the profit on futures offsets the higher cash market price.
- If prices decrease, the loss on futures is offset by a lower cash market price to buy the commodity.
- The long hedger is short the basis.
- The long hedger wants the basis to weaken.
- The long hedge is a substitute purchase.

4. 5. 4. 1 Long Hedging

Who needs to use foreign currency futures as a long hedge? The answer is: anyone who will be harmed if the value of a particular foreign currency rises or if the value of the U.S. dollar declines.

Examples:

1. American importers who plan to purchase products or services from a foreign country and who must pay for the transaction in the currency of the foreign country.
2. Foreign exporters who plan to sell products or services in the United States and will be paid in U.S. dollars.
3. Multinational banks that use foreign currencies in their daily business.

So, as with any long hedge, if an investor must buy a specific foreign currency in the future, the investor will do in the futures market now what he will do in the cash market in the future: establish a long hedge.

4. 5. 4. 2 Short Hedging

Who needs to use foreign currency futures as a short hedge? The answer is: anyone who will be harmed if the value of a particular foreign currency falls or if the value of the U.S. dollar rises in relationship to that specific foreign currency.

Examples:

1. American exporters who intend to sell products or services abroad and will be paid in a foreign currency.
2. Foreign importer who plans to buy products or services in the United States and must pay for the transactions in U.S. dollars.
3. Multinational banks that deal in foreign currencies.

As with any short hedge, if an investor must sell a particular foreign currency in the future, the investor should do in the futures market today what he will do in the cash market in the future.

QUICK QUIZ 4.D

1. A U.S. exporter negotiating a contract in Japanese yen protects his currency risk by
   A. selling yen futures
   B. buying yen futures
   C. selling dollar futures
   D. buying dollar futures

2. A U.S. importer who enters a contract to buy Mexican goods for pesos would hedge his currency risk by

   A. selling peso futures
   B. buying peso futures
   C. selling dollar futures
   D. buying dollar futures

3. The interest rates in Britain are increased by the central bank. A currency trader would

   A. sell pound futures
   B. buy pound futures

4. An exporter who is short the basis would establish a short hedge.

   A. True
   B. False

5. A California electric car manufacturer is looking to export cars to a large French dealer in 3 months. It is expecting payment of 1,000,000 euro. If the euro depreciates against the U.S. dollar, the manufacturer stands to lose. What might the manufacturer do?

   A. Hedge by selling short
   B. Hedge by buying
   C. Speculate
   D. Lock in interest rates

4. 6 SUMMARY

Financial futures allow individuals and businesses to hedge against interest rate, stock market, and exchange rate risks.

Futures contracts on Treasury securities allow issuers of debt to hedge against rising interest rates by using short hedges. Investors who own or will buy debt securities use long hedges to protect against declining interest rates.

Portfolio managers use stock index futures to protect the value of their portfolios from a stock market decline by selling futures. Portfolio managers who expect to invest a specific dollar amount in stocks in the future buy futures to hedge against a rising stock market.

Businesses that export or import goods use currency futures to protect themselves against exchange rate risk. Importers that will pay for goods in a foreign currency buy futures to hedge against a rising foreign currency value. Exporters that will be paid in a foreign currency sell futures to hedge against a decline in the exchange rate of the foreign currency.

UNIT TEST

1. Which of the following is least likely to use the S&P 500 futures contract for trading or hedging?
   A. Speculator
   B. Bond portfolio manager
   C. Stock portfolio manager
   D. Stock underwriting syndicate

2. During a period of general interest rates rising, the price of
   A. T-bill futures rise
   B. T-note futures remain flat
   C. T-bond futures may rise
   D. T-note futures fall

3. A U.S. exporter negotiating a contract in Mexican pesos protects his currency risk by
   A. selling peso futures
   B. buying peso futures
   C. selling T-bill futures
   D. buying T-bill futures

4. An investor holding a diversified portfolio of preferred stocks effectively hedges those securities by taking a short position in which of the following futures contracts?
   A. S&P 500
   B. NYSE Composite
   C. NYSE Financial
   D. T-bonds

5. Which of the following is NOT an important fundamental influence on commodity futures prices in an agricultural commodity?
   A. Change in government agricultural policy
   B. Stated opinions of the officials of the various commodity exchanges
   C. News regarding war or peace and money devaluation
   D. Political developments related to deficit spending, welfare, and foreign aid

6. Only one exchange can trade a futures contract on a specific commodity, index, foreign currency, or security.
   A. True
   B. False

7. A futures contract is a legal agreement between the buyer and the seller governing the future delivery of the specified commodity, financial instrument, index, or other underlying instrument.
   A. True
   B. False

8. In order to sell short a futures contract
   A. the trade may only be executed on a plus tick or zero plus tick
   B. the required margin is greater than for a long futures position
   C. investors must expect the position to be more difficult to establish than a long position
   D. none of the above

ANSWERS AND RATIONALES

1. **B.** A bond portfolio manager hedges (protects) with a futures contract on a debt instrument. A speculator might use the S&P 500 futures contract to speculate on which way the overall stock market may move. A stock portfolio manager might use a stock futures contract (S&P 500) to hedge a diversified stock position. A syndicate of broker-dealers involved in underwriting a stock issue might use a S&P 500 futures contract to hedge their risk.

2. **D.** T-note futures prices would be expected to decline.

3. **A.** If the exporter accepts payment in pesos, he has a long cash peso position. To protect this long cash position, the exporter sells (short) pesos futures. Choice B would be done if the exporter were going to have to pay in pesos sometime in the future. The exporter has U.S. dollars, but will have to convert the pesos into dollars when received. Choice D is incorrect because a Mexican exporter, paying in dollars, might do this to hedge.

4. **D.** Preferred stocks are fixed-income assets, similar to bonds. Because preferred stock prices respond to interest rate changes as bonds do, preferred stocks are best hedged by shorting interest rate futures. Choice A would be used to hedge a diversified portfolio of common stocks, not preferreds. Choice B could be used to hedge a portfolio of stocks that tend to move as the whole NYSE market does. Choice C is incorrect because this index does not match the price movements of preferred stocks; they move similarly to bonds.

5. **B.** All other answers could have a quantifiable effect on commodity prices. Opinions of individuals about market conditions are not a concern of fundamental analysts

6. **B.**

7. **A.** This is the definition of a futures contract.

8. **D.** Margin requirements are the same for both long and short positions in futures.

QUICK QUIZ ANSWERS

Quick Quiz 4.A

1. **C.** The T-bond contract trades on the CBOT in units of $100,000.

2. **C.** Her gain from offsetting her short position (95.24 – 94.36 = 88 basis points) × $25 per basis point = $2,200 × 3 contracts = $6,600.

3. **D.** A normal yield curve occurs when long-term yields are higher than short-term yields. An inverted yield curve is just the opposite—short-term yields are higher than long-term yields.

4. **D.** T-bond contracts are quoted as a percentage of par, with a minimum tick of 1/32 of a point. Each full point, representing 1% of the par value of the contract, 1–00 or 1.00, equals $1,000. Each tick (1/32, –01, or .01) equals a $31.25 change in the cash value of the contract.

Selling price	$76-24
– Buying price	– 74-16
= Gain (+) or loss (–)	$2 08/32
× Value per point	× 1,000
= Gain per contract	$2,250
– Commission per contract	– 75
= Net gain per contract	$2,175
× Number of contracts	× 2
= Total gain	$4,350

5. **D.** If the yield curve is inverted, T-bill yields are higher than those of T-bonds. With an inverted yield curve, short-term yields are higher than long-term yields.

Quick Quiz 4.B

1. **A.** If interest rates fall, the value of outstanding fixed income increases, and long (buy) positions in T-bond futures contracts will rise in value.

2. **B.** The issuer is long cash, so it would sell (short) futures.

3. **D.** Remembering that long-term bond prices are more volatile than short-term bond prices, an investor would go long any long-term debt against a short position in any short-term debt instrument to profit most by an expected fall in interest rates (and the resulting increase in bond prices).

4. **B.** Because rising interest rates increase the cost of borrowing and cause debt instrument prices to drop, the corporation sells futures. If interest rates indeed rise, gain on the futures position offsets the increased cost of borrowing funds (i.e., issuing the mortgage).

5. **C.** The investor is looking to take a futures position that is opposite his risk in the cash market. As his investment falls, the losses would be offset by an opposite position.

6. **D.** A portfolio of long-term securities could be hedged best by an equal but opposite position in futures on a long-term debt instrument. Because he is long fixed income securities, the portfolio manager should short T-bond futures to hedge.

7. **D.** To hedge, the corporation shorts at 96.12 (12/32) and offsets at 94.20 (20/32), a gain of 1 24/32 per contract ($1,750); $1,750 per contract × 200 contracts ($20 million/100,000 par value per contract) = $350,000 gain.

Quick Quiz 4.C

1. **A.** Dow Jones contains 30 of the highest capitalized stocks.

2. **A.** Calculate the problem as illustrated below.

Buying price	$158.15
– Selling price	– 157.75
= Gain (+) or loss (–)	= – $.40
× Value per point	× 250
= Precommission loss	= – $100
– Commission	– 75
= Total loss	= $175

3. **B.** The bond portfolio manager would hedge with futures contracts on a debt instrument. All others could use the S&P 500 to speculate or hedge.

Quick Quiz 4.D

1. **A.** If the exporter expects payment in yen, he has a long yen cash position. To hedge against a decline in the yen, he would sell yen futures.

2. **B.** The importer expects to pay in pesos, so he hedges against an increase in the value of the peso by buying peso futures.

3. **B.** The increased interest rates will strengthen the British pound; therefore, a trader would go long British pound futures.

4. **B.** An exporter who is short the basis (i.e., has made a fixed price sales commitment for a commodity not owned or purchased), would profit if the basis declines. This situation calls for a long futures position, a long hedge.

5. **A.** The manufacturer is concerned about an unfavorable exchange rate. If the euro declines, it will receive fewer dollars in payments for the cars. The best course of action is to sell short.

UNIT

5

Options on Futures

Futures and options are similar speculative and hedging instruments that share the following features:

- both are contracts;
- each transaction entails one buyer (long) and one seller (short);
- a clearing house stands between the buyer and the seller as guarantor;
- contracts can be bought and sold to other parties before they expire; and
- a position is easily offset with the opposing purchase or sale of a contract having specifications matching the contract to be offset.

An important difference, however, between futures and options is that a futures contract binds its parties to make or take delivery of the underlying instrument on settlement; an options contract gives the buyer the right, but not the obligation, to exercise any time before expiration—the seller becomes obligated to the purchaser. ■

OBJECTIVES

When you have completed this Unit, you should understand:

- **basic** options transactions;
- **the rights** and obligations conveyed by an option position;
- **how** to hedge futures positions using options;
- **how** to use multiple options strategies; and
- **types** of financial futures options.

5. 1 INTRODUCTION TO OPTIONS

Apart from cash transactions and futures transactions, there are also futures options transactions. Options differ from futures in that margin is not required to **purchase** options. As we will see, investors purchase options for a premium. The premium paid is discovered in the open market subject to supply and demand. By the end of the option contract date (the expiry) it may have zero value. But unlike futures margin dropping to zero, no margin call will be issued. The risk of **purchasing** options is the premium paid. Let us review the basic terminology of options.

There are several important distinctions between options and futures. For example, with regard to options, the premium for an option can decline as the time to expiry diminishes. If the option cannot be exercised or offset before expiration, the premium paid by an option purchaser will fall to zero. Writers of options keep the premium for selling the option but, in the case of a call option, face theoretically unlimited upside risk. Furthermore, with regard to options, the buyer of a put or call has limited risk; risk is only to the extent of the premium. Those investors long or short futures contracts are liable for more than the margin. Futures buyers and sellers face more risk than options buyers.

Margin on futures contract on the other hand will not dwindle over time. As mentioned earlier, the margin for futures contracts is earnest money that leaves the buyer on the hook for the value of the contract.

An option is a contract between two parties. The **purchaser**, also known as the **holder**, **buyer**, or **owner,** is long the position**.** The option buyer pays money for the right to buy or the right to sell a futures contract. Conversely, the **seller**, also known as the **writer** or **grantor,** is short the position. The option seller accepts money to take on an obligation. The option seller must buy or must sell a particular futures contract if ordered to do so (**assigned**) by the option buyer.

- The buyer of an option has acquired a right.
- The seller of an option has taken on an obligation.

5. 1. 1 OPTIONS LANGUAGE

It is important to understand certain terminology relating to options.

- **Call**—The buyer has the right to buy a futures contract at a specified price for a limited time (until the contract expires).
- **Call buyer**—Pays a premium (money) for the right to buy, until expiration, the underlying futures contract at the specified (strike/exercise) price.
- **Call writer**—Receives a premium and takes on, until expiration, the obligation to sell the underlying futures contract at the specified price if the call buyer exercises the option.
- **Covered**—Position of an option writer (seller) who owns the underlying asset and can guarantee delivery if the option contract is exercised.
- **Expiration date**—The specified date on which the option either is exercised or becomes worthless and the buyer no longer has rights under the contract.
- **Naked (or uncovered)**—Position of an options investor who writes a call, or a put, on a futures contract and does not own the underlying asset.
- **Option**—A contract giving the buyer the right to buy or sell a futures contract and requiring the writer to sell or buy the underlying futures contract if the option buyer **exercises** the right granted under the contract.
- **Put**—The buyer has the right to sell a futures contract at a specified price until expiration.

- **Put buyer**—Pays a premium (money) for the right to sell the underlying futures contract at the specified price until expiration.
- **Put writer**—Receives a premium and takes on, for a specified time, the obligation to buy the underlying futures contract at the specified price if the put buyer exercises the option.
- **Strike price (or exercise price)**—The price at which the underlying futures contract will be transferred if the option buyer exercises the contract, regardless of the current market price.
- **Premium**—Money the option buyer pays (for acquiring a right) to the option writer (for accepting an obligation). The amount of the premium is not standardized in the contract. Rather, it is determined by the market—an amount buyers will pay and sellers will accept.
- **Underlying futures contract**—Futures contract bought or sold when an option is exercised or on which an option is based.

TAKE NOTE

There are two types of futures options: **calls** and **puts**.

- A futures call option conveys to the call buyer the right to buy the underlying futures contract at a set price (the strike price) until the option expires.
- A futures call option conveys to the call seller the obligation to sell the underlying futures contract at a set price (the strike price) until the option expires.
- A futures put option conveys to the put buyer the right to sell (take a short position in) the underlying futures contract until the option expires.
- A futures put option conveys to the put seller the obligation to buy the underlying futures contract until the option expires and if the put owner exercises his right.

Options on futures trade on exchanges. **Exchange-traded options** (also called **listed options**) have standardized:

- exercise prices (also called **strike** prices)—the prices at which the holder of the contract demands to buy or sell the underlying futures contract; and
- expiration dates.

The clearing house of the exchange where the futures contract trades issues the futures option.

Exercise Settlement. There are two forms of options exercise:

- **American style** allows buyers (owners/holders) to exercise their options any time up to, and including, the last business day before the contract expires; and
- **European style** allows the option owner to exercise the option only during a specified (shorter) period before its expiration (typically from one to five business days).

The table below identifies the futures position that is assigned upon exercise of an option.

Position	Action	Upon Exercise Receives
Long call	Exercises	Long futures position
Short call	Is exercised	Short futures position
Long put	Exercises	Short futures position
Short put	Is exercised	Long futures position

TAKE NOTE

Expiration dates often differ for futures options from the delivery dates of the underlying futures contract, especially with physicals. The making and receiving of a futures contract at expiry of a futures option generally requires the underlying futures contract to be delivered a month or so prior to delivery. Index futures options, such as on the S&P 500, are most often the same as the delivery dates for the futures contract.

5. 1. 2 OPTION TRANSACTIONS

5. 1. 2. 1 Four Basic Option Transactions

There are two types of option contracts (calls and puts) and two option transactions (purchases and sales) that apply to either calls or puts.

	Calls		
Buy	Buy a Call	Write a Call	**Sell**
	Buy a Put	Write a Put	
	Puts		

5. 1. 2. 1. 1 Long Options

The owner of an option has a long position. He paid money (the premium) for a right specified in the option contract. The CFTC requires option buyers to pay the full premium when the option position is initiated.

- The owner of a call has the right to buy the underlying futures contract at the specified strike price at any time up to the expiration date.
- The holder of a put has the right to sell the futures contract at the specified strike price until the expiration date. Time works against options buyers.

TAKE NOTE

A long call option contract grants the right to buy a futures contract at the exercise (strike) price within a set time. A long put option is the right to sell a futures contract at the strike (exercise) price within a set time. The buyer of an option contract pays the seller a premium (money) to accept obligations under the contract.

The option holder (a put or call buyer) has these choices. The holder may:

- exercise the option (i.e., use it to purchase or sell the underlying futures contract);
- let the option expire (i.e., the buyer forfeits the premium paid to the seller);
- sell the option contract before it expires; or
- close transactions—offset for futures.

5. 1. 2. 1. 2 Short Options

The seller of an option has a short position. He receives money (premium) to take on the obligation specified in the option contract.

- The seller of a call is obligated to sell the underlying futures contract at the specified strike price to the holder of the call if the option is assigned by its expiration date. For promising fulfillment under contract provisions, the writer receives the premium.
- The seller of a put is obligated to buy the futures contract at the strike price any time through the expiration date if the put owner exercises the option. For agreeing to the contract terms, the put writer receives the premium. Time decay works in favor of all option sellers.

TAKE NOTE

The following summary will help you learn the terms and features of the four basic futures option positions:

Bullish Futures Option Positions	Bearish Futures Option Positions
Profits if futures price rises	Profits if futures price falls
— Long call: pays premium and risks premium only	— Long put: pays premium and risks premium only
— Short put: receives premium and accepts greater risk	— Short call: receives premium and accepts unlimited risk

5. 1. 2. 2 Opening and Closing Transactions

When a trader initiates a transaction by buying calls or puts, the order ticket and confirmation are marked *opening purchase*. The option buyer may sell the option before it expires in a closing sale transaction, and the ticket and confirmation are marked *closing sale*.

When a customer initiates a transaction by selling an option, the order ticket and confirmation are marked *opening sale*. Buying the option before it expires is a closing purchase, and the ticket and confirmation are marked *closing purchase*.

To close a long or short position, the customer must sell or buy an option that will offset the opening position (i.e., take the opposite side of the same contract).

Because the price of the underlying futures contract changes throughout the life of the option, an investor typically cannot execute a closing transaction at the same price (premium) as the opening transaction. After a closing transaction, the investor typically makes or loses money.

TEST TOPIC ALERT

The following summary will help you better understand opening and closing option transactions:

Opening Transactions	Closing Transactions
Initial transactions to "get in"	Ending transactions to "get out"
— Holders buy to open	— Holders sell to close
— Writers sell to open	— Writers buy to close

TAKE NOTE

The buyer of an option has no obligation to exercise it. Traders often choose to offset their position prior to expiry to lock in a profit or limit losses. Options buyers offset their options by selling their options before expiration. Option sellers offset by buying back or "covering." Options on futures trade on the trading floors and on the CME Globex® platform around the clock.

5. 1. 2. 3 Value of an Option

The value of an option premium is directly related to the value of the underlying futures contract.

5. 1. 2. 3. 1 In-, At-, and Out-of-the-Money

When exercising an option contract benefits its holder, the option is **in-the-money**. A call is in-the-money when the futures contract price is higher than the option's strike price.

EXAMPLE

A palladium futures 850 call is in-the-money by 7 points when the price of palladium futures is 857.

A put is in-the-money when the futures contract price is less than the strike price.

EXAMPLE

A palladium 850 put is in-the-money by 4 points when palladium futures are at 846.

An option is **out-of-the-money** when the buyer receives no benefit from exercising it. A call is out-of-the-money if the futures contract price is below the exercise price: no holder exercises a sugar 15 call (right to buy) if sugar futures are available at 14.

A put is out-of-the-money if the futures contract price is above the exercise price: no holder exercises a sugar 15 put (right to sell) if sugar futures can be sold for 16.

When the underlying futures contract trades exactly at the exercise price of the option, the option is **at-the-money**. Holders seldom exercise at-the-money options.

Intrinsic Value. If an option is in-the-money, it is worth exercising. Its premium reflects **intrinsic value**, the difference between the option's strike price and the underlying futures contract price.

A call option has intrinsic value when the market price of the underlying futures contract is above the option's exercise price. A call option is worth exercising when the option owner can buy the futures contract below its current market price.

EXAMPLE

When gold futures trade at 1,557, a gold futures call with a 1,550 strike price is in-the-money, with intrinsic value of $7 an ounce. The $7 benefits the owner, who can exercise the option to buy at 1,550 and then sell the futures at the current market price.

TAKE NOTE

The intrinsic value of an option changes as the futures prices change.

A put option has intrinsic value when the price of the underlying futures contract is below the option's exercise price. A put option is worth exercising when doing so allows the option owner to sell the futures contract above the market price.

EXAMPLE

A silver futures 27 put has intrinsic value when the price of silver futures is below 27. When silver futures trade at 22, the owner of the 27 put can realize a $5 per contract gain by exercising the put to sell at 27. The intrinsic value of the silver 27 put, therefore, is 5 when the underlying futures contract trades at 22.

An option is out-of-the-money when exercising generates no benefit to the owner. An out-of-the-money option has no intrinsic value.

TEST TOPIC ALERT

The terms *in-the-money, at-the-money, or out-of-the-money* describe the option contract strike price versus the futures price. It has no relation to the investor's profit or loss.

Calls are:

- in-the-money (have intrinsic value) when the underlying futures price is above the option's strike price (benefits buyer);
- at-the-money when the underlying futures price equals the option's strike price; and
- out-of-the-money when the underlying futures price is below the option's strike price (benefits seller).

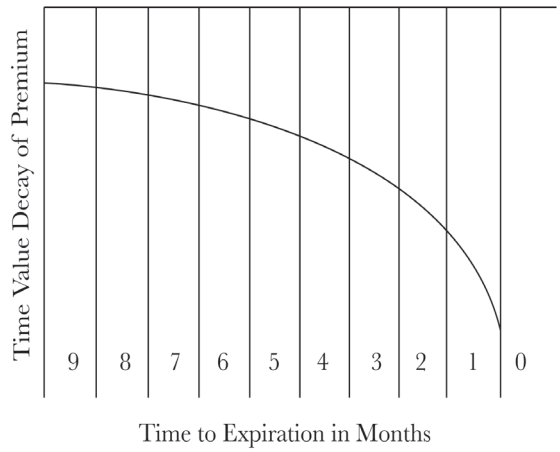
Puts are:

- in-the-money when the underlying futures price is below the option's strike price (benefits buyer);

- at-the-money when the underlying futures price equals the options strike price; and
- out-of-the-money when the underlying futures price is above the option's strike price (benefits seller).

Time Value. Time value is the amount buyers pay for an option in addition to its intrinsic value. If an option has no intrinsic value, the premium reflects only time value.

Options expire on a preset date. The more time remaining until that date, the greater the opportunity for profitable change in the price of the underlying futures contract. The amount of time in the contract, therefore, has value to the option buyer and is reflected in its premium. That said, with options, an investor must always keep an eye on the calendar. As time slips by, so does the time value of the option premium.



EXAMPLE If silver futures trade for 22, a silver futures 27 put may trade for 7, which reflects $5 of intrinsic value and $2 of time value.

A buyer pays more for a contract with time than for a contract that is about to expire. As the option's expiration approaches, its time value diminishes. On the last trading day (expiration), time value disappears, and the premium equals the option's intrinsic value only. The option trades at **parity**.

Because the value of an option premium changes with the price of the underlying futures contract, the more volatile the underlying futures contract, the greater the option premium. As the relationship of the option's exercise price to the market price of the underlying futures contract increases or decreases, so does the value of the option premium. The time remaining until the option's expiration date also affects the value of its premium.

The option buyer, like the buyer of any investment, hopes that the option's premium will increase.

TAKE NOTE The value of the underlying option depends on volatility and interest rates. Greater price swings (increased volatility) may cause the option premium price to increase. Interest rates affect option premiums because of the opportunity cost of using borrowed money to pay for option premiums.

5. 1. 2. 3. 2 Conversion of Option Premiums

Most options are quoted at the same dollar amount per unit as the futures contract.

- Gold futures and options on gold futures are quoted in dollars per ounce (oz). The tick in both (100 oz) contracts is $.10, which equals $10 per contract.
- No. 11 sugar futures and options on sugar futures are quoted in cents per pound (lb). The tick for each is $.0001 per pound, which equals $11.20, based on the 112,000 lb contract.
- Futures and options on euro futures are quoted in dollars per euro. The tick is $.0001 or $12.50 per contract of 125,000 euro.

Options on futures contracts may have a minimum tick half the size of a tick in the underlying futures. Smaller ticks make the market more liquid because traders can raise or lower bids and offers by smaller increments. Smaller ticks also allow option premiums to change by a fraction of the absolute price change in futures.

There are two groups of options for which options and futures tick sizes differ: long-term interest rate instruments, such as T-bond and 10-year T-note futures, and grain futures.

TAKE NOTE

Option Quotes versus Futures Quotes

Be careful when converting premiums to dollar amounts. On U.S. treasury options, if the option premium is 3.16, then the premium is 3 16/64. However, that same premium value is expressed as 3 8/32 in terms of the underlying futures contract.

T-bond futures trade in points and 1/32nds, while T-bond options trade in points and 1/64ths.

Commodity	Commodity Quote	Commodity Math	Commodity Future Valuation
Mar T-note	101-15	(15/32 + 101)	$101,468.75

Commodity	Option	Option Quote	Option Math	Option Valuation
Mar T-note	Mar 102 T-note Call	1-18	(18/64 + 1) × 1,000 =	$1,281.25

T-Bond and T-Note Futures. Options on T-bond and T-note futures vary by as little as 1/64 of a point (1/64 of $1,000), or $15.625, whereas the futures trade in 1/32 of a point.

Grain Futures. Options on grain futures and the underlying futures are quoted in cents per bushel. The options have a tick of 1/8 of a cent, or $6.25 per contract, even though the futures tick is 1/4 of a cent per bushel.

5. 1. 2. 4 Options Contract Specifications

Option expirations and other contract terms are not uniform.

- T-bond futures options expire on the first Saturday following the last trading day for the option.
- Options on sugar futures are based on March, July, and October futures deliveries.

- Options on gold futures expire the second Friday of the month before the expiration of the underlying futures contract. The longest term to expiration for options on gold futures is 12 months.
- The COMEX does not enforce daily price limits on its front (spot) month contracts.
- T-bonds have a three-point (not tick) limit.
- Options on currencies, indices, and feeder cattle expire during the same months as their underlying futures.

QUICK QUIZ 5.A

1. To hedge a cash purchase of sugar in 3 months, a refiner
   A. buys a sugar put
   B. sells a sugar put
   C. buys a sugar call
   D. sells a sugar call
2. Buying a heating oil future put option is most similar to
   A. selling a heating oil futures contract
   B. buying a heating oil futures contract
   C. writing a heating oil futures put option
   D. buying a tank car full of heating oil
3. When a futures option trade settles, the buyer pays
   A. an exercise price
   B. a premium
   C. a futures price
   D. a discount
4. To close a short call position, an option writer must
   A. buy a call
   B. sell a call
   C. buy a put
   D. sell a put
5. When the underlying futures contract price increases, the premium of a call option generally
   A. increases
   B. decreases
   C. remains the same
   D. fluctuates
6. Which of the following affect(s) option premiums?
   A. Interest rates
   B. Price of underlying commodity
   C. Volatility of underlying commodity
   D. All of the above

7. Which of the following options are in-the-money?

   I. 35 put when futures are trading at 32
   II. 35 call when futures are trading at 32
   III. 15 put when futures are trading at 18
   IV. 15 call when futures are trading at 18

   A. I and II
   B. I and IV
   C. II and III
   D. III and IV

8. A call is in-the-money when the market price of the underlying futures contract is

   A. above the strike price
   B. below the strike price
   C. equal to the strike price
   D. equal to the strike price plus or minus the premium

9. Hog futures are trading at 25.75. Jul 25 calls are trading at a premium of 2. What is the intrinsic value of these calls?

   A. 0
   B. .75
   C. 1.25
   D. 2.00

10. Hog futures are trading at 25.75. Jul 25 calls are trading at a premium of 2. What is the time value of these calls?

    A. 0
    B. .75
    C. 1.25
    D. 2.00

11. In November, a customer writes a Mar 102 call at 1.20 on a five-year Treasury note future when the note is trading at 101 22/32. How much does he receive for writing the option?

    A. $1,031
    B. $1,312
    C. $1,625
    D. $2,000

Quick Quiz answers can be found at the end of the Unit.

5. 1. 3 MAXIMUM GAINS, LOSSES, AND BREAKEVEN POINTS

Options investors, like any investor, hope to profit from the option position. The maximum gains, losses, and breakeven points for option transactions are discussed below.

5. 1. 3. 1 Long Calls

5. 1. 3. 1. 1 Maximum Gain

As futures prices rise, the potential gain on a call futures option increases. Theoretically, there is no limit on potential gains to call owners because there is no limit on a futures contract's price.

5. 1. 3. 1. 2 Maximum Loss

Call buyers risk losing 100% of the premium paid. Because call buyers are bullish, complete loss happens when the futures market price moves below the option's exercise price and the option expires worthless.

5. 1. 3. 1. 3 Breakeven Point

The breakeven point is a futures price at the option's expiration at which an option position neither profits nor loses. For a call option, the breakeven is a futures contract price equal to the call strike price plus the premium paid.

EXAMPLE

A customer pays $5 per oz premium to buy a gold futures December 1,400 call. If gold futures trade at $1,405 per oz the call's $5 per oz intrinsic value equals the premium paid.

TEST TOPIC ALERT

Many breakeven problems on the Series 3 exam are calculated to reflect the breakeven point at expiration.

5. 1. 3. 2 Short Calls

5. 1. 3. 2. 1 Maximum Gain

Call writers hope that the futures contract's price will drop below the call exercise price at expiration. If so, the call will expire unexercised, and the writer keeps the premium with no further obligation. No matter how low the futures price falls (even to zero), the writer's maximum gain is limited to the original premium received.

5. 1. 3. 2. 2 Maximum Loss

The maximum loss for a short call is unlimited and happens if the call owner exercises the call and if the call seller is assigned a short position in the underlying futures contract. This option position is uncovered, or naked, if the call seller does not already own the commodity. As the futures price rises, so does the call writer's potential loss. There is theoretically no limit on the potential loss because there is no limit to how high the futures price may rise.

5. 1. 3. 2. 3 Breakeven Point

Because the call writer receives the premium, he can lose that amount of money and still break even. At expiration, he breaks even if the futures price equals the option's strike price plus the premium received.

EXAMPLE

A customer writes a gold futures December 1,400 call and receives a premium of $5 per oz. If December gold futures trade at $1,405 per oz, he loses $5 per oz on the futures contract. Because he received the $5 per oz premium, he breaks even overall.

QUICK QUIZ 5.B

1. The buyer of a call option faces
   A. unlimited loss
   B. limited loss
   C. limited gain
   D. none of the above

2. In November, a customer writes a Mar 102 call at 1.20 on a five-year Treasury note future with the note trading at 101 22/32. She will break even when the price of the underlying futures contract is
   A. 98 12/64
   B. 101 11/64
   C. 102
   D. 103 10/32

3. A speculator is long 5 T-bond Dec 90 puts at 3–08. With T-bond futures at 87–16, he closes his options at intrinsic value. His profit or loss, excluding commissions, is
   A. $625 loss
   B. $3,125 loss
   C. $2,500 gain
   D. $3,125 gain

4. A speculator shorts a Jun T-bond 72 call for a premium of 1–12 when Jun T-bond futures ($100,000 par) are trading at 70–19. Subsequently, futures prices increase to 72–00, and the 72 call premium rises to 2–08. If, at expiration, June futures contract trade at 72–16, the buyer of the T-bond futures 76 call at 1–24 has
   A. a profit of $1,125
   B. a loss of $1,375
   C. a profit of $2,500
   D. a loss of $3,500

5. A speculator shorts a Jun T-bond 72 call for a premium of 1–12 when Jun T-bond futures ($100,000 par) are trading at 70–19. Subsequently, futures prices increase to 72–00, and the 72 call premium rises to 2–08. The breakeven point for the buyer of the T-bond futures 76 call at 1–24 is

   A. 74.20
   B. 76.14
   C. 77.12
   D. 77.24

6. A speculator shorts a Jun T-bond 72 call for a premium of 1–12 when Jun T-bond futures ($100,000 par) are trading at 70–19. Subsequently, futures prices increase to 72–00 and the 72 call premium rises to 2–08. If the Jun T-bond futures close at 73–20, the Jun T-bond futures 72 call with a premium of 1–24 is

   A. in-the-money
   B. out-of-the-money
   C. at-the-money
   D. around-the-money

7. All the following are objectives of call buyers EXCEPT

   A. speculating for profit that a futures contract's price will rise
   B. delaying the purchase of a futures contract
   C. hedging a long futures contract against falling prices
   D. diversifying holdings

8. To protect himself, a writer of an S&P 500 futures call option

   A. sells 1 S&P 500 futures put
   B. buys 1 S&P 500 futures contract
   C. goes short 1 S&P 500 futures contract
   D. sells 1 New York Stock Exchange futures option

9. A customer is short a call option on a financial futures contract, and it is exercised. The customer's account is assigned

   A. a long futures contract
   B. a short futures contract
   C. long actuals
   D. short actuals

5. 1. 3. 3 Long Puts

5. 1. 3. 3. 1 Maximum Gain

A put buyer's maximum gain is the strike price of the option minus the premium paid. The maximum gain occurs if the price of the underlying futures contract reaches zero.

EXAMPLE

A customer buys a gold futures December 1,400 put for a $5 per oz premium. He has the right to sell gold futures at $1,400 per oz. If gold futures prices drop to zero (which is possible in theory), he can exercise the option and assume a short futures position at the strike price of $1,400. He can then offset his short gold futures position at zero. Because he paid the $5 per oz premium to initiate the trade, the $1,400 per oz strike price minus the premium equals his maximum gain of $1,395 per oz.

5. 1. 3. 3. 2 Maximum Loss

A put buyer's maximum loss is the premium paid. Option buyers pay (and risk) the entire premium only. Maximum loss to a put buyer occurs when the put expires (out of the money). This occurs when the futures price trades above the expiring option's strike price and the option has no intrinsic value.

EXAMPLE A customer buys a gold futures December 1,400 put for a $5 per oz premium. If December gold futures remain over $1,400 per oz, she has no reason to exercise the option because she can sell futures higher than the option's strike price. She loses the entire put option premium.

5. 1. 3. 3. 3 Breakeven Point

Breakeven for a put is the strike price minus the premium paid. Because the put buyer pays the premium, the option's intrinsic value at the expiration must equal the premium paid.

EXAMPLE A customer pays a $5 per oz premium to buy a gold futures December 1,400 put. Because he pays a $5 per oz premium, gold futures (ignoring time value) must drop by $5 per oz below the $1,400 strike price for him to break even.

5. 1. 3. 4 Short Puts

5. 1. 3. 4. 1 Maximum Gain

The writer of a put receives the premium that is his maximum gain. When the futures price is higher than the option exercise price, exercising a put option to sell the futures contract at a lower price makes no sense because selling the higher priced futures contract offers more return. If the future's market price stays above the exercise price, the put expires worthless, and the writer keeps the premium.

EXAMPLE A customer writes a gold futures December 1,400 per oz put for $5 per oz. If at expiration the put owner does not exercise the option, the customer keeps the premium, or $5 per oz.

5. 1. 3. 4. 2 Maximum Loss

A put seller's maximum loss occurs if the future's price drops to zero. At zero, the put owner exercises the option against the writer, who must buy the futures at the strike price. Because the futures have no market value, the writer loses the exercise price minus the premium received.

EXAMPLE

A customer writes a gold futures December $1,400 per oz put for a premium of $5 per oz. If the put is exercised, she must buy gold futures from the holder at $1,400 per oz. If gold is worth zero, the customer receives nothing from selling gold futures acquired under the exercise. She loses $1,400 per oz, reduced by the premium received, resulting in a maximum loss of $1,395 per oz.

5. 1. 3. 4. 3 Breakeven Point

Because the put seller receives the premium, the breakeven at expiration is the strike price minus the premium received.

EXAMPLE

A customer receives $5 per oz to sell a gold futures December 1,400 put. If December gold futures prices drop to $1,395 per oz, he loses $5 on the futures but has already received the $5 per oz premium, thus breaking even.

TEST TOPIC ALERT

When computing breakeven points for options on grains and long-term interest rate futures, be sure to convert the option premium to match increments on the underlying futures before adding or subtracting the premium and strike price. For example, if a T-bond Jun 86 call trades at a premium of 3.16, the breakeven is 89.8 (strike price + premium = breakeven call; 86 + 3 – 16/64 = 89 – 8/32, or 89.8, or 89 – 8).

Breakeven Points and Maximum Gains and Losses on Uncovered Options

Position	Break Even	Maximum Gain	Maximum Loss
Long call	Strike price + premium	Unlimited	Premium
Short call	Strike price + premium	Premium	Unlimited
Long put	Strike price – premium	Strike price – premium	Premium
Short put	Strike price – premium	Premium	Strike price – premium

TEST TOPIC ALERT

You may find it helpful to remember the following option patterns:

- The breakeven point is the same for long and short positions.
- The option buyer's maximum loss is the premium paid.
- The option seller's maximum gain is the premium received.
- The writer's maximum loss equals the buyer's maximum gain.

QUICK QUIZ 5.C

1. Which of the following investors are bearish?

   I. Buyer of a call
   II. Writer of a call
   III. Buyer of a put
   IV. Writer of a put

   A. I and II
   B. I and IV
   C. II and III
   D. III and IV

2. A customer exercises a long put on a financial futures contract. Which of the following positions will appear in her account?

   A. Long futures
   B. Short futures
   C. Long actuals
   D. Short actuals

3. An investor buys an Apr gold 1,380 put for .70 (100 oz per contract). If, at expiration, the underlying futures contract closes at 1,376, the investor has

   A. $300 loss
   B. $330 profit
   C. $400 profit
   D. $4,000 profit

4. When an investor owns a put and exercises, what does he get?

   A. Long futures
   B. Short futures
   C. Long put
   D. Short put

5. When an investor is short a put and it is exercised, what does he get?

   A. Long futures
   B. Short futures
   C. Long put
   D. Short put

6. How does an investor protect a short put?

   A. With a long futures position
   B. With a short futures position
   C. With a long put
   D. With a short put

7. To protect a future cash purchase of 1 million lbs of copper, a copper wire maker buys how many copper futures options (25,000 lb per contract)?

   A. 10
   B. 40
   C. 100
   D. 400

8. Which of the following investors buys the futures contract if the option is exercised?

   I. Owner of a call
   II. Owner of a put
   III. Writer of a call
   IV. Writer of a put
   A. I and II
   B. I and IV
   C. II and III
   D. III and IV

9. Which of the following investors sells the futures contract if the option is exercised?

   I. Owner of a call
   II. Owner of a put
   III. Writer of a call
   IV. Writer of a put
   A. I and II
   B. I and IV
   C. II and III
   D. III and IV

10. All the following statements about an option writer are true EXCEPT

    A. his risk is limited to the premium
    B. he sells a put or a call
    C. he is obligated to perform if exercised
    D. he receives the premium

11. Which of the following positions has the greatest potential risk if the price of silver futures increases?

    A. Long 10 calls on silver futures
    B. Short 10 calls on silver futures
    C. Long 10 puts on silver futures
    D. Short 10 puts on silver futures

12. Your customer writes an S&P Dec 450 call at 13. The market closes that day at 462.34. The customer will break even on the short call if, on the call's expiration date, the futures contract closes at which of the following prices?

    A. 437
    B. 450
    C. 462.34
    D. 463

13. A speculator writes a Dec 92 T-bond call at 1–14. At expiration of the contract, she breaks even with December T-bond futures at

    A. 90-07
    B. 90-18
    C. 93-07
    D. 93-14

14. An investor is long 2 S&P 500 Mar 260 calls at 3.05 (1.00 pt. = $250). He closes his position at intrinsic value, with S&P 500 futures at 265. His gain or loss, excluding commissions, is

    A. $390 loss
    B. $1,950 loss
    C. $390 gain
    D. $975 gain

15. An investor buys two Jun S&P 500 futures 150 put options for a premium of 1.15 when the Jun futures contract is at 152.05. If the futures contracts trade at 148.50 just before the expiration of the option, the investor's profit or loss is (commission per contract = $50, S&P futures 1.00 equals $250)

    A. $575 loss
    B. $625 loss
    C. $75 gain
    D. $175 gain

5. 2 HEDGING WITH OPTIONS

5. 2. 1 HEDGING A LONG POSITION

5. 2. 1. 1 Strategies

Anyone who holds inventories wants to protect a later cash market sale from a price decline. There are three hedging strategies to do so.

- Buy puts because long put positions gain as futures prices decline. The potential for unlimited gains on the actuals still exists.
- Sell futures because short futures positions gain as prices fall but reduce profits on actuals if prices rise.
- Sell calls because prices rise, and short call positions limit gain to the premium received, ignoring the extent of the cash price drop.

If futures prices decline, both short futures and long puts effectively protect long cash positions no matter how far the price drops.

Selling calls, on the other hand, provides limited protection. If cash prices fall dramatically, the risk on a long cash position is reduced only by the call premium received.

If prices rise, long cash positions hedged by purchasing (long) puts can still realize windfall gains, although the gains will be reduced by the premium paid. Gains in long cash positions hedged with short futures contracts, however, are eroded by losses on the short futures position. Positions hedged with short calls will offer gains limited to the premium received because the position will be called.

TEST TOPIC ALERT

A retirement fund portfolio manager will often hedge with put options. This allows unlimited upside potential for portfolio positions and protection if stock or bond prices fall.

5. 2. 1. 2 Hedging a Short Position

An investor with a short cash market position, or an investor who wants to protect the price of an upcoming cash market purchase, will hedge using:

- long calls;
- long futures; or
- short puts.

Although all three provide protection against rising prices, the short put provides only limited protection. Because short put positions cannot protect the actuals position by more than the premium received, they do not fully offset the increased cost of a cash market purchase if prices rise dramatically.

Both long calls and long futures gain as prices rise and, thus, offset the higher cash market cost.

If cash prices drop, the long call may expire worthless, but the investor can buy in the cash market at a lower price than he tried to hedge. When hedged with a long futures position, a reduced cash market cost is eroded by loss on the long futures. Likewise, if the price declines by more than the put premium, a short put will result in the put being exercised and the hedger buying at above market prices.

5. 2. 1. 3 Long Futures and Short Calls (Covered Call Writing)

Covered call writing is a protective strategy to reduce the downside risk of long positions. The futures contract position covers the risk of a call writer in the event that the call is exercised against him and he is assigned a short futures position.

Covered call writing provides limited profit potential. Covered call writers will have their long futures offset at the exercise price if the option is exercised. Covered call writers gain some protection but limit their potential profit.

If the holder of the call never exercises the call against the covered call writer, the writer keeps the premium received, which increases the return on the futures positions.

EXAMPLE

An investor bought (long) December palladium futures at $400 per oz. She hedges her position partially by selling one palladium futures December 400 call, receiving a premium of $4 per oz. She breaks even with palladium futures at $396 per oz. If palladium rises substantially, her short call will be exercised and she must sell the futures for $400 per oz. If the metal declines to zero, she loses $400 per oz. on her long futures position, which is partially offset by the $4 per oz call option premium received.

5. 2. 1. 4 Long Futures and Long Puts

An investor that owns (long) futures hedges downside risk by buying puts at (or close to) the futures purchase price. The investor then decides whether to sell long futures by exercising the puts if the futures price falls below the strike price. If the futures contract price declines sharply before the option expires, the investor can sell at the put exercise price.

If the futures price increases, the investor's profit is reduced by the premium paid for the puts. The long hedged position limits loss while still providing unlimited potential gain.

5. 2. 1. 5 Short Futures and Long Calls

Long calls are used as insurance to hedge a short futures position. The short position investor hopes that the futures contract price will decline, allowing him to buy it at a lower price. Because there is no limit on how high the price can go, however, the short seller risks unlimited loss.

Purchasing call options protects the short futures position because, if the futures price rises, the call can be exercised to buy the futures at the long call's lower strike price.

Buying a call limits the investor's risk. Any profit on the short futures position is reduced by the amount of premium paid to buy the call.

5. 2. 1. 6 Short Futures and Short Puts

An investor with a short futures contract position partially protects the short position from a price increase by selling (short) a put. If the futures contract rises, the investor is protected to the extent of the premium received. If futures prices rise dramatically, the short futures position still faces unlimited risk.

5. 2. 1. 6. 1 Synthetic Options

Combinations of futures and options positions can simulate a strategy consisting solely of an option purchase. The use of a combination of futures and options is termed a **synthetic option**.

A **synthetic long call** is a long futures position and a long put on the same contract. It is similar to a long call in that, if the price rises, the investor will make money. Both a long call and a synthetic call have limited risk if the price declines. The long put protects against a price decline of the futures contract in the synthetic call. A long call's risk is limited to the premium paid.

A **synthetic put** is a short futures position and a long call on the same contract. It is similar to a long put in that, if the price falls, the investor will make money. Both a long put and a synthetic put have limited risk if prices rise. The long call protects against a price rise of the short futures contract in the synthetic put. A long put's risk is limited to the premium paid.

5. 2. 1. 7 Long Futures, Short Calls, and Long Puts

An investor long futures may use an arbitrage strategy called **conversion**. In addition to buying futures, the investor sells calls and buys puts. The goal of conversion is to lock in a futures price and profit by collecting a higher premium for the calls sold than the premium paid for the puts purchased.

5. 2. 1. 7. 1 Delta Hedging

The hedger should be aware of the **delta** of the option he is using to protect his futures position. The delta is a measure of the degree of volatility of a futures option's premium relative to movement in the underlying futures contract.

The delta calculation is:

Change in option premium ÷ change in futures price

Deep-in-the-money options (those with substantial intrinsic value) have deltas near 1, meaning the option price responds closely with the changes in the underlying futures price. Out-of-the-money options (those with no intrinsic value) have deltas less than 1, meaning the option price responds little to price movement in the underlying futures contract.

EXAMPLE

If the premium on a gold futures 1,500 call option moves from 7 to 10 when the underlying future moves from 1,498 to 1,504, then the option has a delta of .50 (the option moved by half the amount of the futures price). This is computed by dividing the change in option premium (3) by the change in the futures price (6).

TEST TOPIC ALERT

If delta is not mentioned, assume there is a one-to-one relationship with the investment to be hedged. If delta is mentioned, you must calculate how many options you need to fully hedge the position.

5. 2. 1. 8 Hedged Position Summary

To calculate breakevens for hedged and partially hedged futures positions (such as short futures hedged by a long call or long futures partially hedged by a short call), factor the cost of the option position (premium paid or received) into the price of the futures position.

TAKE NOTE

- Breakeven points are the same for both the long and short option investor.
- The gain for the long position equals the loss for the short position and vice versa.
- To calculate maximum gain and loss when options hedge futures, determine the results when the futures price rises or falls.

QUICK QUIZ 5.D

1. How does an investor protect a short call?

   A. Long futures
   B. Short futures
   C. Long put
   D. Short put

2. A portfolio manager is long 2 million (par) 20-year U.S. T-bonds, which currently trade at 90. She wishes to hedge the interest rate risk in the bonds completely. Assuming a bond contract size of $100,000, to hedge effectively, the manager should

   A. short 18 T-bond calls
   B. short 20 T-bond calls
   C. long 18 T-bond puts
   D. long 20 T-bond puts

3. Which of the following investors purchases the futures contract if the option is exercised?

   I. Owner of a call
   II. Owner of a put
   III. Writer of a call
   IV. Writer of a put
   A. I and II
   B. I and IV
   C. II and III
   D. III and IV

4. An investor is long a CBOT Dec corn futures contract at 3.10 per bu. He wishes to offset part of his commission cost and reduce the risk of his long position. The investor should

   A. write a 3.10 call at 2½
   B. buy a 3.10 call at 2½
   C. write a 3.10 put at 3¼
   D. buy a 3.10 put at 3¼

5. An investor is long a CBOT Dec corn futures contract at 3.10 per bu and writes a 3.10 call at 2½ to reduce the risk of the long position. When corn moves to 3.19 per bu the investor offsets the futures position and closes the option position at intrinsic value. The combined profit or loss is

   A. a $125 loss
   B. a $325 loss
   C. a $125 gain
   D. a $450 gain

5. 3 MULTIPLE OPTION STRATEGIES

5. 3. 1 SPREADS, STRADDLES, AND COMBINATIONS

5. 3. 1. 1 Spreads

So far, we've discussed how investors use various options to protect new or previously established futures positions. Options used to protect futures positions are **hedged positions** because they involve protective investments in options on the opposite side of the futures position.

Investors can use strategies involving **multiple option positions** as well. Spreads, straddles, and combinations are strategies in which an investor buys or sells more than one option simultaneously.

A **spread** is the simultaneous purchase of one option and sale of another option of the same class (puts or calls on the same commodity). Investors establish both **call spreads** and **put spreads**.

- A call spreader buys one call and simultaneously sells another call.
- A put spreader buys one put and sells another put.

The two options in a spread are of the same class, but are of different series (i.e., they have different strike prices, expiration dates, or both).

Types of Spreads. A **price spread** (or **vertical spread**) exists when the two options in a spread differ only in strike price. For options quotations, prices are listed vertically.

EXAMPLE An investor who buys a Dec gold 1,400 call for 4 and sells a Dec 1,410 call for 2 establishes a price spread.

When the two options differ in expiration date, the investor has a **time** (or **calendar**) **spread**. A time spread is also called a **horizontal spread** because expirations appear horizontally on options quotations.

When the options differ in both price and expiration, the investor has a **diagonal spread**. The three types of spreads are illustrated in the figure below.

Credit Spreads	Debit Spreads	Breakeven Points
■ Maximum gain = the initial net credit	■ Maximum gain = the difference between the strike prices minus the net debit	■ Call spreads: CAL—**C**alls **A**dd the net premium to the **L**ower strike price
■ Maximum loss = the difference between the strike price minus the net credit	■ Maximum loss = the initial net debit	■ Put spreads: PSH—**P**uts **S**ubtract the net premium from the **H**igher strike price

5. 3. 1. 2 Straddles and Combinations

A straddler buys both a call and a put, or sells both a call and put, on the same underlying futures contract. A **straddle** uses option contracts with the same strike price and expiration month.

A **combination** uses option contracts in which the strike prices, expiration months, or both differ.

Straddles. The two options in a straddle differ only by type (one call and one put). A **long straddle** is the simultaneous purchase of both a call and a put. A **short straddle** is the simultaneous sale of both a call and a put.

EXAMPLE A long straddle would buy (long) one gold Jan 1,450 call and also buy (long) one gold Jan 1,450 put. A short straddler sells (short) one gold Jan 1,450 call and also sells (short) one gold Jan 1,450 put.

A long straddle profits when the price of the underlying futures contract moves up or down by an amount greater than the combined premiums paid.

A short straddle profits when the underlying futures price moves less than the combined premiums received.

Combinations. Combinations are similar to straddles. In both, the investor is long a call and put, or short a call and put, on the same underlying futures contract. However, unlike a straddle, with a combination, the investor purchases or sells options with different strike prices, expiration dates, or both.

EXAMPLE A long combination would be the purchase (long) of one gold Jan 1,450 call and the purchase (long) of one gold Apr 1,460 put. A short combination would be the sale (short) of one gold Jan 1,450 call and the sale of one gold Apr 1,450 put.

5. 3. 2 RISKS AND REWARDS OF MULTIPLE OPTION STRATEGIES

Spreads, straddles, and combinations are partially protected (hedged) option positions. The two options in a multiple option strategy are on opposite sides of the market (i.e., one is bullish and the other bearish). As opposites, each partially offsets the risk of the other. If the price of the underlying futures contract rises, the bullish side of the spread, straddle, or combination gains, whereas the bearish side loses.

5. 3. 2. 1 Maximum Gains, Losses, and Breakeven Points

With a spread, the premiums of both options increase or decline together. If both options are calls, then both premiums decrease as the futures price decreases and both premiums increase if the futures price increases. If both options are puts, then both premiums decrease as the futures price increases, and both premiums increase if the futures price decreases.

Spreads are either bullish or bearish. A **bull spread** profits if the futures price rises. A **bear spread** profits if the futures price drops. Although a spread includes options on opposing sides of the market, if the futures price moves in the anticipated direction, the spread is profitable.

To determine whether a spread is bullish or bearish, use the same principles that apply to single option (contract) positions.

TEST TOPIC ALERT

- Bulls buy calls and call spreads.
- Bears sell calls and call spreads.
- Bears buy puts and put spreads.
- Bulls sell puts and put spreads.

The premiums of the two options (one sold and one bought) are netted together to determine whether more money flows into the investor's account for a **net credit** or out of the investor's account for a **net debit**. A debit spread costs the investor money initially; therefore, the investor buys the spread. A credit spread produces net inflow; therefore, the investor sells the spread.

Another way to determine whether a spread is bullish or bearish is to compare the premiums of the two options. For instance, when an investor establishes a call spread, if the premium spent for the long call is larger than the premium received for the short call, it is a debit call spread (a bullish strategy).

5. 3. 2. 1. 1 Rules to Determine Spread Risk and Reward

The following rules will help you determine maximum gains, maximum losses, and breakeven points for spreads.

- Credit spreads
  - Maximum gain = the initial net credit
  - Maximum loss = the difference between the strike prices minus the net credit
- Debit Spreads
  - Maximum gain = the difference between the strike prices minus the net debit
  - Maximum loss = the initial net debit
- Breakeven points
  - Call spreads: **CAL**—Calls Add the net premium to the Lower strike price
  - Put spreads: **PSH**—Puts Subtract the net premium from the Higher strike price

5. 3. 2. 2 Debit Call Spreads

A bullish call spreader buys a call with a low strike price and sells a call with a high strike price. Because a call with a lower strike price has more intrinsic value (and, thus, a higher premium) than a call with a high strike price, more money flows out of the account for the option purchased than flows in from the option sold. More money flowing out produces a net debit.

A bullish investor buys a call or call spread because he expects its value to increase along with the underlying futures contract price. If it does, he can exercise the long option with the lower strike price to buy the futures contract below the market price.

If the short option with the higher strike price is exercised against the spreader, he can offset the short futures contract by exercising the long call and keep the difference between the strike prices. However, the spreader's profit is reduced by the net debit that initiated the spread. As with single options, the spreader can close option positions for a profit or loss, rather than exercise the options to buy or sell the futures contract.

5. 3. 2. 2. 1 Maximum Gain

A debit call spread realizes its maximum gain when the futures contract's price is at or above the strike price of the higher option. At that point, the spreader buys the futures contract at the lower strike price and is forced to sell at the high. He keeps the difference between the two exercise prices, minus the net premium paid.

EXAMPLE

A spreader pays $8 per oz to buy one gold futures December 1,400 call and simultaneously receives $4 per oz to sell one gold futures December 1,420 call for a $4 per oz net debit. If gold futures trade at or above $1,420 per oz, the spreader exercises the long call, buying at $1,400 per oz, and is assigned at the 1,420 call's strike price. The spreader profits by the $20 per oz strike difference, reduced by the net debit, for a net gain of $16 per oz.

5. 3. 2. 2. 2 Maximum Loss

If, at expiration, the futures contract's price falls to or below the strike price of the lower option, both calls expire worthless, losing the net debit. No reasonable investor exercises a call to buy the futures if the futures contract can be purchased for less than the strike price of the option. Thus, the maximum loss on a debit spread is the net premium.

EXAMPLE

A spreader pays $8 per oz to buy the 1,400 gold futures call and receives $4 per oz to sell the 1,420 call, for a net debit of $4 per oz. If, when the December contracts expire, gold futures trade at $1,390 per oz, neither call has intrinsic value, and the spreader loses the $4 per oz net debit.

5. 3. 2. 2. 3 Breakeven Point

The breakeven point for a debit call spread occurs when the futures contract's price is above the lower option strike price by the amount of the net premium. A call spreader breaks even at the lower strike price plus the net premium.

EXAMPLE

A spreader pays $8 per oz to buy one gold futures December 1,400 call and simultaneously receives $4 per oz to sell one gold futures December 1,420 call, for a net debit of $4 per oz. The spreader breaks even with gold futures at $1,404 per oz,

calculated by adding the $4 per oz net premium to 1,400—the lower strike price. At any price above $1,404, the spread makes money; at any price below $1,404, the spread loses money.

TEST TOPIC ALERT

Remember: **C**alls **A**dd to the **L**ower—**CAL**.

5. 3. 2. 3 Debit Put Spreads

A bearish investor establishes a debit put spread by buying the put with the high strike price and selling the put with the low strike price. A put with a high strike price has greater intrinsic value and, thus, a higher premium than a put with a lower strike price. More premium (money) flows out of the account from the put purchased than flows in from the put sold.

A bearish investor buys a put or a put spread expecting the spread's net value to increase as the underlying futures contract's price declines. If the futures price drops, he can exercise the long put with the higher strike price to sell the futures contract above the current futures price. The short put with the lower strike price may be exercised against him, and he must buy the lower priced futures contract.

EXAMPLE

A spreader pays $8 per oz to buy one gold futures 1,420 December put and receives $4 per oz to sell one gold futures 1,400 December put, for a net debit of $4 per oz. If gold futures trade at $1,390 per oz, the spreader exercises the right to sell gold futures at $1,420 per oz. When the short put is exercised, she must buy gold futures at $1,400 per oz. She profits by the strike price difference—$20 per oz, reduced by the $4 per oz net debit, for a net gain of $16 per oz.

The spreader may close out her option positions for a profit or loss, rather than exercise the options.

5. 3. 2. 3. 1 Maximum Gain

The debit put spread realizes its maximum gain when the futures contract's price is at or below the strike price of the lower option. At that point, the spreader must buy futures at the low strike price but can sell the futures at the higher price and keep the difference between the two prices, minus the net premium.

EXAMPLE

For the gold put spread in the previous example, its maximum gain occurs when gold futures trade at or below $1,400 per oz, allowing the spreader to exercise the right to sell gold futures at $1,420 per oz while buying at $1,400 per oz. The spread gains $20 per oz, reduced by the original $4 per oz net debit, to produce a $16 per oz net profit.

5. 3. 2. 3. 2 Maximum Loss

If the futures contract's price rises to or above the strike price of the higher option, both puts expire worthless. No investor will exercise a put when the futures contract can be sold for more than the strike price of the option. The spread's maximum loss occurs at any price above the higher strike price because both puts will expire worthless. The maximum loss on a debit spread is the net premium paid.

EXAMPLE In our gold put spread example, at expiration, if gold futures trade at $1,425 per oz, neither option has intrinsic value, losing the original net debit of $4 per oz.

5. 3. 2. 3. 3 Breakeven Point

A debit put spread's breakeven point occurs when the futures contract's price is below the higher strike price by the amount of the net premium. The breakeven point on a put spread is the higher strike price minus the net premium.

EXAMPLE For the gold put spread example, the breakeven point is $1,416 per oz, the 1,420 (higher) strike price reduced by the $4 per oz net debit.

TAKE NOTE **P**uts **S**ubtract from the **H**igher—**PSH**.

5. 3. 2. 4 Credit Call Spreads

Bearish investors establish credit call spreads. A credit call spreader buys a call with a high strike price and sells a call with a low strike price. The call with a high strike price has a lower premium than the call with a low strike price, so the investor spends less money to purchase than he receives for the sale. More premium (money) flowing into an account than out produces a net credit. When the spreader has a net credit, he sells the spread.

Bearish investors sell calls and call spreads expecting the underlying futures contract's price to fall. If the futures price drops below the lower strike price, both options expire worthless, and the spreader keeps the net premium.

If the futures price rises above the higher strike price, the short call will be exercised, and the investor will be assigned a short futures position and will exercise the long call to buy a futures contract to offset the short futures position. The spreader loses the difference between the two options' strike prices but keeps the net premium.

EXAMPLE A credit call spreader pays $4 per oz to buy one gold futures 1,420 December call and receives $8 per oz for selling one gold futures 1,400 December call, for a net credit of $4 per oz If gold futures rise, the spreader exercises the long call to buy gold futures at $1,420 per oz but must sell gold futures at $1,400 per oz. She loses $20 per oz on the spread, less the $4 per oz net credit originally received, for a net loss of $16 per oz.

The spreader may close the option positions for a profit or loss rather than exercise.

5. 3. 2. 4. 1 Maximum Gain

The maximum gain for a credit call spread is the net premium received. The maximum gain occurs when the futures price is at or below the *lower* option's strike price.

For the gold credit call spread, if December gold futures trade at $1,390 per oz, there is no reason to exercise either the long 1,420 call or the short 1,400 call. The spreader will keep the original net credit of $4 per oz.

5. 3. 2. 4. 2 Maximum Loss

The maximum loss on a credit call spread is the difference between strike prices less the net premium. This occurs when the futures contract's price is at or above the *higher* strike price.

For the gold credit call spread, if gold futures trade at $1,425 per oz, the short call is exercised, forcing the spreader to sell gold futures for $1,400 per oz, but he will exercise the long call to buy gold futures for $1,420 per oz. The spread loses the $20 per oz difference, which is reduced by the $4 per oz net credit originally received, for a net loss of $16 per oz.

5. 3. 2. 4. 3 Breakeven Point

A credit call spread breaks even when the market price of the futures contract is equal to the lower strike price plus the net premium received.

The spread breaks even when gold futures trade for $1,404 per oz, the $4 per oz net credit plus the (lower) $1,400 per oz strike price.

5. 3. 2. 5 Credit Put Spreads

Bullish investors establish credit put spreads by buying a put with a low strike price and selling a put with a high strike price. The put with the low strike price has a lower premium than the put with the high strike price. Thus, the spreader spends less premium (money) to buy the option with the low strike price than he receives from selling the option with the higher strike price.

Bullish investors sell puts and put spreads because they expect the futures contract's price to rise. If the futures price increases above the higher strike price, both options expire worthless, and the spreader keeps the net premium credit. If the futures price falls below the lower strike price, the spreader must buy the futures contract at the high strike price but can exercise the put with the lower price to sell the futures contract. The investor loses the difference between the two options' strike prices but keeps the net premium.

EXAMPLE

A credit put spreader pays $4 per oz to buy one gold futures 1,400 December put and receives $8 per oz for selling one gold futures $1,420 put, for a net credit of $4 per oz. If, at expiration, gold futures prices rise to $1,425 per oz, there is no reason to exercise either put, and the investor keeps the original $4 per oz net (premium) credit. If gold futures trade for $1,390 per oz, the credit put spreader must pay $1,420 per oz to buy December gold futures; however, he has the right to sell gold futures at $1,400 per oz.

The spread can close the positions for a profit or loss rather than exercise.

5. 3. 2. 5. 1 Maximum Gain

The maximum gain on a credit put spread is the net premium. This occurs when the futures price is at or above the higher strike price, which allows the credit put spreader to keep the original net credit.

5. 3. 2. 5. 2 Maximum Loss

The maximum loss on a credit put spread is the difference between strike prices minus the net premium. This occurs when the futures market price is at or below the lower strike price.

EXAMPLE

If December gold futures trade for $1,390 per oz, the credit put spread (short 1,420 strike, long 1,400 strike) will be exercised. The spreader must buy gold futures for $1,420 per oz but she can exercise the long put to sell December gold futures at $1,400 per oz. The spread loses the $20 per oz premium differential, reduced by the $4 per oz net credit originally received, for a net loss of $16 per oz.

5. 3. 2. 5. 3 Breakeven Point

The breakeven point for a credit put spread is the higher strike price minus the net premium received.

Thus, in the example, the credit put spread breaks even with gold futures at $1,416 per oz. This is calculated by reducing the $1,420 per oz (higher) strike price by the $4 per oz net credit.

5. 3. 2. 6 Spread Between Premiums

The strike prices of the two options in a spread do not change, but their premiums do. Investors that establish spreads want the premiums to move closer together or farther apart, depending on whether the position is a credit or debit spread.

Investors in credit spreads profit when the premium difference narrows. The spread between the premiums of two options narrows if both premiums decline, which will happen if both options become worthless or when one or both of the options are out-of-the-money. Investors in credit spreads keep the initial credit received if the options expire worthless.

Investors with debit spreads want the spread between premiums to widen. They make their maximum gain when both options are in-the-money. The wider the distance between the two premiums, the more money investors can make. The widest the spread will ever be on the expiration date is the same as the difference between the two strike prices. As the market moves farther in the desired direction, each option will increase equally in intrinsic value.

5. 3. 2. 7 Horizontal (Time) Spreads

A horizontal spread uses option contracts with different expiration dates. The investor seeks to profit from the different speeds at which the time values of the premiums of the two options erode. The closer an option gets to its expiration, the faster its time value disappears and its premium declines.

EXAMPLE

In June, a spreader sells one Dec gold 400 futures call for 4 and buys one March gold futures 400 call for 9. He expects the December option's premium to lose time value faster than the March option's premium.

FUTURES OPTIONS PRICES

Wednesday, January 4, 2017

WHEAT (CBT) 5,000 bu.–cents per bu.

Strike Price	Calls–Settle Mar	May	Jul	Puts–Settle Mar	May	Jul
360	23 1/3	18 1/8	8 7/8	4 3/8	14	32 1/2
370	16 3/4	13 3/4	6	7 7/8	19 1/2	. . .
380	12 1/8	10 1/4	5	13	25 1/4	48 1/2
390	8	8 1/8	4	19	33 1/4	57 1/2
400	5 1/2	6 1/2	3	26 1/2	41	. . .
410	3 3/4	5	2	34 1/4	50	. . .

Vertical Spread Horizontal Spread Diagonal Spread

* This sample comprises formats, styles, and abbreviations from a variety of currently available sources and has been created for educational purposes.

5. 3. 2. 8 Long Straddles

Straddles are used by investors who think that a futures contract's price will be volatile but are not sure which direction the price will take. A long straddle buys both a call and a put on the same underlying futures contract (same commodity, same expiration month, same strike price). Because both options in a straddle have the same strike price, sufficient price movement in either direction (away from the strike price) can make a long straddle profitable.

EXAMPLE

A long straddle opens by buying one Dec gold 400 futures call at $8.50 per oz and buying one Dec gold 400 futures put at $7.00 per oz. At any price greater than $15.50 ($8.50 + $7.00) above or below 400 the straddle makes a profit.

5. 3. 2. 8. 1 Maximum Gain

The maximum potential gain is greater for the long call than for the long put in a straddle, because the call option increases in value as the market price rises and because the futures contract's market price can rise, theoretically, without limit. The put option increases in value as the futures contract's price drops, although the price cannot go below zero. The maximum gain for a long straddle is the maximum gain for the call, unlimited.

5. 3. 2. 8. 2 Maximum Loss

At any market price between the strike price plus or minus the net premiums, a long straddle investor loses at least part of his money. He loses the entire premium if both options expire at-the-money because he paid for both, and neither is worth exercising or selling.

5. 3. 2. 8. 3 Breakeven Point

Long straddles have two breakeven points: one above the strike price and one below. A long straddle breaks even when the market price equals the strike price plus or minus the total premiums paid.

5. 3. 2. 9 Short Straddles

An investor who writes a straddle expects the futures contract not to be volatile.

EXAMPLE A short straddler sells one Dec gold 400 call, receiving a premium of $8.50 per oz, and sells one Dec gold 400 put, receiving $7.00 per oz. The straddle writer believes that the market price will not change much and will not move outside the breakeven points, the same as for long straddles. She would like the options to remain at-the-money, where she would keep all of the premiums received in the opening transactions.

5. 3. 2. 9. 1 Maximum Gain

The maximum potential gain for a short straddle (as with any position initially opened for a credit) is the initial premium received.

5. 3. 2. 9. 2 Maximum Loss

At any market price outside the breakeven points, a short straddle investor loses money. The call option's price can rise without limit, so the position's risk is unlimited. The put option's risk is limited to the strike price because the futures contract's price cannot fall below zero. The maximum loss for a short straddle, therefore, is the maximum loss for the short call, which is unlimited.

5. 3. 2. 9. 3 Breakeven Point

Short straddles break even above or below the strike price by the net premium received. A short straddle breaks even when the market price equals the strike price plus or minus the combined premiums. Breakeven points are identical to those for a long straddle.

5. 3. 2. 10 Combinations

Combinations are similar to straddles. A **long combination** is the purchase of a call and a put on the same futures contract at different strike prices or expirations. A **short combination** is the sale of a call and a put on the same futures contract at different strike prices or expirations.

5. 3. 2. 11 Strangles

The difference between a strangle and a straddle is that the investor uses different strike prices. A short strangle is a combination of a put and a call in which both options are out-of-the-money. For instance, if silver were at $27.65 and an investor sold an $28.00 call and a $27.00 put, he established a strangle.

5. 4 OPTIONS ON FINANCIAL FUTURES

5. 4. 1 OPTIONS OF INDEX, INTEREST RATE, AND CURRENCY FUTURES

5. 4. 1. 1 Options on Stock Index Futures

An investor can hedge or speculate on the direction and timing of changes in a stock index by buying or selling futures options on that index.

Index futures options enable investors to hedge against or profit from stock market swings. The maximum number of options that an investor can hold on one side of the market (bullish or bearish) is set by the exchange where the options are traded. For instance, the CME limits investors to 20,000 futures options on the same side of the market for the S&P 500 contract.

Multiplier. Each index uses a multiplier to convert both strike prices and the premiums into dollars. For the S&P 500 Index (SPX), the multiplier is 250. An SPX Jan 465 call trading at 15.75 is worth $116,250 (465 × 250) and costs the buyer a premium of $3,937.50 (15.75 × 250).

5. 4. 1. 2 Options on Interest Rate Futures

Interest rate futures options allow investors to hedge against or profit from changes in prices of debt futures contracts caused by interest rate fluctuations. Futures contracts underlying interest rate options are $100,000 for notes and bonds and $1 million for Treasury bills. The typical short hedger is a financial institution or issuers of debt.

Options on debt futures contracts respond to changes in the price of the underlying futures contract. Keep in mind that the market price of Treasury securities such as T-bonds move inversely to movements in interest rates. As rates rise, prices of debt futures contracts fall. As interest rates fall, prices of existing debt futures contracts rise.

5. 4. 1. 2. 1 Treasury Notes and Bonds

Upon exercise, the owner of a put or the writer of a call takes a short position in a T-note or T-bond futures contract at the strike price. Strike prices for notes and bonds are quoted as a percentage of face value. For example, one T-bond futures option shown in the following figure has a strike price of 99. If the owner of a Jan call on the bond exercises the option, he buys the bond futures contract at 99.

Because the option contract (like the futures contract) is based on $100,000 face value, one premium point equals 1% of the note's or bond's face value—$1,000.

In the following figure, the Jan 98 puts on T-bonds trade for a premium of 1-15. Option premium quotes are expressed in 1/64 of a point, although Treasury notes and bond futures are quoted in 1/32. An option premium of 1-15, then, equals 1 15/64 of 1% of the bond's face value. The premium for a Jan 96 call on the T-bond is 1.51, which equals $1,000 plus 51/64 of $1,000, for a total cost to the buyer of $1,796.875. The minimum premium change (tick) for futures options on notes and bonds is 1/64 of a point ($15.625).

5. 4. 1. 2. 2 Hedging with Long Call Positions

An investor who is concerned that long-term bond interest rates will decline and wants to lock in high current rates buys calls. If rates decline, bond prices will rise. The investor exercises the calls to buy futures below market price or can sell the calls at a profit and use the profit to buy futures. If the investor is wrong and interest rates rise, he buys bonds in the market, and the calls expire worthless.

Stock Index Options

FUTURES OPTIONS PRICES

Monday, January 4, 2017

T BONDS (CBT) $100,000–points and 1/64ths of 100%

Strike Price	Calls–Settle Jan	Mar	Jun	Puts–Settle Jan	Mar	Jun
95	2-37	…	…	0-11	…	…
96	1-51	2-40	3-03	0-25	1-15	2-12
97	1-07	…	…	0-45	…	…
98	0-41	1-37	2-05	1-15	2-09	3-12
99	0-22	…	…	1-60	…	…
100	0-10	0-54	1-22	2-48	3-28	4-27

Est vol 100,000 Monday 54,449 calls 25,749 puts
Open int Monday 259,486 calls 136,071 puts

* This sample comprises formats, styles, and abbreviations from a variety of currently available sources and has been created for educational purposes.

5. 4. 1. 2. 3 Hedging with Long Put Positions

As a hedge against rising interest rates (falling note prices), an investor may buy puts on T-bond futures. If rates rise before the puts expire, bond prices fall, and the put premiums increase. The investor can exercise the puts to sell futures or sell the puts and profit on the increase in premium.

5. 4. 1. 3 Options on Foreign Currency Futures

Investors trade **foreign currency options (FCOs)**, currency futures, and currency futures options to profit from fluctuating exchange rates or hedge against risks from fluctuating exchange rates.

A U.S. corporation that contracts to buy goods in a foreign country at a specific time is uncertain whether the dollars budgeted will be sufficient to cover the purchase in light of fluctuating exchange rates. Companies use foreign currency futures and options on foreign currency futures to manage that risk.

5. 4. 1. 3. 1 Underlying Currencies

Foreign currency futures options are available for Australian dollars, British pounds, Canadian dollars, Japanese yen, Swiss francs, and euros, among others. Option contract sizes and other specifications vary among the currencies and from exchange to exchange.

The following figure illustrates currency futures and currency futures options contract dollar denominations.

Exchange rates and premiums are listed in U.S. cents per unit of the underlying currency, with the exception of Japanese yen, which trade in 1/100 of a cent per yen.

Currency Futures and Currency Futures Options Contract Dollar Denominations

FUTURES OPTIONS PRICES

Monday, January 4, 2017

JAPANESE YEN (CME) 12,500,000 yen–cents per 100 yen

Strike Price	Calls–Settle Oct	Nov	Dec	Puts–Settle Oct	Nov	Dec
10100	1.34	1.91	2.46	0.54	1.11	1.67
10150	1.04	1.64	2.19	0.74	1.34	…
10200	0.79	1.40	1.96	0.99	1.60	2.16
10250	0.59	1.19	1.75	1.29	1.89	2.44
10300	0.44	1.00	1.55	1.64	2.19	2.74
10350	0.32	0.84	1.37	2.02	…	…

Est vol 9,522 Monday 5,031 calls 6,152 puts
Open int Monday 46,063 calls 62,042 puts

EURO (CME) 125,000 euros–cents per euro

Strike Price	Calls–Settle Oct	Nov	Dec	Puts–Settle Oct	Nov	Dec
6350	1.10	1.48	1.83	0.14	0.53	0.88
6400	0.73	1.18	1.52	0.27	0.72	1.08
6450	0.44	0.91	1.28	0.48	0.95	1.32
6500	0.24	0.70	1.05	0.78	1.24	1.58
6550	0.25	0.52	0.87	1.19	1.55	…
6600	0.08	0.38	0.72	1.62	1.91	2.25

Est vol 15,069 Monday 4,642 calls 3,008 puts
Open int Monday 79,445 calls 79,541 puts

BRITISH POUND (CME) 62,500 pounds–cents per pound

Strike Price	Calls–Settle Oct	Nov	Dec	Puts–Settle Oct	Nov	Dec
1525	4.84	5.04	5.44	0.04	0.26	0.68
1550	2.44	3.00	3.66	0.14	0.72	1.38
1575	0.72	1.52	2.28	0.92	1.72	2.48
1600	0.16	0.64	1.28	2.86	3.32	3.96
1625	0.04	0.24	0.68	…	…	5.84
1650	…	…	0.32	…	…	…

Est vol 977 Tuesday 4,665 calls 4,922 puts
Open int Tuesday 22,459 calls 26,832 puts

*** This sample comprises formats, styles, and abbreviations from a variety of currently available sources and has been created for educational purposes.**

EXAMPLE

If the British pound settles at 176.28, then a car dealer in the United States can exchange 176.28 American cents ($1.76 plus 28/100 of a cent) for one British pound.

5. 4. 1. 3. 2 Contract Sizes

Because currency futures options are designed to meet the needs of international institutions, each option contract covers substantial amounts of currency. Contract sizes are listed with each currency.

EXAMPLE A corporation writes a Nov 1550 put on British pound futures. If exercised, it must then buy (long) one Nov futures contract at 1550. It may then take delivery on the currency underlying the futures contract or offset the futures contract.

Premium quotes use the same units of U.S. currency employed in quoting exchange rates on the underlying instruments. To calculate both exchange rates and premium values, multiply the value per unit by one unit's equivalent in dollars and cents.

EXAMPLE One cent equals $.01. For the yen contract, one hundredth of a cent is expressed as $.0001.

EXAMPLE Assume that the premium on the Nov 1550 put on the British pound is .72. Because premiums are quoted in U.S. cents, the writer receives .72 cents for each British pound, or $.0072 ($.72 × $.01). Because each contract represents 62,500 pounds, the writer receives $450 ($.0072 × 62,500).

Remember that the instrument underlying the option is a futures contract on a foreign currency. The investor's strategy is determined by the market price of the foreign currency relative to the U.S. dollar. If the U.S. dollar weakens, the euro, for example, grows stronger relative to the dollar.

When investors expect the value of the underlying foreign currency to increase, they buy calls or sell puts on the currency futures contract. Conversely, investors who expect the value of the foreign currency to drop sell calls or buy puts on the currency futures contract.

TEST TOPIC ALERT The option holder has the right to buy or sell foreign currency futures, not U.S. dollar futures.

5. 4. 1. 3. 3 Hedge Strategies

American companies doing business with firms overseas commit to spend or receive a given amount of foreign currency weeks or months in the future. Unfortunately, they cannot know precisely the exchange value of that currency at the time of payment. When they buy or sell foreign currency on the spot market, they risk currency value changes relative to the U.S. dollar. Futures contracts and options on foreign currency futures provide a means to reduce that risk.

EXAMPLE

A U.S. auto dealer must pay yen for new Toyotas in three months. Worried that the yen will rise relative to the U.S. dollar, the car dealer hedges his risk by buying calls on yen futures. If the yen rises relative to the dollar, profit from the dealer's long calls offsets much of the risk.

The following is an example in which the investor receives the foreign currency.

EXAMPLE

In 3 months, a U.S. grain exporter will be paid for his wheat in Swiss francs. Worried that francs will lose value relative to the U.S. dollar, he hedges his risk by buying puts on Swiss franc futures. If the Swiss franc falls relative to the U.S. dollar, the profit from the grain exporter's long puts offsets much of the risk.

EXAMPLE

In April, a U.S. company has contracted to pay 500,000 euro for timepieces from a German manufacturer in July. The current spot price is $1.17. The U.S. firm is concerned that the euro may rise during that time and hedges when the July futures price of the euro is at $1.16 (the contract size is 125,000 euro). In July, when the U.S. company lifts its hedge and pays for the timepieces, the spot price of the euro is $1.19 and its futures price is $1.17. Had the U.S. company not hedged, it would have paid $5,000 more for the timepieces.

	Spot	Futures
April	$1.17	$1.16 (purchase)
July	$1.19	$1.17 (sell)
		$0.01

$0.01 euro × (500,000 euro) = $5,000

5. 5 SUMMARY

Options on futures serve as a hedging or speculative tool in much the same way as futures contracts. An option contract, however, does not bind the parties to the contract to take delivery of the underlying commodity unless the option position is exercised and a futures position is assigned.

Put and call option premiums have intrinsic and/or time value depending on the option's strike price relative to the futures contract price. Puts are in-the-money when the put strike price is higher than the current futures contract value. Calls are in-the-money when the call strike price is lower than the current futures contract value.

UNIT TEST

1. If a pension fund portfolio manager knows that he will receive a large cash in-flow in 2 months but thinks that stock prices may rise above their current attractive level in the interim, he should

   I. buy an S&P 500 futures contract
   II. sell an S&P 500 futures contract
   III. buy an S&P 500 futures call option
   IV. sell an S&P 500 futures put option

   A. I or II
   B. I or III
   C. II or IV
   D. III or IV

2. An investor buys 1 Jun S&P 500 145 futures call option for a premium of 2.85 when the Jun futures contract is trading at 143.90. If, at the expiration of the option, the underlying futures contract is trading at 151.50 (1.00 = $250), the investor realizes

   A. $912.50 profit
   B. $1,825 profit
   C. $2,335 profit
   D. $2,335 loss

3. An investor buys 2 Mar sugar 7.5 calls for .40 and 2 Mar sugar 7.5 puts for .90. The option writer profits if the price of the Mar futures contract were

   A. at 8.8 or 6.2
   B. above 8.8 or below 6.2
   C. below 8.8 or above 6.2
   D. none of the above

4. Which of the following option positions is most similar to a long hedge?

   A. Buy a call or write a put
   B. Sell a call
   C. Buy a put
   D. Sell a call or buy a put

5. A corporation expecting to sell bonds in 6 months but fearing a rise in interest rates during that time would

   A. buy a T-bond futures put option
   B. sell a T-bond futures put option
   C. buy a T-bond futures call option
   D. sell a T-bond futures call option

6. Which of the following positions is a synthetic put?

   A. Long futures, short call
   B. Short futures, long call
   C. Long futures, long put
   D. Short futures, short put

7. If a customer is short a financial futures put option and the option is exercised, the customer receives which of the following positions?

   A. Long futures
   B. Short futures
   C. Long actuals
   D. Short actuals

8. A speculator buys 3 Jun gold 1400 calls for a premium of $44 when Jun gold futures (100 oz) are $1,423 per oz. At the expiration of the option, the futures are $1,525 per oz. The speculator exercises the option and liquidates the resulting futures position at the current market price. What is the resulting gain before commissions?

   A. $8,100
   B. $12,500
   C. $24,300
   D. $37,500

9. An investor buys a Dec 78 T-bond call at 2-24 ($2,375). The Dec T-bond futures contract is trading at 80-00. The premium has

   I. time value of $375
   II. intrinsic value of $2,000
   III. out-of-the-money value of $2,000
   IV. in-the-money value of $2,375

   A. I and II only
   B. II only
   C. II and IV only
   D. III and IV only

10. An investor sells a feeder cattle May 86 put for 3.56. The futures price is 84.27. The put has

    A. no intrinsic value
    B. no time value
    C. intrinsic value of 1.73
    D. intrinsic value of 2.29

ANSWERS AND RATIONALES

1. **B.** The manager can hedge a later purchase by going long an option or taking a futures position that will appreciate when the stock market rises.

2. **A.**

$151.50	Futures price
– 145.00	Call strike price
$6.50	Intrinsic value
– 2.85	Premium
+ $3.65	Points (+) gained
× 250	Contract size
$912.50	(+) Gain

3. **C.** A long straddler profits if either the call or the put profits go in-the-money by an amount exceeding the combined premiums. To find the higher breakeven on a straddle (long or short), add the 2 (total) premiums to the strike price. To find the lower breakeven, subtract the 2 (total) premiums from the strike price. If the long straddler makes a profit above 8.8 or below 6.2, the straddle writer makes money if it is below 8.8 or above 6.2.

4. **A.** Like a long hedge, a long call or short put protects a hedger from a price increase. A long call or a short put gains when cash or futures prices increase. All other answers profit only when prices fall.

5. **A.** The treasurer hedges the cash position by buying a T-bond futures put. The put will profit if corporate bond prices fall. The put provides protection against rising interest rates that could cause bond prices to fall before the debt is issued.

6. **B.** Synthetic puts combine short futures contracts and long calls (i.e., increasing gains as prices fall, limited loss with price rises). Choice A is a covered call, choice C is a hedged futures position, and choice D is a covered put.

7. **A.** One short a put option is obligated to go long futures. If the put holder exercises her right to sell, the assigned put writer is forced to buy (or go long) a futures contract.

8. **C.**

$1,525/oz	Selling price per unit
– 1,400/oz	Buying price per unit
$125/oz	Credit at exercise per unit
– 44/oz	Premium paid per unit
+ $81/oz	(+) Gain
× 100	Number of oz per contract
+ $8,100	(+) Gain
× 3	Number of contracts
+ $24,300	(+) Gain

9. **A.** Option premium includes both intrinsic value and time value. Intrinsic value for a call is market value minus strike price (in this case, 2 points [the difference between 80-00 minus 78-00] or $2,000). Premium minus intrinsic value equals the time value.

$$2 - 24 - 2 = \text{24/64\% of a point}$$
$$\text{1/64 percent} = \$15.625$$
$$24 \times 15.625 = \$375$$

A call option has intrinsic value (it is in-the-money) when the market price of the underlying commodity exceeds the strike price of the option.

10. **C.** When the market price of a futures contract is lower than the strike price of a put on the futures, the put has intrinsic value. The strike price of the put is 86, and the market is 84.27. The difference is 1.73 of intrinsic value, or the in-the-money amount. Intrinsic value is not based on premium.

QUICK QUIZ ANSWERS

Quick Quiz 5.A

1. **C.** To hedge an upcoming cash purchase, the refiner seeks an option that will appreciate if prices rise, to offset the higher price when the cash trade is completed.

2. **A.** A put buyer profits when prices fall (as if he were short futures). The other positions lose if money prices decline.

3. **B.** When an investor buys an option, he must pay the market price of that option—the premium—when the trade settles.

4. **A.** To close a position in options, an investor makes a transaction opposite the one that established the position. A long (buy) position is offset by selling the same option (buy to "get in," sell to "get out"). Conversely, a short (sell) position is offset by buying the same option (sell to "get in," buy to "get out").

5. **A.** As intrinsic value increases, call premiums should also increase.

6. **D.** Choices A, B, and C all affect option premiums: interest rates, because of opportunity cost from using money for option premiums; price, because market price related to strike price determines intrinsic values; and volatility, because commodities with greater price volatility provide more exercise opportunities before options expire.

7. **B.** A put is in-the-money when the futures price is less than the strike price, and call is in-the-money when the futures price is greater than the strike price.

8. **A.** A call is in-the-money when the futures contract price exceeds the option's strike price.

9. **B.** For calls, intrinsic value equals futures market price minus option strike price (in this case, 25.75 – 25 = .75).

10. **C.** Calculate time value by subtracting the intrinsic value from the premium (2 – .75 = 1.25).

11. **B.** T-note futures trade in 32nds, and options on T-note futures trade in 64ths. A premium of 1.20 for an option on a T-note future represents 1²⁰⁄₆₄. 1²⁰⁄₆₄ × $1,000 = $1,312.50.

Quick Quiz 5.B

1. **B.** Option buyers' potential losses are limited to the premium paid. Because there is no maximum price level, long calls theoretically offer unlimited gains.

2. **D.** The customer has received a 1²⁰⁄₆₄ premium. The strike price is 102. She will not lose money until the note price rises above 103¹⁰⁄₃₂ (102 + 1¹⁰⁄₃₂). Remember to convert T-bond option prices, quoted in 64ths, into 32nds to reflect T-bond futures price quotes.

3. **B.** The speculator is long at 3⁸⁄₆₄, or $3,125 per contract. The intrinsic value of a 90 put with futures at 87½ (87¹⁶⁄₃₂) is 2½, or $2,500 per contract. Therefore, his loss is $625 (3,125 – 2,500) times 5 contracts, which totals $3,125.

4. **B.** Because the option is out-of-the-money, the holder would not exercise and loses only the premium. A premium of 1–24 equals 1²⁴⁄₆₄ times 1,000, or $1,375.

5. **C.** The breakeven point on a call is the strike price plus the premium. Because futures are quoted in 32nds, 1²⁴⁄₆₄ equals 1¹²⁄₃₂. Therefore, 76 + 1¹²⁄₃₂ = 77.12.

6. **A.** If the market price of the underlying futures contract is higher than the strike price of the call, the option is in-the-money.

7. **C.** Call buyers lose when prices fall. Call buyers benefit when prices increase. A long futures contract holder hedges with a position that increases in value when prices decline. The holder of a long put has the right to sell the futures contract at the specified strike price until the expiration date and, therefore, hedges a long futures position from a price decline.
8. **B.** For protection, the call writer must buy futures on the commodity that underlies his short call (assuming availability). The writer of a call loses when underlying futures prices rise. For protection, he takes a futures position that profits when prices rise.

9. **B.** The writer of a call has an obligation to assume a short futures position at an agreed-upon price. If the holder of the call exercises his right to buy, the assigned writer must sell (go short) a futures contract.

Quick Quiz 5.C

1. **C.** Put buyers are bearish because put premiums should increase as the futures decline. Call writers do not want to be exercised (which would happen if the underlying futures price rises) and, thus, are bearish.

2. **B.** A customer who is long a futures put option has the right to sell (go short) a futures contract. If she exercises the right to sell, she will receive a short futures position.

3. **B.** The put expired with an intrinsic value of $4.00 (1,380 − 1,376). The $0.70 premium paid subtracted from 4.00 equals $3.30, multiplied by 100 (oz per contract) equals $330.

4. **B.** An investor gets a short futures position after exercising his put because he exercises his right to sell (short) the futures contract underlying the option.

5. **A.** An investor gets a long futures position when a short put is exercised because he is obligated to take the long side of the futures contract underlying the option when the put is exercised.

6. **B.** An investor protects a short put with a short futures position because the bullish short put is effectively protected with a bearish position such as a short futures.

7. **B.** 1 million lb (cash position) ÷ 25,000 lb (option contract size) = 40 calls.

8. **B.** Both the call owner (buyer) and the put writer (seller) purchase the underlying futures contract upon exercise.

9. **C.** The put buyer has the right to go short (sell) the underlying futures contract, and the call writer must accept a short futures position upon assignment.

10. **A.** The option writer's gain is limited to the premium received. Potential risk is much greater.

11. **B.** A short call position carries theoretically unlimited risk. The largest risk that a call seller takes is that the holder will exercise the call he sold and be assigned a short position in the underlying futures contract. This option position is uncovered, or naked. The writer must purchase the futures contract to deliver at any price.

12. **D.** The customer breaks even at 463, the strike price of the option plus the premium. If the option is exercised, she neither makes nor loses money.

13. **C.** Breakeven on a call (for the buyer or seller) is the strike price (92) plus the premium (1¼₆₄), which equals 93¼₆₄. While options on T-bonds are quoted in 64ths, futures are quoted in 32nds; therefore, 93¼₆₄ is 93⅛₂.

14. **D.** The investor pays 3.05 times $250, or $762.50, for each call. The intrinsic value is 5 when the S&P 500 futures are at 265. His sale proceeds are 5 times $250, which is $1,250. The investor makes the difference between the premium paid and the premium received. A $487.50 gain per contract times 2 contracts is $975.

15. **C.** Calculate the gain as illustrated below.

Put strike price	$150.00
– Futures price	– 148.50
= Intrinsic value	= $1.50
– Premium	– 1.15
= Gain (+) or loss (–)	= $.35
× Multiplier	× 250
× Contracts	× 2
= Precommission profit/loss	= $175
– Commission	– 100
= Total gain	= $75

Quick Quiz 5.D

1. **A.** An investor protects a short call with a long futures position because, if the call is exercised, he must deliver the futures.

2. **D.** The portfolio manager should buy 20 puts to fully hedge the portfolio. The number of long puts should represent the par value of the bonds; therefore, $2 million divided by the option contract size of $100,000 equals 20 puts.

3. **B.** Both the call owner (buyer) and the put writer (seller) purchase the underlying futures contract upon exercise.

4. **A.** Writing calls (rather than puts) reduces downside risk in the long futures position by the amount of the premium received.

5. **C.** Because the corn futures price moves from $3.10/bu to $3.19/bu, the investor's profit in the futures is $450 ($.09/bu × 5,000 bu). With corn at 3.19, the intrinsic value of the call (and its premium) is $.09. The investor sold the call at –2½ and bought it back at 9, resulting in a $325 loss (6½/bu × 5,000 bu). Thus, $450 futures profit minus $325 option loss equals a $125 gain.

UNIT

6

Trading Futures

Future investors can speculate or hedge by:

- direct trading through an individual or a joint account at a brokerage firm; or
- indirect trading through participation in a commodity pool.

To handle large trading volumes efficiently, exchanges limit the types of orders that can be accepted by floor traders. Different types of orders must conform to different rules, and each order must be routed properly to allow it to be filled, held, or canceled.

Various order types stipulate whether execution is immediate or delayed and the specific price for execution. ■

OBJECTIVES

When you have completed this Unit, you should be able to explain:

- **the role** of futures commission merchants and introducing brokers;
- **types** of futures orders by price and time specifications;
- **order** processing procedures;
- **the role** of clearing houses;
- **margin** regulations;
- **settlement**; and
- **delivery** and transfer of ownership procedures.

6. 1 THE FUTURES MARKETS

6. 1. 1 TYPES OF FUTURES INVESTMENTS

6. 1. 1. 1 Direct Investment

Orders for customer accounts at a brokerage firm are entered by the customers or by agents acting on their behalf. Only the owners of accounts or persons legally authorized to trade accounts on behalf of their owners may enter orders.

Discretionary accounts are accounts for which someone other than the account owner may place an order. Such third-party traders are empowered by a properly executed **power of attorney** known as a **trading authorization**.

6. 1. 1. 2 Indirect Investment

Customers invest in futures indirectly by participating in a **commodity pool**, a partnership or corporation formed for the purpose of speculating in futures markets.

Commodity pools are formed by **commodity pool operators (CPOs)** who create the commodity pool and must operate the pool in compliance with CFTC and exchange regulations. All of the commodity pool's transactions on various contract markets must be made through accounts with a futures commission merchant.

Profitable speculation by CPOs under the direction of **commodity trading advisers (CTAs)** increases the value of participants' shares in the pool. The value of the participants' investment, known as **shares** or **partnership interests**, increases or decreases by a proportional share of gains or losses from the pool's performance.

6. 1. 1. 3 Opening and Closing Futures Positions

A customer initiates or liquidates a futures position by executing a trade on the appropriate contract market exchange, except in the case of delivery. Trading for each commodity occurs at a specifically designated spot on the trading floor, called a pit (in Chicago) or a ring (in New York). Only floor traders and floor brokers who are members of the exchange may execute trades on the trading floor.

Floor brokers execute trades for FCMs and customers of the FCMs, but some exchanges also allow floor brokers to trade for their own accounts. However, the floor broker must execute customer orders before executing trades for his own account. Trading for one's own account before executing the same trade for a customer (known as **front running**) is illegal. Floor traders (locals) typically trade only for their own accounts.

If the floor broker makes an error in executing a customer's order, he is responsible for any financial loss.

6. 1. 1. 4 Futures Brokerage Firms

There are two broad categories of futures brokerage firms: FCMs and **introducing brokers (IBs)**.

6. 1. 1. 4. 1 Futures Commission Merchants

FCMs can hold customer assets. Such firms are required to maintain a substantial capital base (net capital) that protects customer assets if the FCM fails. All customer accounts, including those presented by an introducing broker, must trade through an FCM.

6. 1. 1. 4. 2 Introducing Brokers (IBs)

Most IBs tend to be smaller than FCMs and enjoy a lower adjusted net capital requirement. Such firms introduce all customer accounts to an FCM because they are not permitted to hold customer assets, which as we previously read must be held at the FCM. The minimum net capital requirement of an IB is $45,000 as compared to a FCM, which must carry a minimum of $1 million.

6. 1. 1. 5 Floor Traders

Floor traders execute trades for their own accounts. Their buying and selling makes futures markets more liquid and, therefore, more efficient. Floor traders (locals) are distinguished by how long they typically hold futures positions.

Scalpers are floor traders who typically hold positions for only minutes—or less. They seek to make small gains from momentary price discrepancies or temporary imbalances between supply and demand.

EXAMPLE If a large buy order reaches the trading pit, prices should rise, motivating other traders to sell contracts taking the other side of the trade. A scalper may sell (short), believing prices will revert to the former level once the large order is filled.

Day traders typically carry positions during the trading session but not overnight. Day traders offset open positions before the end of the day's trading session.

Position traders typically carry positions overnight or longer (e.g., days, weeks, months).

6. 1. 1. 6 Regulation of Trades

6. 1. 1. 6. 1 Conflicts of Interest

Exchange rules prohibit one member from acting as both trader for his own account and a broker (finding a third party to take the opposite position) for a customer's account on the same trade. A member may act as a broker and a trader on the same day, but not in the same transaction, because doing so is a conflict of interest.

6. 1. 1. 6. 2 Trading Hours

Trading futures contracts or options on futures contracts usually must occur in the appropriate exchange only during prescribed hours, which differ by contract and exchange.

6. 1. 1. 6. 3 Registered Traders

Only registered members—floor traders and floor brokers—can trade on the exchange floor. Others who initiate or liquidate positions in the futures markets must have trades executed on their behalf through an FCM or IB who communicates the order to a floor broker.

6. 1. 1. 6. 4 Commissions

Futures brokerage firms charge commissions for their services that cover the costs of floor brokerage, exchange fees, salaries for floor operations and administrative personnel, commissions for associated persons, and other expenses. Commission amounts vary among FCMs.

Splitting commissions between two or more firms is not allowed. A **give-up** results when two brokerage firms are involved in the same transaction. In a give-up, an executing firm sends an order to a floor broker, and, after the trade is executed, the order is given to another firm to clear. The customer may select which firm receives the commission.

TAKE NOTE

An associated person (AP) is any salesperson who works for an FCM. An AP works for a single firm. Synonymous to AP is registered commodity representative (RCR).

6. 1. 1. 6. 5 Trading Halts

After a trading halt, a **call market** provides an orderly way to continue trading. To resume trading, a floor official calls each month for which there are contracts trading, starting with the one nearest to delivery. As each month is called, traders in the pit can begin trading that contract. Some commodities, such as sugar and coffee, use a call market to start each day's trading.

QUICK QUIZ 6.A

1. At the direction of the customer, a transaction can be executed by broker A for the customer's account at broker B, and the commission can be paid to broker B rather than to broker A.
   A. True
   B. False
2. A floor broker performs the same function as a stock market specialist.
   A. True
   B. False
3. A floor broker who has completed only a portion of an order or one side of a spread is entitled, under the rules of most exchanges, to complete the order within one minute after the closing bell.
   A. True
   B. False
4. A futures commission merchant does not include profits on open futures contracts when calculating a customer's margin.
   A. True
   B. False
5. What happens when a floor broker errs in executing an order?
   A. The customer must accept the loss
   B. The clearing house makes up the difference
   C. The floor broker is financially responsible
   D. None of the above.

Quick Quiz answers can be found at the end of the Unit.

6. 2 ORDERS AND ORDER PROCESSING

6. 2. 1 ORDERS

6. 2. 1. 1 Types of Orders

To facilitate large trading volume, exchanges limit the types of orders accepted by floor traders. Different types of orders conform to specific rules.

6. 2. 1. 1. 1 Market Orders

Market orders, the most common type of order, specify only a particular contract (commodity, delivery month, and year), the desired action (buy or sell), and that the order is to be executed at the current market price.

Market orders must be executed immediately upon reaching the trading pit. Market orders must be executed at the best price available. Unless futures contract prices are locked at daily trading limits, market orders are filled.

6. 2. 1. 1. 2 Limit Orders

Limit orders (also called **price orders**) specify the worst price at which a customer will accept an execution. Limit orders may be executed at a better price (if possible), but never at a price worse than that of the limit order. A price appearing on the order, or a given price followed by the words "or better," makes the order a limit order even if the word limit is not used.

Buy Limits. A buy limit order states the highest price at which the purchase can be executed, although the order may be filled at a better (lower) price. The price in a buy limit order is below the market price of the futures contract at the time the order is entered.

EXAMPLE An order to buy December corn at $2.50 per bu may be filled at the limit price of $2.50 or at a lower price, such as $2.49¾, but not at a higher price, such as $2.50¼.

Sell Limits. A sell limit order states the lowest price at which the sale can be executed, even though the order can be filled at a better (higher) price. The limit price in a sell limit order is above the market price of futures at the time the order is entered.

EXAMPLE In corn futures, a client order to sell December corn at $2.50 per bu may be filled at the limit price of $2.50 per bu or higher (better), perhaps at $2.50¼, but not at a lower (worse) price, such as $2.49¾.

Limit orders do not guarantee an execution; rather, they guarantee only that, if one's order is executed, it will be at the stated limit price or better.

TAKE NOTE

If a commodity trades at a price better than the investor's limit price, then he is guaranteed an execution at the order's limit price.

6. 2. 1. 1. 3 Stop Orders

Stop orders specify that a trade be executed only after the market reaches or goes through a set price—the **stop price**. The stop order is inactive until the stop price is reached. Once the market hits or goes through (above for a buy or below for a sell) the stop price, the order is **activated** (also called **elected** or **triggered**). The broker attempts to execute the trade immediately at the best price. Stop orders are **contingency orders** because they become activated only if triggered.

Buy Stops. Buy stop orders are placed above the current market price and are activated only by trades or bids at or above the stop price. A buy stop order, once activated, becomes a market order to buy.

EXAMPLE

A customer places a buy stop order for December corn at $2.60 per bu. This order will activate a market order when December corn futures trade or are bid at or above $2.60 per bu. The market order is then filled at the best available price.

Sell Stops. Sell stop orders are entered with a stop price below the current price of a futures contract and are activated by trades or offers at or below the stop price. When a sell stop order is triggered, it becomes a market order.

EXAMPLE

A customer places a sell stop order at 240¼ per bu. This order will activate a market order when December corn futures trade or are offered at or below 240¼ per bu. The market order is then filled at the best available price.

Unlike limit orders, stop orders do not guarantee execution at a certain price or better. They may be filled at a price higher than, lower than, or equal to the stop price.

When markets are **locked limit** (there is no trading), a stop order may be activated but it will not be executed.

Stop orders can be used to initiate or close a position. Although most stop orders protect an existing position (by limiting losses or protecting unrealized gains on a futures position), stop orders are also used to establish positions when a futures price reaches a specific price.

6. 2. 1. 1. 4 Stop Limit Orders

Stop limit orders combine features of both the limit and stop orders. Initially, the stop order remains inactive until triggered. Once activated, the trade must be executed at a price equal to or better than the stated limit.

Buy Stop Limits. Buy stop limit orders are placed above the market and are triggered by trades or bids at or above the stop price. Once elected, buy stops become limit orders to buy at a price equal to or less than the stated limit. Buy stop limit orders are placed with a higher

stop limit price than the market price when the order is entered.

Sell Stop Limits. Sell stop limit orders are elected by trades or offers at or below the stop price. Once activated, they become limit orders to sell at a price equal to or higher than the stipulated limit price. Sell stop limit orders are entered with a stop limit price below the current market price.

Stop limit orders are similar to stop orders but seek more specific price protection because they prevent an execution at a price worse than the stated limit. Also, like limit orders, stop limit orders do not guarantee a trade is executed. If the market passes through the stop limit price, the order cannot be filled until the price returns to the customer's limit—which may never happen.

6. 2. 1. 1. 5 Board Orders (Market if Touched)

Board orders, also called **market if touched (MIT) orders**, become market orders when the futures price touches (or goes through) the stipulated price. Both MIT and stop orders remain inactive until the futures price reaches a stated price level, at which point, both types of orders become market orders. However, because an MIT triggers a market order, the order will be filled unless there is a locked limit. Thus, an MIT order may enable a trader to enter an order to buy lower or sell higher than the current market, yet presume that the order will be filled under most circumstances.

MIT and stop orders to buy or sell are placed on opposite sides relative to the current market price. Buy MIT orders are activated by trades or offers at or below the stated MIT price. These orders are placed stipulating prices less than the current futures price.

Sell MIT orders are activated by trades or bids at or above the stipulated MIT price. Such orders are entered at a higher price than the market price when the order is entered.

TAKE NOTE

MIT orders are, in some ways, similar to stop orders. Just like a stop order, MIT orders are triggered when the market price hits or passes through the stop price, and they become market orders once triggered. That said, they are put on the book quite differently from stop orders. For example, a buy MIT is placed **below** the current market price, whereas a sell MIT is placed **above** the current market price.

6. 2. 1. 1. 6 Scale Order

A scale order is a several limit order placed at incrementally increasing or decreasing prices. If a trader is of the opinion that a contract will fall through the day, a scale order could be useful in capturing the lower price if he is correct. For example, the trader believes the contract for lean hogs will fall through the trading day. The trader may scale the limit order to purchase a contract every 10 points lower until he has reached his goal of 20 contracts.

6. 2. 1. 1. 7 Switch Orders

By way of review from a previous Unit, a switch order is used to move a futures position from one delivery month to another. Although a switch order may appear at first like a spread, the market participant actually closes an open futures position and simultaneously enters a new contract with a longer maturity.

TEST TOPIC ALERT

The advantage of an MIT order over a limit order is that an MIT order will be filled once it is activated. With a limit order, there is no guarantee of execution. The disadvantage of the MIT is that the price at which the execution is received is unknown.

QUICK QUIZ 6.B

1. A stop limit order becomes a market order when the commodity trades at the stop price.
   A. True
   B. False
2. A board order (market if touched) to buy becomes a market order when the commodity sells (or is offered) at or below the order price.
   A. True
   B. False
3. A buy MIT order becomes a market order when the order price is bid at or below the specified price.
   A. True
   B. False
4. Which of the following is an order to sell a futures contract at $26.50?
   A. Contingent
   B. Limit
   C. Stop
   D. MIT
5. A customer's sell stop limit order at 1.40½ may be executed at all the following EXCEPT
   A. 1.40
   B. 1.40½
   C. 1.40¾
   D. 1.41

6. 2. 1. 2 Order Placement

A trader must observe exchange rules with regard to initiating or liquidating a futures position. Various rules address the positioning, timing, cancellation, and routing of orders.

6. 2. 1. 2. 1 Positioning

It is essential to know whether to place an order above or below the current price and which orders are activated by trades (all orders), bids (unfilled buy orders), and offers (unfilled sell orders).

TAKE NOTE

Buy stop, buy stop limit, sell limit, and sell MIT orders are entered with a price above the current market price. All are activated by trades or bids *at or above* the given prices.

Buys	Sells
Stops	Limits
Stop limits	MITs
MARKET	MARKET
Limits	Stops
MITs	Stop limits

Sell stop, sell stop limit, buy limit, and buy MIT orders are placed stipulating prices below the current futures market price. All are activated by trades or offers at or below the prices stated on the orders.

6. 2. 1. 2. 2 Timing

All orders have a stated or an implied time frame.

Day Orders. If a day order is not executed on the day the order is entered, it is canceled. All orders are presumed to be day orders unless designated otherwise.

Good-Till-Canceled Orders. Once entered, a **good-till-canceled order (GTC)**, also called an **open order**, remains active until it is executed or canceled or the contract expires.

Limited Time Orders. A limited time order remains open only for the time specified in the order. If not filled by the designated time, the order is automatically canceled. Limited time orders are also called **good through** orders.

EXAMPLE

On September 1, a customer enters an order good through September 10. This is a limited time order because, if it is not filled, it is canceled after the market closes on September 10.

If the investor enters an order to buy 5 Dec gold at $1,330 per oz or better (lower) before 12:30 pm, the order must be filled at $1,330 or better no later than 12:30 pm or it is canceled. Note that the order in this example contains both time and price limits.

At-the-Open (-Close) Order. An **at-the-open** or **at-the-close** order is a market order to be filled at or near the opening (first) or closing (last) transaction price of the trading day. Although these orders need not be filled exactly at the opening or closing price, they must be filled within the opening or closing range—that is, in the price range occurring within the first or last minutes of trading. Sometimes the abbreviation **MOC** is used for **market on close**, and **MOO** is used for **market on open.**

Fill or Kill Order. A **fill or kill order (FOK)** is filled completely or partially immediately upon reaching the trading pit. Any portion of the trade that cannot be filled immediately is

canceled. CBOT rules require the broker to present the order to the trading pit three times in rapid succession. After that time, any portion not executed is canceled.

6. 2. 1. 3 Canceling Orders

Orders are canceled by instructing a floor broker to annul a previously entered order that has not yet been executed. There are three ways to cancel an order.

6. 2. 1. 3. 1 Straight Cancel

A **straight cancel** prevents execution of an order that an investor no longer wants filled.

6. 2. 1. 3. 2 Cancel Former Order

A **cancel former order (CFO),** also known as a **cancel/replace order**, is an instruction on a newly entered order intended to replace a previously entered, but unexecuted, order.

6. 2. 1. 3. 3 One Cancels Other

Certain order tickets showing two different orders where one cancels the other upon execution. Also known as **order cancels order (OCO),** OCO orders are placed by customers who want either (but NOT both) of the two orders executed. When both orders appear on the same ticket marked OCO, execution of one order cancels the other.

EXAMPLE

A customer buys gold futures at $1,400 per oz. She intends to take a $10 per oz profit if gold futures trade at $1,410 per oz but does not want to risk more than $10 per oz if gold futures decline. The customer enters a single OCO order specifying a sell limit (for profit) at $1,410 per oz and a (protective) sell stop at $1,390 per oz. If gold futures trade at $1,410 per oz or above and if the limit order to sell is executed, the sell stop at $1,390 per oz is automatically canceled.

TAKE NOTE

The CBOT does not accept OCOs.

QUICK QUIZ 6.C

1. An order to sell March oats at market on close is entitled to an execution within the closing range, but not necessarily the last or closing price.
   A. True
   B. False
2. An order to sell at market on opening requires that it be executed only at the first price of the day.
   A. True
   B. False

3. A GTC order specifies a cancelation time.

   A. True
   B. False

4. All orders are day orders unless otherwise specified.

   A. True
   B. False

5. Which of the following is a futures order, in which one part is automatically canceled if the other part is executed?

   A. MIT
   B. Limit
   C. OCO
   D. CFO

6. 3 ORDER ROUTING

Order routing is the flow of instructions for customer orders or cancelations with a floor broker. The following is the order routing sequence in futures.

1. A customer calls a registered commodities representative and enters an order. For nondiscretionary accounts, the customer must state:
   - the action to be taken (buy or sell);
   - the commodity to be bought or sold (e.g., lean hogs, T-bonds, or gold);
   - the delivery month and year (e.g., "Aug 10");
   - the quantity (normally stated by the number of contracts to be purchased or sold);
   - the price (unless a market order); and
   - time instructions for other than day orders.
2. The broker writes an order ticket according to the customer's instructions.
3. The order is given to an order clerk, who calls it directly to a trading floor or indirectly to another office for transmittal to the floor.
4. A phone clerk on the floor writes the floor order according to instructions.
5. The order is given to a runner, who carries it to the firm's floor broker in the appropriate trading pit. Sometimes this is done with hand signals.
6. Upon receipt of the order, the floor broker appropriately executes the trade, cancels the order, or holds the order for later execution.
7. Once an order is executed, a runner carries it back to the commission house's trading desk on the floor.
8. Confirmation of the execution is sent through the same channels through the office where it was initiated, to be orally confirmed to the customer.

TAKE NOTE

In the futures market, orders must be time-stamped four times:

- when the customer enters the order with the representative
- when the firm's trading desk calls the order to the floor

- when the order is executed
- when the execution is reported to the customer

6. 3. 1 REGULATION

6. 3. 1. 1 Exchange Rules

Various exchanges have different rules with regard to the types of orders floor brokers may accept. The CBOT, for instance, does not accept spread stop orders.

6. 3. 1. 1. 1 Spread Orders

A **spread order** directs the purchase of a futures contract and the sale of a related contract. A spread order specifies that the respective contracts be bought and sold only at a stated price difference or better.

6. 3. 1. 1. 2 Cross-Trades

Members may, from time to time, receive orders to buy and sell the same product, expiration, type, and strike. This is known as a cross-trade. These trades may, on some exchanges (NYMEX and COMEX), cross the orders after they offer the orders by open outcry three times. If no takers, then they may match the orders with permission of an Exchange official.

On some exchanges where cross-trades are prohibited, they may be allowable if allowable trades executed outside the pit, which are known as **ex-pit transactions**. Cross-trading may be deemed a manipulative practice because the customer is deprived of the opportunity to trade at a better price.

6. 3. 1. 1. 3 Ex-Pit Transactions

There are two situations in which ex-pit transactions are allowed. The first involves the exchange of futures positions for cash commodities by hedgers.

EXAMPLE

A grain exporter hedges a forward sale of grain with a long futures position and an elevator owner sells futures to hedge his inventory of grain. The grain exporter agrees to buy the elevator owner's grain at a "basis price"—perhaps the CME/CBOT price less 23 cents per bushel. Both communicate with their respective brokers, who facilitate the exchange of the two futures positions in an ex-pit transaction. This is permitted to allow the two hedges to be lifted simultaneously.

Neither party is exposed to full price risk in either the cash or the futures market. The cash price is derived from a basis quote off the same futures price (i.e., the price at which the futures positions were exchanged).

Such ex-pit transactions are also called **exchange for physicals** or **exchange against actuals**.

The second permitted type of ex-pit trade involves moving open customer futures positions from one FCM to another. All positions trade against the clearing house, which recog-

nizes positions as belonging to clearing FCMs—not customers. To move positions between FCMs, the transferring FCM must liquidate and the receiving FCM must initiate the customer's futures positions. This ex-pit transaction simultaneously closes and opens positions at the two clearing FCMs at the same price, with no disruption to the customer's futures positions.

6. 3. 1. 1. 4 Miscellaneous Exchange Regulations

Limitations on Spread and Straddle Orders. The CME does not allow spread or straddle orders on the last day of trading for expiring contracts.

6. 3. 2 FUTURES EXCHANGES VERSUS STOCK EXCHANGES

6. 3. 2. 1 Customer Commissions

Customer commissions for futures trades are computed on a **round-turn basis**, meaning there is only one charge to both initiate and liquidate a contract. This differs from securities trading, where commissions typically apply to every order (buy or sell), regardless of whether a customer opens or closes a position. Generally, round-turn commissions are charged when the customer closes or liquidates the contract.

6. 4 CLEARING

6. 4. 1 CLEARING HOUSES

A **clearing house** (or **clearing corporation**) is a private agency associated with a futures exchange. Clearing houses allow futures markets to operate efficiently because they:

- ensure the financial integrity of the futures market;
- clear and settle trades efficiently;
- provide a mechanism for delivery against futures contracts; and
- provide certain market information.

A clearing house may be a division of a particular futures exchange or an entirely separate entity.

6. 4. 1. 1 Function of a Clearing House

The ultimate function of a clearing house is to stand between buyers and sellers of futures contracts. The clearing house becomes a buyer to all sellers and a seller to all buyers. By eliminating direct financial reliance between a transaction's buyer and seller, traders need not rely on the financial integrity of strangers.

6. 4. 1. 2 Performance Guarantor

The clearing house is party to every contract and becomes the third-party guarantor of all outstanding futures and options on futures contracts. Although it guarantees performance on all contracts, it does not guarantee physical delivery. By guaranteeing performance, the clearing house ensures that all traders receive money corresponding to futures positions, even if losing traders default on their obligations. Because all futures positions trade against the clearing house, rather than against investors, positions are easily offset.

To guarantee performance on futures contracts, clearing houses must be financially sound. Clearing member firms stand behind the clearing house and stand between the clearing house and customers with futures positions. Clearing houses only deal with clearing members (firms) and not with customers.

6. 4. 1. 3 Clearing FCMs and Firms

Clearing FCMs assume the financial obligations of their customers' positions booked against the clearing house. FCM obligations continue as long as the customers' positions remain open—even if the firms have not received appropriate funds from customers. The firms' customers with open positions bear the financial (price) risk of trading futures. Clearing members, liable to the clearing house for losses on their customers' positions, bear the legal and monetary risk.

The clearing house requires clearing firms to meet margin requirements based on their customers' positions. Most clearing houses base member margin requirements on the net positions of the members' customers. A firm's customers' long and short positions in a particular futures contract are compared, and the margin deposit is based on the firm's net long or net short position.

The CME and NYM clearing houses base their members' margins on total long and short customer positions.

6. 4. 1. 4 Nonclearing FCMs and Firms

Nonclearing FCMs must execute trades through a clearing member firm because nonclearing firms cannot deal directly with the clearing house. Accounts carried by a nonclearing FCM are booked against the clearing house on either a fully disclosed or omnibus basis at a clearing member firm.

In an omnibus account, transactions for two or more accounts are combined, rather than designated separately, and the identity of each individual account is not disclosed to the clearing FCM. Customers whose trades are cleared through an omnibus account must meet normal exchange margin requirements.

A fully disclosed arrangement matches the customer with each trade by the FCM and the nonclearing firm.

QUICK QUIZ 6.D

1. The clearing house guarantees performance of longs and shorts during the delivery (spot) month.
   A. True
   B. False

2. The clearing house guarantees delivery.

   A. True
   B. False

3. When ex-pit trades occur, cash purchases are usually made at a specified basis, and futures transactions occur outside the trading pit or ring.

   A. True
   B. False

4. When writing an order for silver futures, specify the number of

   A. ounces
   B. dollars
   C. contracts
   D. pounds

5. A commodity futures order to buy or sell soybean oil specifies the number of

   A. pounds
   B. bushels
   C. tons
   D. contracts

6. Which of the following is(are) an ex-pit transaction(s)?

   A. Intermarket spreading
   B. Exchange of futures for cash
   C. Customer transferring his account to another broker
   D. Both B and C

7. At the end of the trading session, commission houses must report all transactions completed that day to

   A. the exchange
   B. the clearing house
   C. the CFTC
   D. the NFA

6. 4. 2 MARGIN REGULATIONS

Clearing house and exchange margin requirements apply under differing circumstances. The clearing house sets margin requirements for clearing member firms; the exchange sets speculative and hedging customer margin requirements. FCMs often require greater margin deposits from their customers than they have to pay to the clearing house. Usually, member firms earn interest on excess funds. Such interest may be retained or passed along to customers.

6. 4. 2. 1 Margin Deposits

Acceptable margin deposits from clearing firms must be paid in one of four forms:

- cash
- interest-bearing obligations of the U.S. government
- letters of credit issued by an approved bank
- stocks or bonds acceptable to the clearing corporation

6. 4. 2. 2 Margin Calculation

The clearing house computes each member's margin requirements after every trading session. Day-to-day changes in a clearing member's margin requirement arise for two reasons: customer positions change, and prices fluctuate. Surplus margins belonging to clearing members may be withdrawn or left with the clearing house.

6. 4. 2. 3 Margin Calls

Margin calls from the clearing house to clearing member firms may result from new futures positions or from adverse price movement during a trading session. A margin call issued to a firm after a day's trading requires the appropriate deposit before the opening of the next trading session. If the call is issued during the course of the day's trading session, a **variation margin call**, the firm must pay the amount by wire transfer of funds within one hour.

EXAMPLE

If the equity in a customers account falls below the maintenance margin amount, the account must be restored to initial margin.

6. 4. 3 SETTLEMENT

The clearing house settles accounts daily. Gains and losses on open positions in futures are settled through the clearing house each day. The clearing house establishes the settlement price after each trading session. Regulations specify no formula for determining settlement prices, so each clearing house uses its own method. Some settlement methods are as follows.

- If trading is slow, with only one trade at the close, the closing price becomes the settlement price.
- Trades may occur over a range of prices during the closing minutes of trading. The settlement averages the highest and lowest trades.
- If there were no completed trades at the close, but there were bids and offers, an average of the high bid and low offer may be the settlement price, known in this situation as a **nominal price**.

TEST TOPIC ALERT

Don't confuse the terms *settlement price* and *closing price*. Settlement price is chosen by the clearing house to value open futures positions. Closing price is the price of the last trade reported at the end of the trading session. Usually, settlement price and closing price differ because several trades occur at the closing bell. However, because many investors trade at the close, the last price shown (closing price) is the last price reported, not necessarily the last trade executed.

Settlement price is used to determine gains or losses on open futures positions. The clearing house uses the settlement price to compute each member's daily margin requirement. Customer accounts with open positions are **marked to the market** each business day on the basis of settlement price.

6. 4. 4 DELIVERY

Delivery is effected through the clearing house. Investors with short futures positions must make delivery of the underlying commodity unless that obligation is offset before the close of the last trade day of that futures contract.

Sellers of futures contracts decide when and what grade to deliver within parameters established by the contract. The seller initiates the delivery process by filing a notice of **intent to deliver** with the clearing house through the brokerage firm. Shorts may deliver within a period of time specified in the futures contract. For instance, in grains, the seller may deliver any time within the last 3½ weeks of the delivery month.

The first day that a seller can initiate delivery is the **first notice day** (or "first day notice"). Speculators who are long futures contracts past the first notice day are subject to receiving a delivery notice. If they do not wish to take delivery, they must file a **retender notice** and immediately offset their futures position. This retender delivery position involves a monetary penalty. In general, speculators should not be long past the first notice. A speculator can be short past the first notice because sellers initiate delivery.

TAKE NOTE

First notice day is the first day upon which the seller may give his notice, or intention, to deliver actual commodities in fulfillment of his short futures position. This date is usually 3 to 4 weeks prior to the expiration date. (The actual date of first notice day and the number of days between the commodity's first notice day and it's last notice day will vary depending upon the commodity. Generally, this date is 3 to 4 weeks prior to the expiration date of the futures contract.) Regardless, once he tenders his notice, he must deliver on the next business day.

6. 4. 4. 1 Delivery Instruments

Physical delivery occurs by exchanging the appropriate delivery instrument for cash. Delivery instruments are documents representing ownership of the commodity held in an approved delivery location. Different instruments are used for various commodities.

- **Warehouse receipts** are used with delivery of grains.
- **Demand certificates** are used with delivery of perishables.
- **Depository** or **vault receipts** are used for delivery of precious metals and certain financial instruments.

6. 4. 4. 1. 1 Cash Delivery

The amount of money exchanged at delivery is the cash value of the contract (adjusted for quality differential) at the settlement price of the date of filing the notice of intention to deliver. Full settlement price is paid by the buyer (long) taking delivery to the seller (short) making delivery through their respective FCMs and the clearing house.

The delivery price is based on the settlement price date, regardless of the prices at which either party established the futures position. Cash value is based on a current settlement price at delivery because any gains or losses resulting from price movements after the futures positions were opened have already been credited to or debited against the customer's account. Remember, futures contracts are marked to the market daily.

Quality premiums or discounts are set by the exchanges. Delivery price is adjusted when the short making delivery provides a commodity of acceptable quality that differs from the standard contract grade.

6. 4. 4. 2 Assignment

6. 4. 4. 2. 1 Transfer of Ownership

Once the clearing house has the seller's delivery notice, delivery is assigned to the clearing member with the oldest long position. Consequently, that member must assign delivery notice to one of its customers in some fair way. The long receiving the notice accepts delivery by providing the cash value of the contract at the settlement price. At delivery, the long receives the delivery instrument, which proves ownership of the commodity. Holding a futures position does not automatically entail ownership of the commodity because most futures positions are offset before they become deliverable.

The long receiving the delivery notice can avoid taking physical delivery with prompt action if the futures contract is still trading. Upon receipt of the assignment, the party who is long the futures contract can offset the position by selling (short) a futures contract. Then the party **retenders** the delivery notice to the clearing house, which then assigns it to the clearing member with the oldest long position. There is usually a monetary penalty assigned to a retender.

QUICK QUIZ 6.E

1. The clearing house must be notified regarding any customer who is not fully margined.
   A. True
   B. False
2. In determining who gets a delivery notice, the clearing house considers the oldest net long position of its members.
   A. True
   B. False
3. Delivery notices are allocated by a clearing house on the basis of the oldest net long position.
   A. True
   B. False
4. An individual who has received a delivery notice during the session can usually sell an equal amount of futures and retender the notice to fulfill the obligation.
   A. True
   B. False
5. All deliveries of commodities with futures contracts on the CBOT must be made from an elevator in Chicago.
   A. True
   B. False

6. When it receives a variation margin call, a clearing house member deposits funds
   A. within 24 hours
   B. after the close
   C. within one hour
   D. by 5:00 pm

7. A customer with funds on deposit that exceed his margin requirements may
   A. withdraw the excess funds with an open position
   B. use the excess funds to establish new positions
   C. transfer excess funds to his stock account
   D. all of the above

8. Before a seller can make delivery of actuals to satisfy his short market position, he will
   A. issue a notice of intention to deliver a specific amount of a stated grade from a designated location on a date listed on the notice
   B. issue a bill for the amount of money owed to the receiver
   C. demand a registered check from the receiver for the amount due on the commodity to be delivered
   D. issue a margin call

9. Payment in full must be made against a notice of delivery
   A. one half-hour after receipt
   B. one hour after receiving the second notice
   C. one hour after retendering
   D. when delivery is made

10. There is no change in ownership of a commodity until
    A. at least 50% of the margin is deposited
    B. delivery occurs
    C. the futures contract is offset
    D. the first notice day, if the commodities represent a regulated contract

11. Within the established delivery period, which of the following determines the precise date when delivery on a futures contract will occur?
    A. Buyer
    B. Seller
    C. Exchange
    D. Both A and C

6. 5 SUMMARY

Commodity futures orders placed on behalf of customers must conform to exchange regulations. Orders can be placed with price and/or time specifications that delineate the order's execution parameters.

Once placed, an order passes through a particular handling sequence as it is filled and reported to the customer.

Clearing houses associated with exchanges serve as a third-party that stand between buyers and sellers of futures contracts. By doing so, clearing houses ensure the financial integrity

of the futures markets and act as guarantors of all outstanding futures and options on futures contracts.

Clearing houses deal with futures commission merchants, not customers. The clearing firm requires FCMs to meet certain margin requirements based on the FCM's customer positions. This margin requirement should not be confused with the margin requirements set by exchanges for customer positions in specific commodities.

UNIT TEST

1. What happens when a floor broker errs in executing an order?
   A. The customer must accept the loss.
   B. The clearing house makes up the difference.
   C. The floor broker is financially responsible.
   D. None of the above applies.

2. A clearing house uses an average of high and low prices in paying or collecting variation margins.
   A. True
   B. False

3. All of the following describe initial margin EXCEPT
   A. funds required by the broker when a futures contract is opened
   B. the minimum amount of funds a customer must deposit with his or her broker
   C. established by the exchange on which the commodity trades
   D. established by the federal government

4. Which of the following statements is true regarding limit (price) orders?
   A. A limit order to sell may be executed only if the price falls to the limit or below.
   B. A limit order to buy may be executed only if the price rises to the limit or above.
   C. If the market reaches the limit price, the broker may fail to execute without fault.
   D. Limit orders are not accepted on the Chicago Board of Trade.

5. If a customer does not satisfy a margin call, the firm may
   A. offset all or part of the customer's futures positions
   B. close the account
   C. advance money on the customer's behalf to satisfy the margin call
   D. continue to carry the account, but charge interest on the unpaid amount of margin deficiency

6. Changes in margin requirements are always retroactive.
   A. True
   B. False

7. Minimum initial margin is set by
   A. the members of the exchange
   B. the CFTC
   C. the board of directors of the exchange
   D. all of the above

8. An order with no specified time limit is
   A. good for 1 hour
   B. a day order
   C. GTC
   D. MOC

9. FCMs or IBs must time-stamp futures and commodity option orders to the nearest 15 minutes.
   A. True
   B. False

10. An order to buy a commodity at $1.40 stop cannot be filled at $1.41.
    A. True
    B. False

11. A customer's limit buy 35.65 is executed at 35.75. Which of the following statements is TRUE?
    A. This is a proper trade; the customer pays $35.75.
    B. The customer is reimbursed by the commission house, which charges the floor trader through the clearing corporation.
    C. The floor broker reimburses the customer directly.
    D. The clearing corporation reimburses the customer.

ANSWERS AND RATIONALES

1. **C.** Floor brokers are financially responsible for their trading errors. The floor broker will work through the clearing house to make the proper adjustment to the customer's account.

2. **B.** Futures contracts are marked-to-market each day on the basis of that day's settlement price for each expiration month of a particular futures contract.

3. **D.** Exchanges, not the federal government, establish minimum customer margin requirements. Specific firms may set higher (but never lower) margin requirements.

4. **C.** Limit orders are executed at the specified price or better (above the price for sellers and below for buyers). There is no guarantee the order will be filled. A sell limit order is above the market and will be executed only if the price rises. A buy limit order is below the market and will be executed only if the price falls. Limit orders are very commonly used on the CBOT.

5. **A.** If a customer fails to meet a margin call, CFTC rules require that the carrying firm liquidate the customer's position(s) in an amount sufficient to eliminate the margin call. Frequently, such forced liquidations result in trading losses to the customer.

6. **A.** Customers must meet current margin requirements, even when they change. All changes are retroactive and apply to positions established before the changes.

7. **C.** A commodity exchange's board of directors establish margin requirements for the exchange.

8. **B.** All orders are treated as day orders, unless designated otherwise. It would require special designation for an order to only be good for an hour. A good-till-canceled order must be designated as such. An immediate or cancel order must be designated as such.

9. **B.** According to the CFTC, all customer orders must be time-stamped to the nearest minute upon receipt.

10. **B.** A stop order activates a market order, which can be executed at any fair current price. In a fast market, the $1.40 price might go trigger the stop and then move higher before the order can be filled.

11. **B.** A limit order may be executed only at the specified price or a better price. Because this is a buy limit order, it should be filled at 35.65 or lower. A fill at 35.75 is an error. The floor broker must pay for the error. Because there is no direct relationship between the customer and the floor broker, the customer is compensated through the commission house, which is reimbursed by the floor broker through the clearing house.

QUICK QUIZ ANSWERS

Quick Quiz 6.A

1. **A.** This is an example of a give-up. Although splitting commission is a violation, give-ups are not.

2. **B.** On commodity exchanges, brokers hold and execute their customers' stop and limit orders. A stock market specialist handles stop orders and limit orders for other brokers. The specialist may also trade for her own profit.

3. **B.** Trading must occur during market hours.

4. **B.** The equity in a customer's account can be used to meet margin requirements on open positions. Equity includes unrealized profits on open positions.

5. **C.** A floor broker is financially responsible for his own trading errors. The floor broker will work through the clearing house to make the proper adjustment to the customer's account.

Quick Quiz 6.B

1. **B.** When the market trades at the stop price, a stop limit order then operates as a limit (price) order.

2. **A.** Buy MITs activate when futures trade at or below the price stated in the order. They are placed below the market.

3. **B.** Bids below the specified order price do not activate MIT buy orders. Trades or offers (not bids) at or below the specified price trigger buy MITs to become market orders.

4. **B.** The order stipulates a limit price but contains no further instructions.

5. **A.** In a stop limit order, the stop trigger price is often the same as the limit price, as in this question. After the stop is hit, the order operates as a limit order. A sell limit order must be executed at the limit price or better (i.e., higher, because it's a sell order).

Quick Quiz 6.C

1. **A.** The order is entitled to be executed within the closing range. Because there may be several prices, the order is entitled to a price within that range, not necessarily at the last price occurring within the trading session.

2. **B.** The requirement is that the order be filled in the opening range, which is the range of prices occurring within the first few minutes after the opening.

3. **B.** Good-till-canceled (GTC) open orders do not specify a cancellation time. GTC orders are also called open orders because they remain with the broker until executed or canceled.

4. **A.** Orders are presumed to be day orders unless marked otherwise.

5. **C.** A one cancels other (OCO) order contains two separate trades, only one of which is to be executed. The other is canceled upon execution of the first.

Quick Quiz 6.D

1. **A.** The clearing house guarantees performance on all contracts, regardless of whether they trade during the delivery (spot) month.

2. **B.** The clearing house guarantees performance—that every trader will realize the monetary value of his position. However, the clearing house does not guarantee to make or take delivery of the commodity.

3. **A.**

4. **C.** When writing the order ticket for any contract, specify the number of contracts.

5. **D.** A person writing the order ticket specifies the number of contracts.

6. **D.** Two exceptions to the general rule prohibiting ex-pit trading are permitted: when a person exchanges a cash position for a futures position in conjunction with contract delivery, and when a customer transfers an account with open positions to another brokerage firm.
7. **B.** Because the clearing house is seller to every buyer and buyer to every seller, firms have a position against the clearing house; thus, all trades must be confirmed to the clearing house by both parties to the actual trade on the floor.

Quick Quiz 6.E

1. **B.** The clearing house deals only with clearing house members (FCMs). Members must fully margin their positions with the clearing house (whether the positions represent customer or proprietary interests). If a customer fails to meet the margin requirements, the firm must either close that position or margin it on the customer's behalf.

2. **A.** When a customer is short a contract in the designated delivery month, he notifies the clearing house of intention to deliver, through the FCM carrying his account. The clearing house assigns this notice to the (same or different) clearing house member having the oldest net long position. In turn, this firm assigns the notice to one of its customers having a long position in that contract.

3. **A.** When the clearing house receives a notice that a short (seller) wishes to make delivery, delivery is assigned to the clearing member with the oldest long position.

4. **A.** If a long receives a notice of intention to deliver and if trading in that contract has not ceased, the former long (former because receipt of the delivery notice offset the long position) can sell a similar contract and retender the notice of intention to deliver against the position.

5. **B.** Delivery of a commodity must be made to a delivery point designated under futures contract specifications or suffer a penalty. Delivery points may or may not be near exchanges.

6. **C.** If a margin call is issued during trading hours (i.e., a variation margin call), the call must be met within one hour.

7. **D.** Funds exceeding initial margin on open positions may be withdrawn, used to establish new positions, or transferred to another account.

8. **A.** The seller must file notice of intention to deliver. When the clearing house receives such notice, the notice is presented to the clearing member firm with net long contracts for the longest period.

9. **D.** Full payment is due upon delivery.

10. **B.** An exchange of ownership of the physical commodity does not occur until delivery occurs.

11. **B.** Within parameters, the seller ultimately decides precisely when delivery occurs. The exchange establishes a time frame within which delivery must occur. The seller has leeway to deliver within the mandated time frame.

UNIT

7

Regulations—Part 2

The Commodity Futures Trading Commission (CFTC), a government agency, is the ultimate regulator of futures trading in the United States. The National Futures Association (NFA) is a **self-regulatory organization (SRO)** funded by member dues and assessments. The NFA enforces its own rules and those of the CFTC. Both the CFTC and the NFA have the authority to discipline futures industry professionals who violate the rules and engage in activities that are not in the public interest.

Exchanges formulate rules to encourage open, competitive markets and require ethical behavior among members. ■

OBJECTIVES

When you have completed this Unit, you should be familiar with:

- **commodities-related** legislation;
- **Commodities** Futures Trading Commission responsibilities and authority;
- **National** Futures Association responsibilities and authority;
- **disclosure** and accountability requirements of FCMs, CPO, and CTAs; and
- **compliance** and disciplinary enforcement parameters and procedures.

7. 1 FUTURES LEGISLATION

7. 1. 1 COMMODITY EXCHANGE ACT OF 1936

The Commodity Exchange Act of 1936 expanded government regulatory powers, making additional commodities subject to federal oversight. The act established criteria for licensing exchanges and designating contract markets. Additionally, the act mandated registration of firms and representatives, set rules for protecting customer funds, discouraged market manipulation, and limited excessive speculation.

7. 2 COMMODITY FUTURES TRADING COMMISSION ACT OF 1974

7. 2. 1 COMMODITY FUTURES TRADING COMMISSION (CFTC)

The CFTC was created by the Commodity Futures Trading Commission Act of 1974. The bill overhauled the Commodity Exchange Act. The CFTC is an independent agency of the U.S. government. The Commission consists of five members appointed by the president to five-year terms, subject to congressional approval. Trading futures or options on futures while serving as a Commissioner is a felony.

Congress created the CFTC with a sunset provision—that is, unless Congress reauthorizes the CFTC's existence periodically, the Commission would cease to operate. All domestic futures and options futures activity is regulated by the CFTC.

In 2008 Congress passed the CFTC Reauthorization Act and gave it additional duties to implement and enforce provisions under the Dodd-Frank Act, which called for the registration and regulation of entities wishing to serve as counterparties to, or to intermediate, retail foreign exchange transactions (forex). More specifically, those persons in the retail forex transaction business, but not primarily or substantially engaged in the exchange-traded futures business, are required to register with the CFTC as retail foreign exchange dealers (RFEDs). This next part is very important. Registered FCMs that are now primarily or substantially engaged in the activities of an FCM are permitted to engage in retail forex transactions without also registering as RFEDs. All associated persons who solicit retail off-exchange forex business must pass both the Series 3 and the Series 34.

TEST TOPIC ALERT

Commodities versus Securities Regulators: Stock index futures or stock index futures option contracts are ultimately based on a portfolio of securities. Because they are futures or futures option contracts, however, the CFTC, rather than the Securities Exchange Commission (SEC), has regulatory authority.

7. 2. 1. 1 Ethics Requirements

The CFTC mandates ethical behavior in relationships involving customers and requires:

- FCMs to supervise their associated persons;

- orders for FCMs, **associated persons (APs),** and IBs not to be executed ahead of and at disadvantage to customer orders (front running);
- confidentiality regarding customer orders to parties not involved with executing such orders (prohibits misusing inside information); and
- prohibitions against FCMs, IBs, and APs intentionally trading the other side of specific customer orders without prior permission from the customer.

In light of increasing volume and potential abuses, the Commission mandated that the commodities industry self-regulate. Licensed futures exchanges are responsible for the actions of their members relative to other exchange matters. Additionally, legislation enabled the creation of an off-exchange self-regulatory body, the NFA, which regulates the activities of all persons conducting futures business with the public.

7. 2. 1. 1. 1 CFTC Authority

The CFTC maintains exclusive rule over futures trading in the United States. The Commission seeks to prevent:

- fraud;
- manipulation of futures prices;
- attempts to corner the market (buying or selling futures contracts in such volume as to gain control over price);
- excessive speculating; and
- disseminating false information.

7. 2. 1. 1. 2 Customer Protection Procedures

To ensure reasonable protection for customers' assets, the CFTC requires firms doing futures business to meet financial requirements. FCMs must segregate customer assets from the firms' assets, and firms cannot use customer funds to finance their own trades or business operations.

7. 2. 1. 1. 3 Establishment of Exchanges

Futures exchanges must be licensed with the CFTC. The CFTC designates particular exchanges as contract markets for specific commodities.

The CFTC considers various factors in response to exchange proposals for contract market designation, including:

- economic need for the futures contract;
- sufficient cash sales of the commodity to reflect fair market value;
- the means to effectively prevent manipulation and maintain open markets;
- recordkeeping and filing ability, including prices, bids, offers, volume, open interest, and more, although certain data may be compiled by the clearing house; and
- access to official inspection facilities: the exchange need not provide inspection services directly, as long as inspection facilities are proximate to delivery locations and capable of determining delivery grade and other matters.

TAKE NOTE

Exchanges need not clear trades because trades typically clear through an associated clearing house.

7. 2. 1. 1. 4 Registration Requirements

Floor traders, **leverage transaction merchants (LTMs)**, and APs of LTMs register directly with the CFTC. LTMs trade or offer leveraged transactions, such as futures off floor. All persons conducting futures business with public customers must register with the CFTC through membership in the NFA. Employment history for 10 years and 5 years of residential history are required disclosures on the NFA Form 8-R to register as an AP in the futures industry.

TEST TOPIC ALERT

Although parties required to register submit their applications to the NFA, such registration fulfills the CFTC registration requirement.

7. 2. 1. 1. 5 Rule Enforcement

The CFTC oversees exchange activities and must approve of the implementation or changing of any exchange-created rule.

Additionally, the CFTC may review an exchange's disciplinary action. It can enforce exchange rules and penalize violators—even where there is no enforcement or discipline by the exchange. The CFTC can recommend changes in exchange rules, delivery points, and other matters. If the Commission's recommendations are not implemented within a reasonable time, the CFTC is empowered to impose the desired change.

7. 2. 1. 1. 6 Reporting Requirements

The CFTC requires daily position reporting to monitor activities of futures traders when their futures position in a commodity exceeds a specified threshold.

The reporting limit is the maximum net number of contracts that one trader or customer can hold on the same side of a given commodity without having to file daily reports. Determining whether a customer is in a reporting position requires comparing all the customer's long and short positions (i.e., all deliveries on all exchanges, including futures options) in a particular commodity. If this net position exceeds the CFTC's reporting limit, the investor is in a reporting position and must file daily reports disclosing all holdings in the commodity and/or futures option.

Daily reports must continue as long as the reporting position is maintained. Position reports are required from both hedgers and speculators. Significant numbers of day trades or spread positions also may trigger the reporting requirement. FCMs must also file daily reports regarding customers with positions exceeding reporting levels.

Furthermore, exchanges must file weekly reports relative to accounts exceeding reporting levels. Such accounts are **special accounts**.

7. 2. 1. 1. 7 Position Limits

The CFTC sets position limits to discourage manipulation and excessive speculation. Position limits are also called **speculative position limits** because they apply only to speculators. Spreaders may also be considered to be speculators. Bona fide hedgers are not subject to position limits. Again, the limit applies to the net position of the customer in a given commodity, including all deliveries on every exchange, including futures options.

According to CFTC regulations, a **bona fide hedge** means a futures position substituting for a position at a later time in the physical commodity. To qualify as a hedge, the futures position must be appropriate to reduce risk. Bona fide hedging includes anticipatory hedging. Because of large business exposures, bona fide hedgers can exceed CFTC position limits. However,

hedgers still must file daily reports whenever they carry positions exceeding reporting limits. Furthermore, bona fide hedgers must notify the CFTC of intent to exceed position limits at least thirty days before the establishment of the large position.

TEST TOPIC ALERT

Use the following table to remember the applicability of position and reporting limits.

	Speculators	Bona fide hedgers
Reporting limits	YES	YES
Position limits	YES	NO

TEST TOPIC ALERT

By March 1978, commissions became negotiable for all trades.

7. 2. 1. 2 CFTC Reparations Program

The CFTC maintains its own legal staff and often takes actions to ensure that the futures markets are operated in the public interest. It can, for example, issue injunctions in its own name, without state or federal court action, requiring parties to cease and desist violations or requiring alleged violators to take specified actions for failing to observe high standards of commercial honor and just and equitable principles of trade or any other violations of the CEA or CFTC rules.

As part of its Reparations Program (not to be confused with the NFA Arbitration Program), the Commission, through an administrative law judge (ALJ) for formal proceedings of more than $30,000, may impose a wide variety of sanctions against offenders such as suspending or revoking registration, for due cause. It can also impose civil penalties for each violation. The CFTC may also deny trading privileges on all exchanges. Decisions by the ALJ may be appealed to the Commission and then through the U.S. Court of Appeals.

Matters requiring criminal proceedings may be referred to a U.S. District Court with felony violations punishable by a fine up to $1 million, 10 years' imprisonment, or both.

There is a statute of limitation. Complaints must be filed within two years of the date the violation occurred or within two years of the date the offended party should have known about the violation.

TAKE NOTE

The CFTC's Reparations Program provides an inexpensive, fair, and impartial forum to handle customer complaints and resolve disputes between futures customers and commodity futures trading professionals.

QUICK QUIZ 7.A

1. Although the Commodity Exchange Act of 1936 sets forth criteria for designating a futures exchange as a contract market, the commodity to be traded and contract details are determined by the exchange.

   A. True
   B. False

2. A speculator who is long a reporting position in CFTC-regulated futures contracts also must report a short position on any other exchange in which he holds a position in that commodity.

   A. True
   B. False

3. A bona fide commercial hedger must not exceed CFTC requirements relating to position size.

   A. True
   B. False

4. The Commodity Exchange Act of 1936 provides for the licensing of all of the following persons and entities EXCEPT

   A. futures commission merchants
   B. floor brokers
   C. exchanges
   D. warehouses designated "regular" for delivery by the regulated exchanges

5. For a futures exchange to be designated as a contract market by the CFTC, all the following must be in evidence EXCEPT

   A. access to official grain inspection facilities, assuming a grain future is being considered
   B. sufficient cash market sales volume to reflect fair market value
   C. exchange rules and mechanisms to prevent price manipulation
   D. clearing house facilities

6. Regarding trading CFTC-regulated commodities, the CFTC is not responsible for

   A. limiting maximum speculative positions
   B. prohibiting price manipulation
   C. licensing delivery facilities
   D. designating a futures exchange as a contract market

7. A bona fide hedger is exempt from

   A. daily reporting limits of the CFTC
   B. position limits of the CFTC
   C. hedge margin requirements of the exchange
   D. trade margin requirements of the exchange

8. How many years is the statute of limitations for filing a bona fide reparations complaint form with the CFTC?

   A. 2 years
   B. 3 years
   C. 6 years
   D. 7 years

9. If an FCM is found to be in violation of the CFTC Act, which of the following penalties may be enforced against the firm?

   A. The CFTC may suspend the firm's registration.
   B. The CFTC may revoke the firm's registration.
   C. The CFTC may fine the firm.
   D. All of the above.

Quick Quiz answers can be found at the end of the Unit.

7. 3 THE NATIONAL FUTURES ASSOCIATION

Created in 1976, the NFA is designated by the CFTC as the SRO for supervising the activities of persons conducting futures business with public customers. The NFA has the primary responsibility to enforce CFTC regulations.

NFA membership is mandatory for:

- FCMs;
- IBs;
- CPOs;
- CTAs; and
- APs of the above.

Members must not conduct business with suspended members or registered commodities representatives (RCRs) unless otherwise authorized by an appropriate NFA committee.

NFA operating costs are supported by membership dues and small assessments on both parties to each transaction in futures or futures options. Those seeking membership or association with a member must file forms and pay registration fees.

APs and certain other registrants must pass the Series 3 exam administered by FINRA. Members and APs may not imply that they are approved by the NFA.

An AP of a member may become associated with another member as long as the NFA is notified (dual registration). Each member must certify their awareness of the person's multiple association and supervise the AP/RCR.

Following a written notice by the NFA's Business Conduct Committee that is adverse to a member respondent, including its reasons, findings, and conclusions, a copy must be submitted to the CFTC within 30 days after it becomes final.

7. 3. 1 NFA RULES

For customer protection, the NFA must establish and enforce rules that are consistent with CFTC standards. The Association investigates and resolves complaints and provides means to adjust disputes. CFTC rules automatically become rules of the SROs (including the NFA). Furthermore, the NFA is required to create rules that specify proper conduct for futures industry professionals. Fraud and fraudulent practices are prohibited by NFA rules. No member or associate may:

- cheat, defraud, or deceive any customer;
- bucket (i.e., hold but not execute) orders;
- make false reports to customers;
- disseminate false or misleading information that affects futures prices;
- engage in manipulative acts or practices;
- effect trades for prohibited persons;
- misuse customer assets or engage in excessive transactions (i.e., churning); or
- willfully submit false information to the NFA.

TAKE NOTE

Bucketing is accepting customer orders without executing them immediately. When and if the buy order is executed at a higher price, the customer pays that higher price. But, if the execution results in a lower price, the customer pays the higher price and the member firm bags the difference.

Members or associates may share directly or indirectly in customer profits or losses only if written consent has been obtained from the customer. No member or associate may conduct futures business with a suspended member or associate. Members may not imply that they have been approved, recommended, or endorsed by the NFA. An NFA member cannot terminate his membership if he is under investigation or faces disciplinary charges by the NFA.

When NFA examiners suspect any improprieties, or respond to customer complaints, the NFA may begin an investigation into the firm and its compliance with rule requirements. After completing the investigation, the NFA will submit the matter to the appropriate Business Conduct Committee. (If immediate action seems necessary to protect the public, the president of the NFA, in conjunction with the executive committee, may take action against a member.)

If the committee determines that prosecution is necessary, a complaint is issued. The respondent may answer the complaint and even ask for, and obtain, a hearing with the committee. If one of the parties is not satisfied with the decision rendered, the decision can be appealed to the Appeals Committee.

If a dispute arises, claims must be submitted within two years of the date on which such claim is based, which is the same time period as the CFTC.

In the case of a member that is registered as a broker-dealer dealing with securities futures, the firm is obligated to notify NFA promptly—no later than within 10 business days—if any RCR (or the member itself) has been found by a self-regulatory organization such as FINRA to have violated securities laws or regulations or was subject to a written customer complaint involving theft or forgery.

7. 3. 1. 1 Account Supervision

7. 3. 1. 1. 1 Discretionary Accounts

Discretionary accounts must comply with NFA requirements. A discretionary account is one in which a member or an associate (rather than the customer) determines one or more specific terms of a transaction. A member or an associate is not exercising discretion when the customer specifies the:

- commodity;
- delivery month and year;
- number of contracts; and
- whether to buy or sell.

For a member to be able to accept an account on a discretionary basis, the customer must:

- request a discretionary account in writing;
- grant power of attorney (trading authorization) in favor of the person to enter the orders; and
- the AP handling the account must have two years of experience as a registered commodities representative, unless the AP is also registered as a commodity trading adviser. CTAs are exempt from the two-year registration requirement for managing discretionary accounts.

Firms must supervise discretionary accounts intensely. All discretionary orders must be identified as such and must be approved by a supervisor within a reasonable time after each order is filled. Supervisory personnel must regularly review discretionary trading activity. The proper method for conducting these reviews must appear in the firm's written procedures manual. Members must keep written records of discretionary account reviews.

7. 3. 1. 1. 2 Third-Party Control

When a customer's account is managed by a third party, the firm must maintain certain additional records and exercise the greatest care. An account is under **third-party control** when the person entering the orders is neither the customer nor the member (firm) nor one of its APs. This third party cannot exercise discretion unless:

- the member has written proof and evidence of the customer's trading authorization; and
- the member has acknowledgment from the customer that appropriate disclosure documents were received.

Neither requirement applies if the third party is in the customer's immediate family. Immediate family members include spouses, parents, children, grandparents, grandchildren, brothers, sisters, aunts, uncles, nephews, nieces, and in-laws.

7. 3. 1. 1. 3 Account Transfers

Members must expedite the transfer of customer accounts. Immediately after receiving a customer's written notice, the carrying member must:

- provide the receiving member with information confirming open positions and assets in the customer's account within two business days; and
- transfer positions and assets to the receiving member within three business days following the confirmation.

Account Transfers: Because the transferring FCM has two business days to confirm positions and three more business days to transfer the customer's assets, the entire transfer process takes five business days (from receipt of the customer's written transfer request).

A customer wishes to open and fund a futures account at Royal Capital Futures Group (RCFG). He may ask, "Can I use my Royal Capital Securities account to trade futures or forex?" The answer is no. The two are deemed separate entities. However if asked, "Can I transfer an initial deposit from my securities account to fund a new futures account?" The answer is yes. This may be done in a variety of ways, including an electronic account management system or simply writing a check against the account's surplus.

QUICK QUIZ 7.B

1. A fully registered associated person may trade discretionary accounts after an initial employment period of 6 months.
   A. True
   B. False
2. Daily communications with clients, oral and written, are not subject to the same standards and review as promotional material.
   A. True
   B. False
3. All the following futures professionals must register with the NFA EXCEPT
   A. FCMs and IBs, as business entities
   B. RCRs employed by FCMs and IBs
   C. CPOs and CTAs doing business with the public
   D. futures exchanges
4. Discretionary accounts require all the following EXCEPT
   A. prior written approval from the customers
   B. confirmation of each trade
   C. written approval by the customers before each execution
   D. supervision by a principal of the firm
5. Under which of the following circumstances can a registered commodities representative (RCR) handle a discretionary account?
   A. If the RCR is registered with the NFA and practicing in the industry for 1 year
   B. If a signed authorization from the customer is on hand
   C. If the client is sophisticated
   D. None of the above

7. 3. 2 PUBLIC COMMUNICATION: NFA RULE 2-29

The content of promotional material must balance the possibility of profit with a statement regarding possible loss. References to track records must state that past performance does not indicate future results. Recommendations must be presented as opinions rather than facts. NFA members must be able to demonstrate a reasonable basis for their claims and may not mislead the public with unfounded statements of opinions. Any promotional material that uses statistical information can do so only if the information can be proven to the NFA. If the material uses rate of return information, the figures must be calculated by the method required by the CFTC.

EXAMPLE

An FCM may say, "Our research forecasts higher cattle prices," but cannot state "Cattle prices will move higher."

7. 3. 2. 1 Promotional Material

Promotional material includes material presented to the public concerning a futures account. NFA Rule 2-29 includes, but does not limit, its interpretation of promotional materials to:

- sales literature or other educational literature distributed to the public (whether prepared by the NFA member, AP, or another party);
- seminar presentations and meetings and any advertising or promotional activity to encourage attendance at a seminar or meeting;
- advertising, including newspapers, magazines, radio, television, direct mail, and online computer delivery of promotional materials;
- telephone solicitations, either cold calls or follow-ups to responses to sales leads;
- newsletters, reports, or circulars;
- prepared sales scripts, regardless of whether they are used as the basis of actual sales calls or merely for training purposes;
- material transmitted on the internet (including email, websites, and chatroom conversation); and
- performance charts and graphs.

7. 3. 2. 1. 1 Supervisory and Recordkeeping Procedures

Branch offices or guaranteed IB locations can distribute promotional material only after the main office has approved the material. Remote offices should prepare marketing material early enough to permit review of promotional activities before distribution. Written supervisory procedures that include the following actions must be enforced.

- Prior approval of all promotional material must be obtained from an officer, general partner, branch office manager, or supervisory employee other than the employee who developed the material.
- Copies of all promotional material and copies of all review of the material must be maintained for three years from the date of use.

In addition, the compliance director may require any member to file copies of all promotional material with the NFA.

7. 3. 2. 1. 2 The On-Premises Advertising File

Each member must keep a file containing each promotional item and a copy of its supervisory review and approval. This file must be maintained for a total of five years, with the last two years readily accessible.

Other than as disciplinary action, the NFA does not typically require members to submit copies of materials. However, it does offer guidance when promotional material is submitted by supervisory personnel. Since reviews take at least 21 days, a member with concerns about the fairness of a promotional item should allow sufficient time for the NFA to comment.

7. 3. 2. 1. 3 Fairness in Promotional Materials

Trading in futures contracts and options on futures is risky and not appropriate for all investors. It is only after examining clear and balanced information—including a clear description of risk—that a customer should decide whether to trade futures or futures options contracts.

Rule 2-29 requires that members provide prospective (and active) customers with the information they need. In general, the rule requires that the writers of promotional materials use the same standards of honest communication they would seek before making their own investment decisions.

7. 3. 2. 1. 4 Disclaimers

Each of the following situational uses of promotional material must include a specific disclaimer:

- A statement of hypothetical results using a member's trading method
- Whether a member has less than one year of experience in trading proprietary or customer accounts
- Material that includes a hypothetical description of portfolio results that could have been achieved using particular advisors
- Whether a member has less than one year of experience allocating assets among specific trading advisors

7. 3. 2. 1. 5 Responsibility for Content

Material Prepared by Others. Even if an NFA member engages an advertising agency or consulting firm to prepare its promotional materials, the member is responsible to see that the items do not violate NFA rules and must review materials before they are distributed to the public. A member may use material provided by another member in a promotional piece but remains responsible for confirming the accuracy of the information.

Material Prepared by Employees. If an AP of a member prepares promotional material, both the employee and the member are responsible to ensure that the material is not misleading. Members must create clear supervisory procedures so employees understand that they are to submit promotional material to their supervisors before releasing material to the public.

Rankings from Outside Services. Several futures-oriented magazines and investor services rank managed account performances. If members cite such rankings, they must disclose the limitations of such ratings. Rating systems that are not consistent with CFTC guidelines must be explained in detail. Any member who willingly submits inaccurate results to a rating service has seriously violated NFA rules; although the rating originated with the publisher of the magazine or service, the member remains responsible for ensuring that information presented is not deceptive.

Implying that ratings or rankings presented in magazines or investor services reports are somehow official industry documents is prohibited. Promotional materials that reprint ratings should include risk disclaimers. When rankings compare performances of account managers in a given group or category (e.g., those managing less than $1 million or less than $10 million), this fact must be disclosed.

Article Reprints. Although a member may reprint articles written by others for promotional purposes, using such reprints exposes the member to the challenge balance in its promotions. Statistical information presented in articles must be accurate if such articles are used as promotions. The member must ensure that, if an article mentions hypothetical performance, recipients clearly understand the hypothetical nature of the information. If

only one or a few customer accounts are mentioned, it should be disclosed that such results are by no means typical.

Generally, the member must include disclosure of the risk of futures trading (or options on futures) to accompany reprints distributed to the public.

7. 3. 2. 1. 6 Fair Disclosure Requires Truth and Balance

NFA Rule 2-29 mandates that statements in promotional materials must be true and requires the member to document the accuracy of statements in promotional materials. Any statement presenting the probability of profit must be balanced with an equally conspicuous statement covering the risk of loss.

Historically, high investment profit potential and high investment risk go together. The profit potential of trading futures and options on futures is, arguably, a result of the risk involved. In requiring balanced disclosure of risk in promotional material, the NFA does not intend that discussion of potential profit from trading futures or futures options be avoided. Instead, the NFA stresses balance: that honest promotional materials inform an audience about both profit opportunities and risk in the futures markets.

"Equally Conspicuous." According to the NFA, equal prominence is evaluated in terms of the overall impact of the promotional item. It is not determined only by comparing font sizes, the number of times that profit and risk are mentioned in print ads, or the relative time that profit and risk are discussed in seminars. It is safe to assume, however, that one mention of risk versus a hundred mentions of profit may raise regulatory concerns.

Charts and Graphs. Charts and graphs of performance results showing gains are considered as mentioning the possibility of profit—and must be accompanied by a balancing disclaimer disclosing the risk of loss.

Spoken and Videotaped Presentations. Spoken and videotaped presentations present unique challenges in achieving a balance of the time allocated to discussing profit and loss. A brief canned disclaimer at the end of a video presentation may not satisfy the NFA's notion of balance, nor is balance achieved in a telephone sales presentation in which 15 minutes are devoted to the excellent performance of a particular managed futures program, but the AP merely offers to mail information covering account opening procedures and risks.

Radio and Television Interviews. Members and APs may be asked to appear on television and radio programs. These programs usually appeal to active and potential investors. If the member pays for the appearance, the appearance will be considered as a promotional activity and falls under Rule 2-29. An appearance in an independently produced interview during which the member repeatedly presents performance, offers a phone number, or promotes services is also considered to be promotion.

Infomercials. The television infomercial, in which a so-called expert is interviewed, is a popular form of advertisement. To prevent the public from being misled, disclosure, and disclaimer information must be presented at both the opening and the closing of the infomercial, and the member who pays to produce a promotional appearance must clearly disclose such fact to viewers. Although interviews can appear spontaneous, most follow prepared scripts; if questions are prepared, that fact must be disclosed.

Fairness in Advertising Leverage. Margins on futures contracts and options are small relative to the underlying value of the futures contract or commodity, and a relatively small

deposit controls a higher actual commodity value. Mentioning that smaller deposits control large amounts of a commodity without adding that such leverage magnifies risk is deceptive.

TAKE NOTE

Member firms may not use a radio or television advertisement if the advertisement makes any *specific* trading recommendation or refers to profit obtained in the past or that can be achieved in the future unless the firm submits the advertisement to NFA's Promotional Material Review Team for its review and approval at least 10 days prior to first use.

Misleading Wording. In written promotions (e.g., newspaper display ads, classified advertisements, direct mail letters, and postcards), words such as *proven* and *unlimited* are, by their nature, misleading and should not be used. In general, members using quantitative superlatives such as *most* or *least* are subject to scrutiny. The NFA may require members to document such extreme claims.

7. 3. 2. 1. 7 Special Cautions About Options Promotions

Fraudulent or high-pressure sales communications are prohibited in the offer or sale of commodity options traded on (or subject to) the rules of a contract market. Promotions that market options trading and state that options have limited risk and involve no margin calls may be misleading. Not all options (e.g., uncovered call writing) have limited risk.

If a member presents risk limitations in the context of a futures options promotional piece, he must disclose that limited risk applies only to long options positions. Furthermore, if the member advertises that long options carry limited risk, he must also disclose that the futures options investors can lose their entire premium if the position moves adversely or runs out of time.

QUICK QUIZ 7.C

1. According to the NFA, all of the following are promotional material EXCEPT
   - A. telephone cold calls
   - B. customer account forms
   - C. internet web pages advertising an FCM
   - D. items distributed at public seminars
2. Which item(s) below is (are) considered to be promotional material?
   - I. Internet websites
   - II. Sales training scripts
   - III. Monthly market letters
   - A. I only
   - B. II and III
   - C. I, II and III
   - D. None of the above
3. Television appearances are promotions when the member
   - A. pays for the television time
   - B. is interviewed by a reporter on the street
   - C. is interviewed on CNN with no compensation (neither received nor paid)
   - D. participates in a public service program for a charitable association

4. Discussion of the relationship between potential profits and losses from trading futures or commodity options should be
   A. balanced
   B. roughly equal in number of words
   C. avoided
   D. considered a regulatory risk

5. The effect of leverage on futures trading is that it can magnify
   A. profits
   B. losses
   C. Both A and B
   D. Neither A nor B

6. To remain compliant while mentioning both potential profits and losses in promotional materials, a firm should do which of the following?
   A. Avoid mentioning profits
   B. Mention loss potential but not profit potential
   C. If loss potential is mentioned at least once, profit may be discussed as frequently as desired
   D. Balance discussion of profit and loss

7. 3. 3 DISCLOSURE AND ACCOUNTABILITY OF FCMS

Futures commission merchants must follow certain procedures to solicit and maintain customer accounts. NFA Rule 2-30 requires the firm, through its RCRs and principals, to determine the suitability of commodity trading for each prospective customer. The representative introducing the account must use due diligence to learn the customer's financial status, including annual income, net worth, investment experience, and investment objectives. CFTC rules mandate that, before trading, all customers receive a **risk disclosure statement**, which states:

> "Risk of loss in commodity futures trading is substantial. Careful consideration should be given as to whether such trading is suitable in light of financial condition, objectives, and temperament (the "know your customer" rule). In considering whether to trade, an investor should, at a minimum, be aware of the following.
>
> - A trader may sustain total loss of initial margin funds and additional funds deposited to establish or maintain a position in the commodity futures market.
> - If the market moves against a trader's position, he may be called upon by his broker to deposit additional, substantial margin funds on short notice to maintain the position.
> - If a trader does not provide the required funds within the prescribed time, his position may be liquidated at a loss, and he will be liable for any resulting deficit in his account."

Other Risk Factors. Under certain market conditions, a trader may find it difficult or impossible to liquidate a position, such as when the market makes a limit move.

Placing contingent orders, such as stop loss or stop limit orders, does not necessarily limit losses to amounts intended because market conditions may make it impossible to execute such orders. A spread position may not be less risky than a simple long or short position. The high degree of leverage due to relatively small margin requirements greatly increases risk.

Futures Options Disclosure. Customers intending to trade futures option contracts must acknowledge the risk that buyers risk their entire premium. Sellers face greater, possibly unlimited, risk. FCMs may disclose risks associated with trading futures option contracts on a separate option risk disclosure document, or they may present prospective customers with a generic disclosure document covering risks associated with both futures and futures options.

Risk Disclosure Statement. Before a firm can accept a customer account, it must receive signed acknowledgment that the customer received, read, and understands the risk disclosure statement; this acknowledgment must be kept by the firm in the customer's file.

Confirmations. Firms are generally required to send confirmations and account statements to customers. Written confirmation must be sent after each transaction in futures or options on futures no later than the next business day following the trade date. Confirmations detail the terms of the trade (e.g., commodity, month and year of delivery, quantity).

Customer Account Statements. Monthly statements of accounts must be sent to customers unless no trades were executed during the month and the account holds no open positions. With no trades or open positions, statements are required every three months (quarterly). Account statements show the beginning balance, debits, credits, deposits, withdrawals, and ending balance.

The FCM must maintain copies of confirmations and monthly statements.

7. 3. 3. 1 Records and Recordkeeping

Firms are required to keep records of their customers' accounts, including a(n):

- ledger for each customer transaction showing gains, losses, debits, and credits;
- record or journal for each trading day identifying the customer or trader for whom each trade was executed;
- description of property or securities (other than money) deposited by customers to meet margin requirements; and
- account card with each customer's name, address, principal occupation or business, account guarantors, and account controller (if applicable).

Records must be retained for five years and must be easily accessible for two years. Members must keep records of option-related complaints.

Customer (Margin) Agreements. Customer margin agreements allow the firm to close (liquidate) customer positions under certain circumstances or to cancel open orders when a customer dies. Through the customer agreement, the customer gives the firm the right to immediately liquidate a portion or all of the customer's positions if a margin or maintenance call is not satisfied.

The **supplemental agreement**, also called the **funds transfer form**, allows the customer's representative to move money between the customer's securities and commodities accounts or between **class 1** (domestic) and **class 2** (foreign) commodity accounts. Regulations require firms to segregate assets intended for these different purposes.

Full Disclosure. FCMs and IBs are required to disclose costs associated with futures transactions fully, including fees and service charges that may be assessed. If fees and charges are assessed on a basis other than per trade or per round-turn, firms must disclose in writing the

nature of fees and charges and how and when they apply. Cost disclosures must be made to a customer before the account is opened. The customer's confirmations must detail all fees, costs, and charges associated with each transaction.

Typically, fees and charges other than transaction commissions include:

- **front-end load**—either a flat dollar or a set percentage amount deducted from the customer's capital before trading begins;
- **front-end load, monthly commission**—a monthly flat amount deducted from the customer's capital that entitles the customer to unlimited trading; and
- **profit sharing**—an arrangement whereby the company shares in trading profits that accrue to the customer's account, usually including a minimum service charge covering unprofitable months.

Disclosure Exceptions. A company is not required to disclose futures trading costs to a customer if the:

- account is directed by a CTA and the CTA discloses all costs to the customer (in writing);
- customer is an NFA member; or
- customer is not an individual (i.e., is a corporation or partnership).

7. 3. 4 DISCLOSURE AND ACCOUNTABILITY OF CTAS

A **commodities trading advisor (CTA)** is anyone paid to give advice on trading commodities or on the value of commodities and any person paid for analyses or reports concerning commodities. Some CTAs merely sell advice and reports, certain CTAs operate via newsletters or per-minute hotlines, and others may trade futures on behalf of one or more clients with power of attorney over the accounts.

Certain disclosures must be made by CTAs to prospective clients. These include:

- business activities of the CTA and his principals for the past five years;
- past trading performance; and
- if applicable, that the CTA has no previous trading experience as a CTA.

A CTA may not hold customer assets unless the organization is an FCM also registered as a CTA. Furthermore, a CTA is not required to register as a CPO unless the CTA is engaged in forming or operating commodity pools; this applies regardless of how many pools a CTA advises.

Certain parties are not required to register as CTAs even though they occasionally provide advice regarding futures or futures options. Those exempt from registration as CTAs include:

- dealers or processors whose trading advice affects cash market business;
- associated person (commodity representative) acting in that capacity;
- one not holding himself out as a CTA who has provided advice to 15 or fewer clients during the previous 12 months;
- accountant, attorney, or teacher whose advice is incidental to their primary occupation;
- introducing broker acting in that capacity;
- CPO acting in that capacity;
- LTM acting in that capacity; and
- nonprofit farm or trade association.

Parties that are exempt from CTA registration requirements are still subject to CFTC rules. CTAs may not receive client account funds; client funds are payable to the FCM where the client's account is held.

CTAs provide disclosure through a document that identifies the:

- name, address, and telephone number of the CTA;
- date the document is first used;
- form of the CTA's business (e.g., partnership or corporation);
- name of each principal or trading adviser (if applicable);
- description of adviser's trading program, including
  - — program starting date,
  - — number of accounts and total assets trading under the program, and
  - — types of commodities traded under the program;
- statement that the CFTC does not "pass on the merits" of the trading program;
- name of the IB or FCM through which the account will trade or a statement that the client selects the firm;
- disclosure of risk; and
- whether the CTA or his principals trade or intend to trade.

CTAs must disclose their business experience and that of their principals for the preceding five years. Furthermore, trading performance for the adviser and its principals for the previous five years (or less, if the adviser lacks five years' performance) and the current year must be published. Criminal, civil, or administrative (regulatory) action directed against the adviser or its principals, or its designated FCM or IB, within the preceding five years, must be disclosed.

EXAMPLE

Here is an example of a question you may see.

A disclosure document used by a CTA (or CPO) to persuade prospective customers to open an account must be

A. not older than 12 months
B. not older than 6 months
C. no older than 1 month
D. approved by NFA

Answer: A. The CTA (or CPO) may not use a disclosure document that is older than 12 months.

Performance must be disclosed in the same manner used to disclose performance for commodity pools. Performance may be disclosed either on the basis of individual or aggregate accounts. That the adviser has never directed an account must be disclosed, if applicable.

The amount and method of computing fees must be disclosed. If fees are based on profits or gains, such terms must be defined. Conflict of interest (or the lack of conflict of interest) must also be disclosed, including whether the CTA personally trades and whether records of the adviser's personal trading may be inspected.

For commodity pools and accounts managed by CTAs, clients must receive disclosure documents before trading.

Performance records and disclosure documents must be updated every nine months and not indicate asset or account values older than three months before the update indicated. Furthermore, each performance update must be submitted to the CFTC at least 21 days before it is made available to the public.

Advisors must maintain records relative to their advisory business that are available for inspection within 72 hours of CFTC request.

7. 3. 5 DISCLOSURE AND ACCOUNTABILITY OF CPOS

Commodity pool operators (CPOs) organize and operate commodity pools to speculate in futures. A commodities pool entrusts monies from many investors to a trading professional and distributes profits and losses among its participants (the investors) in proportion to their interests. The CFTC requires CPOs to make certain disclosures to prospective investors, provide information to pool participants, maintain records, and meet other requirements. The NFA enforces that compliance.

The relationship between the CPO, the commodity pool, and the investor is somewhat complex. A CPO conducts business as an investment trust, a syndicate, or a similar form of enterprise. In conjunction with the business, the CPO solicits or receives funds or both, occasionally securities or property, for the purpose of trading commodity futures or options.

A commodity pool is a separate entity, typically a limited partnership. The CPO serves as general partner or general manager. Technically, interests in commodity pools are securities, subjecting the CPO to SEC and state securities regulation (in addition to CFTC oversight).

The CPO must make numerous disclosures to prospective investors. CPO disclosure documents address the risks of commodity pools and provide relevant details about the particular CPO and commodity pool.

Customer funds may be accepted by the commodity pool only if the customer acknowledges (in writing) receipt and review of appropriate disclosure documents. Relative to each commodity pool, the CPO must identify the:

- main office of the commodity pool;
- main office of the CPO;
- identity of the CPO's principals;
- commodity pool's trading adviser(s);
- principals of the trading adviser;
- trade decision maker;
- executing FCM;
- commodities that will be traded by the pool (including foreign futures contracts);
- first date the disclosure document will be used; and
- disclaimer of CFTC approval.

The pool may limit its activities to specified futures (disclosing which ones) or may retain flexibility to deal with any commodity.

The CPO also must disclose the business activities of the CPO, each of its principals, the CTA, and each of the CTA's principals during the past five years. Conflicts of interest, such as ownership of pool interests by the CPO or the pool's CTA, must be disclosed. If neither the CPO nor the CTA hold interests in the pool, that fact must be disclosed. Any CTA managing 10% or more of the pool's assets must be identified. The document must also identify parties holding 10% or greater interest in the pool. All potential conflicts of interest must be disclosed.

The CPO must disclose the size of the commodity pool. Disclosure includes minimum funds required for the pool to begin trading and maximum funds that may be contributed to the pool (or whether any maximum applies). Participants are informed as to the maximum time for holding funds before the start of the pool's trading or whether any maximum applies. Furthermore, the pool operator must disclose how deposits are held and invested before the pool's first trade and how deposits are returned to participants if the pool does not receive sufficient funds to open.

EXAMPLE

Here is an example of a question you may see.

There is no requirement to provide a risk disclosure document to prospective customers if they have made prior investments in commodity pools.

A. True
B. False

Answer: A.

7. 3. 5. 1 Prior Performance

CPOs are required to disclose prior performance. All performance data presented in the disclosure document must not be older than three months from the date of the document. Performance data must be presented for the most recent **five calendar years** and year-to-date, or for the life of the pool if in existence less than five years. If the pool has operated for more than three years but less than five years, performance must be disclosed for the entire history of the pool. If the pool has operated for less than three years, it must disclose its entire performance. If the pool has traded for less than twelve months, performance for the pool's entire operating history must be disclosed, and the CPO must disclose performance of all his other pools over the past three years. Separate performance for each pool currently and previously managed by the CPO must be disclosed. If the pool's track record, or the adviser's, includes hypothetical trading, that fact must be disclosed.

If the CPO has not previously operated a commodity pool, this also must be stated using this disclaimer:

This pool has not commenced trading and
does not have any performance history.

The CPO's performance record must be updated monthly, showing beginning and ending values and the current number of units held by participants (outstanding). Additions to or withdrawals from capital must be disclosed so that any changes not attributable to trading are revealed. Performance must disclose the worst drawdown relative to the best performance (i.e., peak to drawdown) for the current trading year and the previous five years. Operating pools must disclose their current net asset value and rate of return for the current and previous five year(s).

7. 3. 5. 2 Disclosures

Criminal or administrative action against the CPO or his principals, the CTA or his principals, or the executing FCM or its principals must be disclosed. The potential liability of a participant beyond the initial investment must be disclosed. The CPO must publish uses of

pool assets not used to margin futures positions and the distribution of income derived from pool assets.

The CPO must disclose the costs associated with the pool, including commissions or fees paid for soliciting participation in the pool. Furthermore, the pool operator must disclose the amount of trading profit required for a participant to break even in light of costs. The CPO's disclosure document must explain how frequently the pool distributes profits and capital, along with the federal income tax consequences of each type of distribution.

Disclosure must explain how participants redeem interests and restrictions, if any, affecting redemption. For instance, some pools only permit redemption at the end of a fiscal or calendar quarter. The CPO must disclose how participants' interests are valued for redemption purposes.

7. 3. 5. 2. 1 Reporting Requirements

Periodic reports must be sent to participants stating gains, losses, income, or expenses incurred by the commodity pool within that reporting period. Monthly statements must be distributed if the pool's net assets are greater than $500,000. Pools with net assets of $500,000 or less need send account statements only quarterly.

TAKE NOTE

CPOs may not commingle assets of specific pools with assets of other pools or entities.

Disclosure must appear in tabular form (columns) on the front cover of the CPO's disclosure document and be titled "Dilution Table." The CPO must establish a base investment figure (such as an investment of $1,000) for comparison purposes. Deductions (including organizational, offering, legal, and accounting fees) must be subtracted from the base figure to reveal net proceeds available for trading. If the CPO advertises the performance (track record), he is required to use net proceeds.

The dilution table is not required to factor management fees charged by the CTA for the initial operating period.

TAKE NOTE

CPO members must distribute an annual report certified by an independent CPA on each pool it operates to each participant. In addition, the CPO must electronically file the annual report to the NFA through its EasyFile system. All this must be done no later than 90 calendar days following the pool's fiscal year end.

QUICK QUIZ 7.D

1. If a customer dies, an account executive should cancel all unfilled orders.

   A. True
   B. False

2. If a CTA has no previous experience as a CTA, the firm (or person) may not engage in business with the public without disclosing such inexperience to potential customers in advance.

   A. True
   B. False

3. A CPO has been operating pools for 3 years. Under CFTC disclosure rules, this CPO must reveal its business history for the past 3 years.
   A. True
   B. False

4. A CPO must provide monthly statements to pool participants if assets in the pool are $250,000 or more.
   A. True
   B. False

5. A CPO has been in business for 6 years. She must, under CFTC rules, disclose her business activities for her entire history.
   A. True
   B. False

6. All the following information must be clearly communicated to a customer in the risk disclosure statement EXCEPT
   A. the customer may lose all initial trading capital deposited to the account
   B. in addition to the possible loss of all initial trading capital, the customer may be required to deposit additional capital to maintain an open position
   C. stop loss and stop gain orders are effective risk management tools that new futures traders use regularly
   D. margin requirements on futures transactions represent small percentages of the commodity's value, which tends to increase risk exposure in futures transactions

7. In addition to the risk disclosure statement required by the CFTC, what other disclosures must an FCM or IB make to customers?
   A. Quarterly reports of costs and expenses incurred by the firm in connection with its management and operations
   B. Profits and losses on the firm's own (proprietary) futures trading (upon request)
   C. Full costs for executing trades and maintaining commodity trading accounts
   D. All of the above

8. In assisting a CPO to establish a commodity pool, an FCM charges the CPO a fee for sending clients. This fee would be disclosed
   A. as part of the pool agreement
   B. separately in accordance with NFA Rule 2-4
   C. in the disclosure document
   D. in any manner properly to the pool customers

9. Which of the following statements is/are required in the written disclosure of a CPO's up-front fees and expenses?
   A. Disclosure of up-front fees and expenses must be displayed prominently on the cover page of the CPO's disclosure document.
   B. Up-front fees and expenses must be formatted in tabular fashion, along with an example investment base figure and net proceeds available for trading figure.
   C. The placement of a CPO's up-front fees and expenses relative to a gross investment amount and net capital available for trading should emphasize the impact of such fees and expenses on customers' risks and rewards.
   D. All of the above

7. 3. 6 COMPLIANCE AND DISCIPLINARY ACTION

The NFA's **Department of Compliance** conducts member audits and examinations and investigates complaints and violations of NFA regulations.

Regional Business Conduct Committees conduct investigations, which can be initiated by CFTC request, by discovery of the NFA, or by order of the NFA's Director of Compliance that a violation has occurred, may have occurred, or is about to occur (i.e., a customer complaint) or at the compliance director's own initiative.

Following the investigation, a formal complaint is issued by the Business Conduct Committee if appropriate. The formal complaint must:

- state each alleged violation;
- advise the party charged (the respondent) that he is entitled to a hearing if requested; and
- state that the respondent must file a written answer to the complaint with NFA within 30 days from the date of the complaint and that failure to answer charges is deemed to be an admission of guilt and a waiver of hearing.

Disciplinary Proceedings. Respondents have a right to counsel (attorney) throughout investigative or disciplinary proceedings (provided the attorney is not disruptive) and may appeal adverse findings by a Regional Business Conduct Committee. An appeal must be filed with the Appeals Committee within 15 days following the Business Conduct Committee decision. Upon request, respondents review appeals committee action through the CFTC within 30 days of any action by that committee. Ultimately, appeals are made in the U.S. Court of Appeals.

The Business Conduct Committee, or the appeals committee, may impose one or more of the following penalties:

- Expulsion
- Suspension for a specified period
- Barring (permanently) association with a member
- Censure (reprimand)
- Monetary fines not to exceed $250,000 per violation
- An order to cease and desist specified actions (violations)

TAKE NOTE

Failure to pay a fine within the time stipulated in the written disciplinary action (generally 30 days) is cause for summary suspension from NFA after 7 days written notice.

Under most disciplinary situations, the alleged violator has a right to a hearing and attorney representation. However, certain violations may be considered to be so detrimental to the public interest that the NFA must have the ability to act swiftly before a hearing can take place.

Following approval of its governors or precedent, the NFA can take a **member responsibility action** and act immediately. However, the alleged violator will have the right to a hearing and legal representation promptly after the action is taken.

7. 3. 6. 1 Arbitration

The **Code of Arbitration** operates to settle claims and adjust disputes arising from futures, commodity options, and forex transactions. Arbitration is less formal than court proceedings and does not incorporate all rules of evidence. However, attorney representation is permitted at arbitration hearings.

Generally, a claim involving one or more persons who are not exchange members is resolved by NFA arbitration. The size of the claim determines the number of arbitrators and whether a hearing is needed. Either party may request a hearing. If claims (and counterclaims and interest):

- exceed $50,000 but are less than $100,000, a hearing occurs before a panel of one arbitrator (however, if the claim exceeds $50,000, but is not more than $100,000, then there may be three arbitrators if all parties request the greater number in writing; claims of over $100,000 will have three arbitrators);
- are no more than $50,000 and more than $25,000, generally conducted through written submissions; or
- do not exceed $25,000, summary proceeding (no hearing) based on written submissions of evidence applies.

TAKE NOTE

A respondent must file his answer within 20 days following service of an arbitration claim of $50,000 or less, or within 45 days following service by NFA if the claim is more than $100,000.

Those involved in arbitration have a right to counsel or other representation. Arbitration must be initiated within two years of the date the complaining party knew (or should have known) of the act or transaction causing the claim. Findings of an arbitration panel are binding; there is no appeal.

Failure to pay arbitration awards or NFA fines are grounds for summary suspension of membership in the NFA.

The NFA considers a notice of intent to arbitrate abandoned if it does not receive a completed Arbitration Claim Form within 35 days of receiving the notice of intent to arbitrate.

Mediation. The NFA offers a program, which is affordable and efficient for resolving disputes. Mediation is a settlement process. The parties in mediation do not win or lose. Instead, they work together to find a solution they can agree to. An independent third party (a mediator) works with the parties to help find a solution. The mediator does not decide who is right or decide who pays and how much. If either party is not happy with the settlement, they may proceed with arbitration.

7. 3. 7 EXCHANGES AND ENFORCEMENT OF REGULATIONS

Exchanges licensed as contract markets with the CFTC are SROs and are responsible for enforcing regulations for their members. Exchanges must ensure fair and open trading. Exchanges are owned by their members. On many exchanges, anyone, including partnerships, corporations, and trusts can own a membership (seat). On certain exchanges, memberships may be leased.

Only floor traders and brokers registered as such with the CFTC may execute trades on an exchange floor. Exchanges audit the financial condition and regulatory compliance of FCMs that are also members of the exchange.

An exchange is in part a physical location with a trading floor for efficient face-to-face trading of futures or options on certain futures contracts. Exchanges ensure that trades are executed through open outcry bids and offers. Prearranged trades, secret or private transactions, or trading of futures outside the open market in the trading pit is prohibited. The **Floor Governor's Committee** observes trading from pulpits to ensure an open market.

Floor Trader Prohibitions. A floor trader is prohibited from:

- executing a trade for an account over which the floor trader holds discretionary authority;
- executing trades for his own account while holding an unexecuted customer order for the same trade; or
- withholding a trade for the benefit of another member.

Exchanges must enforce rules to prevent market manipulation. Violations include fictitious transactions or transactions involving no change of ownership (wash sales), circulating sensational rumors, or making trades, bids or offers intended to upset market equilibrium and cause prices to reflect artificial market value.

Designated Markets. Exchanges select the commodities for which they seek designation as contract markets. Exchange proposals specify contract terms (e.g., size, quality, delivery sites).

The Exchange also specifies the price limit, which is the maximum range above or below the previous day's settlement price at which trades may occur (e.g., $.10 per bushel for corn or $.03 per pound for lean hogs). The price limit for T-bond futures (and for options on T-bond futures) is 3-00 points.

TEST TOPIC ALERT Questions on the Series 3 examination typically focus on the consequences of daily price limits rather than on the amounts of such limits.

Exchange Margin Requirements. Under the Commodity Exchange Act of 1936, exchanges set margin requirements for speculators and hedgers. Under extraordinary circumstances, the CFTC sets margin requirements. Exchanges must report activity on their trading floors daily.

Unique Margin Requirements. The CBOT expands price limits by 50% (or to 150% of the normal price limits) automatically if **three or more consecutive contracts** in a contract year—one of which must be the front month—for a certain commodity (or commodity complex, such as the soybean complex, which includes beans, oil, and meal) close at the limit price on one trading day. Price limits automatically increase for the next two trading days.

Additional limit closes (even at expanded limits) do not automatically increase limits. Price limits revert to normal levels following a close short of the expanded limits. Margin requirements, initial and maintenance, automatically increase by 50% when the CBOT expands price limits.

These unique CBOT rules do not apply to trading on other exchanges.

Exchange Committees. Exchanges establish standing committees to protect the interests of members and customers. The **Business Conduct Committee** investigates transactions of member firms and their customers. Investigators audit member compliance with regulations and financial requirements. Investigators may uncover manipulation.

The **Arbitration Committee** hears disputes between exchange members. If the dispute involves two members of the same exchange, the matter goes to the arbitration committee of that exchange. If the dispute involves any other parties, it goes to NFA arbitration.

QUICK QUIZ 7.E

1. If a CTA has no previous experience as a CTA, the firm (or person) may not engage in business with the public without disclosing such inexperience to potential customers in advance.
   A. True
   B. False
2. To do business with the public, the CFTC requires CPOs and CTAs to prepare and distribute disclosure documents to potential customers.
   A. True
   B. False
3. An RCR must have a lawyer attend arbitration proceedings.
   A. True
   B. False
4. Which of the following statements is true of CTAs' customer disclosure requirements?
   A. If a CTA is a business rather than an individual, the firm is not required to disclose information about itself. CTA disclosure requirements pertain only to individuals operating as CTAs.
   B. CTAs must disclose their business history for the past five years; this includes disclosure of whatever work or education the principals of the firm have performed during the past 5 years.
   C. Like FCMs, CTAs are allowed to hold customer assets (margin deposits) and bill trades.
   D. Unlike FCMs and CPOs, CTAs are not required to disclose their fees and service charges before trading because CTAs do not enter orders or execute trades.
5. A complaint has been filed against an RCR by the Business Conduct Committee. Failure to respond within how many days is an admission of guilt?
   A. 3
   B. 7
   C. 15
   D. 30
6. An elevator, warehouse, or depository may be designated as a regular delivery point against futures contracts by the
   A. CFTC
   B. exchange
   C. USDA
   D. U.S. Inspection Service

7. An introducing broker (IB) was sanctioned by NFA with a censure and fine amounting to $50,000. Written notification was sent. Failure to respond within how many days could be cause for summary suspension from NFA?

   A. 7
   B. 10
   C. 20
   D. 30

8. A customer has a grievance with an IB and initiates an arbitration claim for $25,000. This will conducted

   A. before 3 arbitraors
   B. before 1 arbitrator
   C. before a judge in small claims
   D. entirely through written submissions

7. 4 UNIQUE FUNDAMENTAL CONSIDERATIONS

Some unique facts about commodities are as follows.

- Fish meal is used as a substitute for soy meal to feed chickens, but wheat typically is not used as a substitute.
- A farmer can grow soybeans, corn, or cotton on the same acreage but cannot grow wheat on that same land.
- Assume that wheat is too expensive to use as animal feed.
- The crop year for wheat is June 1 to May 31.
- The crop year for soybeans is September 1 to August 31.
- Most cattle and hogs are slaughtered in autumn.
- Sugar may be raw (domestic and world) or refined white.
- The CRB Index is based on a market basket of several commodities.
- Eggs are typically transported by truck.
- Barley and cocoa contracts specify metric tons.

- Commodities that are deliverable frozen include lean hogs, iced broilers (chickens), and orange juice.
- Heating oil is used primarily for residential heating.

7. 4. 1 TAPE SYMBOLS

Commodities and delivery months are designated on the ticker using letters, some of which are shown below. This chart is for reference purposes only.

	Letter			Letter	
Deliv. Month	This Year	Next Year	Deliv. Month	This Year	Next Year
Jan	F	A	Jul	N	L
Feb	G	B	Aug	Q	O
Mar	H	C	Sep	U	P
Apr	J	D	Oct	V	R
May	K	E	Nov	X	S
Jun	M	I	Dec	Z	T

Sample Commodity Codes	
C =	Corn
S =	Soybeans
BO =	Soybean Oil
SM =	Soybean Meal
O =	Oats
RR =	Rough Rice

EXAMPLE The symbol for May wheat for delivery this year is WK and March oats for delivery this year is OH.

7. 4. 2 ANTI-MONEY LAUNDERING (NFA 2-9)

Money laundering is a serious crime that involves an effort to conceal the source of illegally obtained funds from activities such as trafficking in narcotics and fraud, and attempting to make those funds appear legitimate. Brokerage accounts have been used to this end and continue to be viewed by racketeers, terrorists, and other criminals to launder money. FCMs and IBs must be diligent in identifying and reporting any attempts by criminals to use futures or securities accounts for illicit activities. Therefore, among other things, the Bank Secrecy Act (BSA) requires all member firms to identify money laundering risks by developing, implementing, and monitoring an effective anti-money laundering (AML) program designed to achieve compliance with the BSA and related regulations and thwart the aims of criminals and terrorists.

FCMs and IBs must:

- establish and implement policies and procedures that can be reasonably expected to detect and cause the reporting of transactions that raise suspicion and by identifying red flags that signal money laundering;
- establish and implement policies, procedures, and internal controls reasonably designed to achieve compliance with the Bank Secrecy Act;
- designate an individual or individuals responsible for implementing and monitoring the day-to-day operations and internal controls of the program and escalate suspicious activity to appropriate compliance officials;
- provide ongoing training for appropriate personnel; and
- provide annual independent testing for compliance by someone qualified to perform the test. If a member firm engages solely in proprietary trading or conducts business only with other broker-dealers, an independent test is required only every two years on a calendar-year basis. There is no standard language or template for the AML independent test.

TAKE NOTE

The NFA requires that a member of the firm's senior management approve the firm's anti-money laundering program and that the program be reviewed at least annually by an independent examiner who is knowledgeable in the Bank Secrecy Act and its associated regulations. Independent means that testing may not be conducted by either a person who performs the functions being tested or the designated anti-money laundering compliance person. Furthermore, it may not be conducted by someone who reports to either of those people.

7. 4. 2. 1 Currency Receipt

FCMs and IB do not generally accept cash; nevertheless, the Bank Secrecy Act requires futures firms to report, on Form 112, any currency received in the amount of more than $10,000 on a single day. Failure to report can result in fines of up to $500,000, 10 years in prison, or both. Records relating to Form 112 must be retained for five years.

Form 112 must be filed within 15 days of receipt of the currency. This rule is part of the regulatory effort to address money laundering. The two federal agencies empowered to handle this abuse are the Federal Reserve and the Department of the Treasury. CTR Form 112 must be submitted electronically and hosted on a secure website. Keep in mind that legitimate funds also may be used to fund criminal activities, such as terrorism. Currency receipts are but one tool to help identify "reverse" laundering, which is funding crime with legitimate funds. AML laws and rules are written with the view to impede money laundering as well as the financing of terrorism.

Sample CTR Page—Form 112

Currency Transaction Report

Home | Step 1. Person Information | Step 2. Amount and Type of Transaction | Step 3. Financial Institution Information

Part I Person Involved in Transaction 1 of 1 (+) (-)

*2 a ☐ Person conducting transaction on own behalf b ☐ Person conducting transaction for another c ☐ Person on whose behalf transaction was conducted d ☐ Courier Service (private)

3 ☐ Multiple transactions

Check ☐ If entity

*4 Individual's last name or entity's legal name ☐ Unknown

*5 First name ☐ Unknown Gender

6 Middle name Suffix

8 Alternate Name, e.g., AKA - individual or Doing Business As - entity

9a NAICS Code 9 Occupation or type of business

*10 Address ☐ Unknown

*11 City ☐ Unknown

*12 State ☐ Unknown *13 ZIP/Postal Code ☐ Unknown

*14 Country ☐ Unknown

*15 TIN ☐ Unknown 16 TIN type

*17 Date of birth ☐ Unknown

18 Contact phone number Ext.

19 E-mail address

*20 Form of identification used to verify identity ☐ Unknown

☐ Driver's license/State ID ☐ Passport ☐ Alien Registration ☐ Other

Number Country Issuing State

21 Cash in amount for individual or entity listed in Item 4 $

Account number (+) (-)

22 Cash out amount for individual or entity listed in Item 4 $

Account number (+) (-)

7. 4. 3 SUSPICIOUS ACTIVITY REPORTS

The USA PATRIOT Act requires firms to report to Financial Crimes Enforcement Network (FinCEN) when there is an event, transaction, or series of events or transactions that appear to be questionable. The act requires firms, through their supervisory user, to file a suspicious activity report (SAR) to FinCEN on any transaction that alone or in the aggregate involves at least $5,000 in funds or other assets if the firm suspects that it falls within one of the following four classes:

- The transaction involves funds derived from illegal activity.
- The transaction is designed to evade the requirements of the Bank Secrecy Act.
- The transaction appears to serve no business or lawful purpose.
- The transaction involves the use of the firm to facilitate criminal activity.

EXAMPLE A pattern of cash deposits over time, none of which individually would require a CTR filing, could trigger a suspicious activity report (SAR) filing.

FCMs and IBs are required to file a SAR within 30 days of becoming aware of the suspicious transaction(s). Copies of each SAR filing and the related documentation must be retained for five years from the date of the filing.

The act also requires that the filing of a SAR remain confidential. The person involved in the transaction that is the subject of the report must not be notified. If subpoenaed, the firm must refuse to provide the information and must notify FinCEN of the request unless the disclosure is required by FinCEN, the CFTC, NFA, or other law enforcement authority.

In addition, the USA PATRIOT Act requires firms to make and retain records relating to wire transfers of $3,000 or more. Information to be collected includes the name and address of sender and recipient, the amount of the transfer, the name of the recipient's financial institution, and the account number of the recipient.

Similar to the CTR, Form 111 must be submitted electronically through the BSA E-Filing System.

Sample SAR—The party must not be notified

Suspicious Activity Report

Home | Step 1. Filing Institution Contact Information | Step 2. Filing Institution Where Activity Occurred | Step 3. Subject Information | Step 4. Suspicious Activity Information | Step 5. Narrative

Part IV Filing Institution Contact Information

*82 Type of financial institution

*78 Primary federal regulator

*79 Filer name (Holding company, lead financial institution, or agency, if applicable)

*80 TIN

*81 TIN type

83 Type of Securities and Futures institution or individual filing this report - check box(es) for functions that apply to this report

- ☐ Clearing broker-securities
- ☐ CPO/CTA
- ☐ Futures Commission Merchant
- ☐ Holding company
- ☐ Introducing broker-commodities
- ☐ Introducing broker-securities
- ☐ Investment Adviser
- ☐ Investment company
- ☐ Retail foreign exchange dealer
- ☐ SRO Futures
- ☐ SRO Securities
- ☐ Subsidiary of financial/bank holding company
- ☐ Other

84 Financial institution identification Type

Number

*85 Address

*86 City

*87 State

*88 ZIP/Postal Code

*89 Country

90 Alternate name, e.g., AKA - individual or trade name, DBA - entity

91 Internal control/file number

92 LE contact agency

93 LE contact name

94 LE contact phone number (Include Area Code) Ext.

95 LE contact date

*96 Filing institution contact office

97 Filing institution contact phone number (Include Area Code) Ext.

98 Date filed (Date filed will be auto-populated when the form is signed.)

7. 5 SUMMARY

The Commodities Futures Trading Commission has the regulatory authority over all domestic futures and futures options activity. The CFTC licenses and oversees futures exchange activities and designates exchanges to serve as the contract market for specific commodities. The CFTC's role is to ensure the futures markets are operated in the public interest and that futures market participants behave in an ethical manner.

The National Futures Association has been designated by the CFTC as the self-regulatory organization for the futures industry. The NFA supervises the activities of all persons who conduct futures business with the public and has the primary responsibility to enforce CFTC regulations.

Through its Office of Compliance, the NFA conducts member audits and investigates potential rule violations. The NFA may impose a variety of penalties upon parties found to be guilty of rule violations.

Exchanges licensed as the contract market for specific commodities also serve as SROs and must enforce regulations for their members. Exchanges also set margin requirements for the commodities for which they serve as the contract market.

UNIT TEST

1. If an individual or firm has no previous experience as a CTA, the firm (or individual) may not engage in business with the public without disclosing such inexperience to potential customers in advance.
   A. True
   B. False

2. Appeals of disciplinary actions imposed by an NFA Regional Business Conduct Committee may be available through all of the following avenues EXCEPT
   A. the NFA Office of Compliance
   B. the Commodity Futures Trading Commission (CFTC)
   C. the NFA Appeals Committee
   D. the U.S. Court of Appeals

3. According to the NFA, all of the following are examples of promotional material EXCEPT
   A. telephone cold calls
   B. customer account forms
   C. internet web pages advertising an FCM
   D. items distributed at public seminars

4. All of the following futures professionals must register with the NFA EXCEPT
   A. floor traders who have been granted trading privileges by a contract market
   B. grain farmers and other commodity producers who hedge sale prices in the futures market
   C. leverage transaction merchants offering long-term commodity investment programs to the public
   D. introducing brokers whose financial positions are guaranteed by FCMs

5. A CTA registered for 10 years must disclose its performance for the previous 5 years.
   A. True
   B. False

6. Hypothetical performance records may be used in promotional materials
   A. without restriction
   B. if they are disclosed as hypothetical
   C. under no circumstances
   D. if they are printed in italicized type

7. Which of the following must be disclosed regarding up-front fees in relationships with CTAs and CPOs?
   I. The amount of such fees
   II. For CPOs, the effect of up-front fees on the rate of return that must be achieved to break even at the end of the investor's first year or the net proceeds that will be available at the outset for trading
   III. For CTAs, disclosure of the effect of up-front fees through an accompanying notice or tabular dilution table
   A. I only
   B. II and III
   C. III only
   D. I, II and III

8. A signed customer agreement form
   A. legally permits forced liquidation of the customer's position if margin calls are not met
   B. satisfies CFTC disclosure rules
   C. grants the broker power of attorney over funds in the customer's account
   D. absolves the broker from potential losses caused by the customer's trading errors

9. Which of the following parties may initiate NFA disciplinary complaints?
   A. A customer
   B. The CFTC
   C. The NFA's Director of Compliance
   D. All of the above

10. Which of the following circumstances would exempt a party from required registration as a CTA?
    A. Advice was rendered to no more than 15 parties and such advice was considered to be incidental to another profession.
    B. The advice was rendered solely in a subscriber newsletter and did not entail ongoing management of commodity trading accounts.
    C. Both A and B
    D. Neither A nor B

11. The purpose of having a prospective customer sign the customer agreement is to ensure
    A. customer payment of margin
    B. customer acknowledgment of the risks involved in trading futures
    C. customer acceptance of the margin required
    D. partial or complete liquidation of customer positions for nonpayment of margin

12. To do business with the public, the CFTC requires CPOs and CTAs to prepare and distribute disclosure documents to potential customers.
    A. True
    B. False

13. All of the following are NFA advertising prohibitions EXCEPT
    A. using hypothetical track records
    B. using high-pressure sales tactics
    C. omitting a material fact
    D. implying that futures trading is suitable for all investors

14. In general, the role of the FCM regarding financial information provided by a prospective futures customer is to
    A. rely on the good faith of the customer that the information is true
    B. verify all information provided by the customer
    C. fill in items of information left blank on the customer application
    D. deny accounts for individuals refusing to provide financial information

15. A pool operator who is advising her own pool (acting as a CTA) does not have to register with the NFA as a CTA as long as she is registered as a CPO.
    A. True
    B. False

16. Which of the following statements is true of discretionary accounts?
    A. Discretion describes an AP exercising personal judgment as to the timing and price at which customer orders are entered for execution.
    B. A discretionary account is one in which a customer signs a trading authorization that provides an AP with power of attorney to select and execute trades with the customer's prior approval.
    C. Discretionary accounts can be opened by any AP, provided a principal of the firm preapproves and continuously supervises the arrangement.
    D. None of the above statements is true.

17. Customer financial information in account applications to trade futures, and options on futures, allows the FCM to
    A. anticipate the amount of commission the customer's account should generate
    B. determine a contract limit that is appropriate for the customer's means
    C. help the AP determine whether the customer has financial ability to open a larger trading account
    D. determine whether securities trading is more appropriate for the customer

18. The know your customer rule indicates that the registered commodity representative should have
    A. enough knowledge about the customer to determine whether commodity trading is appropriate
    B. complete knowledge of the customer's moral background
    C. knowledge only of the customer's trading goals
    D. complete knowledge of the customer's financial background

19. An individual registered exclusively as a CTA may perform which of the following functions?
    I. clear trades
    II. publish newsletters containing advice on commodity futures trading
    III. manage accounts for customers
    IV. receive fees for advising hedgers
    A. I only
    B. II, III and IV
    C. II and IV
    D. I, II, III and IV

20. A hypothetical track record must cover a minimum period of
    A. 3 months
    B. 6 months
    C. 1 year
    D. 3 years

21. Under which of the following circumstances will NFA arbitration automatically use document review, rather than a hearing, to settle disputes involving customers?
    A. Only upon request of the complaining party (complainant)
    B. Only upon request of the responding party (respondent)
    C. For disputes involving claims of less than $5,000
    D. For disputes involving claims of less than $25,000

22. All of the following fall within the authority of the CFTC EXCEPT
    A. that the CFTC may deny a person or firm trading privileges on any or all futures markets
    B. that the CFTC may issue injunctions and cease and desist orders under its own power against any firm or individual in the futures markets
    C. that the CFTC may suspend or revoke any person's registration with the Commission
    D. that in criminal matters, the CFTC may issue fines of up to $500,000 for felony convictions

23. Twenty days have passed since a customer received a written complaint from the RBCC. The customer has not responded to the Committee. The lack of response will
    A. automatically increase the customer's response period to 60 days
    B. carry the presumption that the customer did not commit the violation
    C. carry the presumption that the customer did commit the violation
    D. be referred to the CFTC

24. Which of the following parties must register with the NFA?
    A. APs
    B. IBs
    C. FCMs
    D. All of the above

25. NFA members are prohibited from engaging in which of the following activities?
    A. Conducting futures business with suspended members or APs whose memberships have been revoked
    B. Entering into joint trading ventures with customers and sharing in trading profits and losses
    C. Advertising that a firm is an NFA member without implying that NFA membership carries with it the NFA's endorsement or approval of a firm's business operations
    D. All the above

26. CPOs may accept cash deposits and enroll new customers as participants ONLY if
    A. the customer has an established trading account with an FCM or IB, such firms having fully disclosed the risks of futures trading
    B. the customer has acknowledged in writing his receipt and understanding of the CPO's disclosure document
    C. the CPO has operated for a minimum of 5 years
    D. the customer's business is unsolicited

27. A commodity pool offered to the public as a limited partnership is regulated by
    A. the Commodity Futures Trading Commission (CFTC)
    B. the Securities and Exchange Commission (SEC)
    C. Both A and B
    D. Neither A nor B

28. Which of the following statement(s) about suspension of membership in the NFA is(are) CORRECT?
    A. Suspended members may not hold themselves out as members in good standing.
    B. Members in good standing may not conduct business with suspended members.
    C. Both A and B
    D. Neither A nor B

29. Only bona fide hedgers are exempt from
    A. daily reporting requirements of the CFTC
    B. position limit requirements of the CFTC
    C. margin requirements of the exchange
    D. delivery procedures established by the clearing house

30. Under which of the circumstances below is an NFA member relieved of responsibility for fairness in a sales script?
    A. The script is used only for training purposes and not for actual solicitation calls
    B. The script is not misleading
    C. Both A and B
    D. Neither A nor B

31. Trade recommendations to prospects and customers must be
    A. reasonable
    B. profitable
    C. reasonable and profitable
    D. balanced

32. All of the following statements about the risk of trading futures are correct EXCEPT
    A. trading spreads is not necessarily safer than trading single long or short commodity positions
    B. leverage increases the magnitude of loss but does not increase the magnitude of potential profit
    C. margin calls must be met on short notice
    D. stop orders do not necessarily limit trading losses

33. A client who is short Mar 282 corn futures enters an MIT order. This order will be triggered or activated
    A. at the market
    B. at or above the market
    C. at or below the market
    D. cannot be determined

34. When a trader who is long a futures contract has been delivered a commodity of a premium grade, the trader must pay more money than would be required on a delivery of standard grade.
    A. True
    B. False

35. In a formal CFTC complaint, the ruling of an administration law judge (ALJ) may be appealed to the Commission and the Commission's order may be appealed to the U.S. Court of Appeals.
    A. True
    B. False

ANSWERS AND RATIONALES

1. **A.** CFTC rules specify that a CTA with no trading advisory experience and no performance record must divulge such information to all customers.

2. **A.** The disciplinary process begins with the Office of Compliance, and, as such, it is not a route of appeal. Appeals may be made to the CFTC, the NFA Appeals Committee, and the U.S. Court of Appeals.

3. **B.** Customer account forms do not fall under the NFA's notion of promotional materials or advertising, but all the other items listed do.

4. **B.** Farmers and other commodity producers are not futures industry professionals and, thus, are not required to register with the NFA. Floor traders trading on a contract market must register with the NFA. Persons offering commodity investment programs to the public are futures professionals and must register with the NFA. Introducing brokers work with FCMs and must register with the NFA.

5. **A.** CTAs must disclose past performance records for at least 5 years.

6. **B.** Hypothetical track records are permitted in promotional material if they are disclosed as hypothetical and, thus, limited in scope.

7. **D.** Not only must the amount of up-front fees (such as sales and administrative fees) be disclosed, the effect of such fees on returns must be disclosed. For CTAs, this is generally accomplished with a breakeven analysis in a dilution table or other statement. CPOs may also express the effect of up-front fees by disclosing the (net) amount of proceeds available for investment after up-front fees are deducted.

8. **A.** The customer agreement states conditions and terms upon which the firm will accept an account and details the firm's rights in the event of the customer's death, bankruptcy, or other adverse events that could impair the customer's ability to margin open futures positions. The risk disclosure statement is signed to satisfy CFTC rules and provide realistic disclosure to new customers.

9. **D.** Under NFA rules, customers, the CFTC, NFA investigations, its Director of Compliance, and other sources can initiate disciplinary complaints.

10. **A.** A registration exemption is available if the advisor gives futures trading advice to no more than 15 parties and if the advice is incidental to another profession (e.g., law or accounting). No exemption is available merely because commodity trading advice was rendered through a subscription-based publication.

11. **D.** The customer agreement permits the firm to liquidate futures positions if the customer fails to meet a margin call. The agreement authorizes the firm to liquidate a customer's position if margin payments are not paid. Choice B is the purpose of the risk disclosure document. Choice C is incorrect because, although this is part of the agreement, the purpose of it is to ensure liquidation authority if necessary by the firm.

12. **A.** Like FCMs and IBs, CPOs and CTAs are subject to CFTC customer disclosure requirements; CPO and CTA disclosure requirements are more stringent than those for FCMs and IBs.

13. **A.** Assuming that limitations are appropriately disclosed, hypothetical trading results may be used in member promotional materials. High-pressure sales tactics, material omissions, and the misleading implication of universal suitability are, of course, prohibited practices.

14. **A.** NFA interpretation of CFTC Rule 2-30 presumes a good faith exchange of information between the prospective customer and the member or AP. The member is not required to verify information. The firm can occasionally open an account for a customer who refuses to provide financial information. The member must never falsify customer financial information.

15. **A.** A pool operator acting as a CTA does not have to register with the NFA as a CTA as long as she is also currently registered as a CPO.

16. **D.** Choice A describes order execution discretion, rather than account discretion. Choice B is not a discretionary account because the AP does not need prior customer approval. APs must have at least 2 years of registration before handling discretionary accounts.

17. **B.** Customer financial information helps the FCM determine an initial contract limit for the customer. The firm may set a conservative limit when the account is opened and increase the limit as the customer demonstrates reliability in trading and margin call satisfaction.

18. **A.** A registered commodity representative must know enough about each customer to determine suitability (the means and character to trade futures) and to determine whether the customer will abide by the account agreement and CFTC and exchange rules. Complete knowledge of a client's background is not needed, but rather that the customer will abide by the rules and be ethical in his dealings with the representative. Information needed to determine suitability includes the client's financial capabilities and willingness to abide by industry rules. Complete knowledge of all of the client's financial background is not needed, rather that the customer has the financial capability to do the contracts involved and that they are suitable.

19. **B.** Presuming that they are not (also) registered as FCMs, CTAs may not clear trades. CTAs may provide advice to speculators and hedgers through reports and newsletters and perform account management under powers of attorney (trading authorization).

20. **A.** Hypothetical track records must cover a minimum period of 3 months.

21. **D.** Arbitration claims submitted to the NFA seeking awards of less than $5,000 are automatically arbitrated using document submission (review) only.

22. **D.** In criminal cases, the CFTC brings charges against firms and individuals in a U.S. court, with the court determining innocence or guilt. The CFTC, however, may fine up to $1,000,000 for felony violations. Other powers listed fall within the CFTC's authority.

23. **C.** Failure of the respondent to respond to a written complaint within 30 days is deemed to be an admission (of guilt) of the violation.

24. **D.** All the parties listed are futures industry professionals that must register with the NFA.

25. **A.** NFA members may not conduct business with suspended NFA members, making suspension a serious punishment to violators. Joint trading ventures are permissible under written agreements with customers. Choice C is an acceptable advertising practice. Firms must never

imply regulatory approval or endorsement. It is prohibited for NFA members to conduct business with suspended members.

26. **B.** A CPO can accept cash deposits and accept pool participants only after providing each with a disclosure document. Before accepting funds, the CPO must have signed acknowledgment from the customer attesting that the customer has read the document and understands the terms and possible negative financial consequences associated with participation in the pool.

27. **C.** Both the CFTC and the SEC regulate commodity pools offered to the public as limited partnerships. Associates who sell such partnerships must be registered with both futures and securities industry regulators. A prospectus is generally required with such partnerships.

28. **C.** Suspended NFA registrants cannot represent themselves as being in good standing, and members in good standing may not conduct business with suspended members.

29. **B.** The hedger is exempt from position limits of the CFTC; however, the hedger is NOT exempt from its reporting requirements. Margin requirements for a customer (hedger or speculator) are set by the exchange and enforced by NFA member firms.

30. **D.** In general, the NFA member is responsible to see that sales scripts are compliant with NFA guidelines and contain no inaccuracies, omissions of possible risk, or high-pressure tactics. Responsibility prevails even if the script is used only to train APs.

31. **A.** Trading recommendations must have a reasonable basis in fact; it is not realistic to expect that trading recommendations be profitable.

32. **B.** In futures trading, leverage increases the magnitude of both profits and losses from futures trading; spread trading and stop orders do not necessarily limit losses; and margin calls must be satisfied quickly.

33. **C.** An MIT order entered to offset a short position would be a buy order. MIT orders to buy are entered below the current market.

34. **A.** If the trader is delivered a commodity of a discount grade, then a lower price is paid.

35. **A.** Under NFA arbitration proceedings, the decision is final and binding.

QUICK QUIZ ANSWERS

Quick Quiz 7.A

1. **A.** When an exchange seeks CFTC designation as a contract market, it submits a proposal specifying full terms of the futures contract to be traded on that exchange.

2. **A.** Any position in futures over the reporting limits must be reported to the CFTC daily. All long and short positions on any exchange must be reported.

3. **B.** If the hedger's futures positions represent a bona fide hedge, the hedger is not subject to CFTC position limits.

4. **D.** The exchanges decide which warehouses are acceptable delivery points.

5. **D.** The exchange need not provide clearing facilities. A clearing house is a separate entity owned by individuals and firms associated with the exchange or by the exchange itself. The CFTC does not consider clearing house facilities in awarding contract market designation.

6. **C.** Exchanges determine the locations where physical commodities can be delivered against futures contracts.

7. **B.** The hedger is not exempt from reporting requirements but is not required to observe position limits of the CFTC.

8. **A.** A complaint must be mailed to the CFTC Office of Proceedings within 2 years of cause of action accrues—the date when it was known or should have been known of the wrongdoing. The filer must not be pursuing a claim based on the same set of facts in arbitration or a civil court.

9. **D.** Each of these sanctions are available to be imposed upon violators. If criminal activities are deemed to be involved by natural persons at the firm, the CFTC may send a referral.

Quick Quiz 7.B

1. **B.** Handling discretionary accounts requires 2 years' experience as an associated person unless the individual is registered as a CTA.

2. **B.** NFA rules specify standards for "any communication with the public." Additional requirements, but not different standards, are to be met if promotional materials are used.

3. **D.** The NFA handles registration of all futures professionals who do business with the public; the CFTC handles the registration of exchanges and exchange members.

4. **C.** Approval of specific trades need not precede execution of the order because the associated person has been granted trading authority over the account.

5. **B.** The requirements for a discretionary account are 2 years of continuous registration as an RCR, a written agreement from the customer on file, and a record system identifying each trade as discretionary. This does not apply to accounts for family members of the RCR.

Quick Quiz 7.C

1. **B.** Customer account forms do not fall under the NFA's notion of promotional materials or advertising. However, the other items do.

2. **C.** Sales training scripts, websites, and monthly market letters are all promotional items under NFA parameters.

3. **A.** Television appearances are promotions when the member pays for the airtime.

4. **A.** Any presentation of profit-loss relationships in futures industry promotions should present those potential outcomes in a balanced manner. An equal number of words does not necessarily mean the information presented is balanced.

5. **C.** Leverage magnifies both profits and losses.

6. **D.** In promotional material, mentioning potential loss relative to mentioning potential profit should be equally conspicuous.

Quick Quiz 7.D

1. **A.** Accounts for deceased persons must be frozen immediately upon notification of death.

2. **A.** The CFTC's rules specify that a CTA with no trading advisory experience and no performance record must divulge these to all prospective customers.

3. **B.** A CPO is required to disclose its business activity for the previous 5 years. In this question, the CPO also must reveal its business history for the 2-year period immediately preceding the operation of its first pool.

4. **B.** The cutoff point for monthly versus quarterly statements is $500,000. In this case, quarterly statements are required.

5. **B.** The CPO and CTA must disclose for the past 5 years, not 6.

6. **C.** It is misleading to fail to disclose to customers that stop loss orders do not reliably limit risk in futures trades.

7. **C.** All fees and charges that are either assessed or passed on to the customer affect the decision as to whether to open an account. As such, these fees and charges must be fully disclosed to a prospective customer before a new account can be opened.

8. **C.** All fees and charges must be presented in writing and clearly itemized in the disclosure document.

9. **D.** The CFTC's disclosure requirements are aimed at keeping public investors well informed with regard to total costs of trading futures. The CPO's performance record must be updated monthly, showing beginning and ending values, as well as the current number of units held by participants (outstanding). Additions to or withdrawals from capital must be disclosed so that increases and decreases not attributable to trading are revealed. Performance must disclose the worst drawdown relative to best performance for both the previous 5 and the current trading year(s). Operating pools must disclose their current net asset value and rate of return for the current and previous 5 year(s).

Quick Quiz 7.E

1. **A.** The CFTC's rules specify that a CTA with no trading advisory experience and no performance record must divulge these to all prospective customers.

2. **A.** Like FCMs and IBs, CPOs and CTAs are subject to CFTC customer disclosure requirements. CPO and CTA disclosure requirements are much more demanding than those for FCMs and IBs. Before a firm can accept a customer account, it must receive signed acknowledgment that the customer received, read, and understands the risk disclosure statement; this acknowledgment must be kept by the firm in the customer's file.

3. **B.** There is no requirement that a party to an NFA arbitration be represented by an attorney (counsel). Under NFA arbitration rules, all parties to a dispute have a right to counsel or representation.

4. **B.** CTAs must disclose 5 years' business history. The CTA's status as an individual business owner has no impact on who must abide by CFTC rules. CTAs may not hold customer assets. Customer assets must be held by the FCM where trading will occur. CTAs face disclosure requirements because they conduct business with the public.

5. **D.** This is an NFA rule.

6. **B.** Like other contract terms, delivery points are established by the exchange on which the contract trades.

7. **A.** Failing to pay a fine following 7 days' written notice could result in a summary suspension.

8. **D.** Claims amounting to no more than $25,000 are generally handled entirely through written submissions.

Glossary

A

actual Physical commodity, rather than to a futures or option contract on that commodity. *Syn.* spot commodity.

advertisement Promotional material published or aired via newspapers, magazines, billboards, radio, television, telephone recording, or other public medium for which the firm does not select individuals exposed to the material.

allowance Deduction from the invoiced amount allowed by the seller of goods to compensate the buyer for losses or damage or quality difference. *Syn.* quality allowance.

anticipatory hedge Locking in a specific price for an upcoming commodity purchase by buying a futures contract on the commodity.

AP *See* associated person.

arbitrage Simultaneous purchase and sale of the same or related commodities to take advantage of a market inefficiency.

arbitrageur One who engages in arbitrage.

ascending triangle Technical chart pattern indicating upcoming price increase; a bullish indicator.

ask Price at which a trader indicates willingness to sell a futures contract. *Syn.* offer

associated person of a member (AP) Employee, manager, director, officer or partner of a member futures commission broker or introducing broker, or any person controlling, controlled by, or in common control with that member.

at-the-close order *See* market-on-close order.

at-the-money Option when the underlying future trades precisely at the option's exercise price.

at-the-opening order Order specifying execution at the opening range of the futures market trading session. If the order cannot be filled within the opening range, it is canceled. The order does not have to be executed at the opening price.

average Midpoint price among a number of prices. Technical analysts use averages as market indicators.

B

backwardation A futures market condition where the futures price are lower in the distant months than in the nearby months.

bar chart Technical tool plotting price movements of a commodity over several consecutive time periods.

base grade *See* contract grade.

basis Difference between the price of a cash commodity and a futures contract price of the same commodity; basis is usually computed between the spot and the nearby futures contract.

basis point Measure of a bond's yield, equal to 1/100 of 1% of yield. Yield increases from 5.0% to 5.5% rise by 50 basis points.

bear Investor anticipating that a commodity market price will fall.

bear market Market in which prices of one or more commodities or securities are falling or are expected to fall.

beta coefficient Means to measure volatility of a stock or a portfolio of stocks in comparison with the stock market as a whole or a benchmark. A beta of 1 indicates that the stock's price moves with the market. A beta greater than 1 indicates that the stock's price is more volatile than the market. A stock with beta less than 1 is less volatile than the market.

bid Price at which a seller is willing to sell a futures contract.

board order Order that becomes a market order only if the market touches or breaks through the order price. Board orders to buy are placed below the current market. Board orders to sell are placed above the current market. *Syn.* market-if-touched order.

breakeven call spread Call option spread in which the investor neither gains nor loses. The breakeven point is calculated by adding the net premium to the lower strike price.

breakeven point (1) The point at which an investment in futures options or futures contracts neither gain nor lose. (2) Price that a future must reach for an option buyer to avoid loss upon exercise. For a call, breakeven is the strike price plus the premium paid. For a put, breakeven is the strike price minus the premium paid.

breakeven put spread Put option spread in which the investor neither gains nor loses. The breakeven point is calculated by subtracting the net premium from the higher strike price.

breakeven straddle Option straddle in which the investor neither gains nor loses. The breakeven point is calculated by adding or subtracting the total premium to or from the exercise price on the straddle.

breakout In technical analysis, movement of a future's price through an established support or resistance level.

broad-based index Index designed to reflect movement of the whole stock market. Examples include the S&P 100, the S&P 500, the NYSE Arca Major Market Index, and the Dow Jones Index.

broker (1) Firm that charges a fee or commission for executing buy and sell orders submitted by an individual or firm. (2) The role of a firm when it acts as an agent for a customer and charges the customer a commission for its services.

bucketing Accepting customer orders without executing them immediately through an exchange. A "bucket shop" may use firm or other customer positions or orders to execute them, or may not execute them at all. Bucketing is a violation.

bull An investor believing that a security, a commodity, or market is rising or is expected to rise.

bullion Ingots or bars of gold assayed at .995 fine or higher.

bull market Market in which prices of one or more commodities or securities are rising or are expected to rise.

buying a hedge Purchasing futures contracts or futures options to protect against future increase in commodities prices.

C

call (1) Option contract giving the owner the right to buy a specified amount of an underlying future at a specified price within a specified time. (2) Act of exercising a call option.

call buyer Investor who pays a premium for a futures option contract and receives, for a specified time, the right to buy the underlying future at a specified price.

call spread Option strategy in which the investor buys a call on a future and writes a call on the same future, but with a different expiration date or exercise price or both.

call writer Investor who receives a premium and takes on, for a specified time, the obligation to sell the underlying future at a specified price at the call buyer's discretion.

cancel former order (CFO) Instruction by a customer or representative to cancel a previously entered order.

carrying broker *See* clearing broker-dealer.

carrying charge Costs associated with holding or storing a commodity, such as interest, insurance, and rents. A farmer with unused grain storage on the farm will have a very low cost of storage.

carrying charge market Occurs when the price differences between delivery months of a commodity in the futures markets covers all interest, insurance, and storage costs.

cash-and-carry market *See* cash market.

cash commodity Actual, physical good delivered as a result of a completed contract (rather than a futures contract on that good).

cash market Transactions between buyers and sellers of commodities that entail immediate delivery of and payment for a physical commodity. *Syn.* cash-and-carry market; spot market.

cash value Price for a commodity to be delivered and paid for immediately.

CBOT *See* Chicago Board of Trade.

CCC *See* Commodity Credit Corporation.

CEA *See* Commodity Exchange Authority.

CFO *See* cancel former order.

CFTC *See* Commodity Futures Trading Commission.

change (1) For an option or futures contract, difference between the current price and the previous day's settlement price. (2) For an index or average, the difference between the current value and the previous day's close. (3) For a stock or bond quote, the difference between the current price and the last trade of the previous day.

chartist Futures analyst who uses charts and graphs of past price movements of a future to predict its movements. *Syn.* technician.

Chicago Board of Trade (CBOT) The oldest commodity exchange in the United States; established in 1886. The CBOT lists agricultural commodity futures, such as corn, oats, and soybeans. CBOT merged with the CME to become a single company known as the CME Group in 2007.

churning Excessive trading in a customer's account by a registered representative motivated by increased commissions; churning is a violation. *Syn.* overtrading.

class Options of the same type (that is, all calls or all puts) on the same underlying futures contract.

clearing broker-dealer A broker-dealer that clears its own trades as well as those of introducing brokers. A clearing broker-dealer can hold customers' securities and cash. *Syn.* carrying broker.

clearing corporation *See* clearing house.

clearing house An agency of a futures exchange through which transactions in futures and option contracts are settled, guaranteed, offset, and filled. A clearing house may be independent or exchange-owned.

close (1) Price of the last transaction for a particular commodity or security on a particular day. (2) The midprice of a closing trading range.

closing purchase Options transaction in which the seller gets out of (liquidates) an option contract previously sold; the opening sale and the closing purchase effectively cancel each other out.

closing range The relatively narrow range of prices at which transactions take place in the final minutes of a trading session.

closing sale Options transaction in which the buyer sells an option in the same series; the opening purchase and closing sale effectively cancel each other out, and the position is liquidated.

combination Option position with a put and a call on the same futures position at different strike prices, expirations, or both.

commission Service charge for arranging the purchase or sale of a security or a commodity. A commission must be fair and reasonable, considering all factors relevant to a transaction. *Syn.* sales charge.

commission house *See* futures commission merchant.

commission house broker (CHB) A member of an exchange who is eligible to execute orders for customers of a member firm on the floor of the exchange. *Syn.* floor broker.

commodity Bulk good traded on an exchange or in the cash market; examples include metals, grains, and meats.

Commodity Credit Corporation (CCC) A government-owned corporation that aids U.S. agriculture through price supports, supply controls, and controlling foreign sales.

Commodity Exchange Act of 1936 Federal legislation establishing the Commodity Exchange Authority and formalizing commodity listing and trading procedures.

Commodity Exchange Authority (CEA) Freer federal agency established by the U.S. Department of Agriculture to administer the Commodities Exchange Act of 1936; predecessor of the Commodity Futures Trading Commission.

Commodity Futures Trading Commission (CFTC) Federal agency established by the Commodity Futures Trading Commission Act of 1974 to ensure open and efficient operation of the futures markets. The five Commissioners are appointed by the President (subject to Senate approval).

commodity pool operator (CPO) Individual or organization that solicits or receives funds for the purpose of combining them to invest in commodities futures contracts.

commodity trading adviser (CTA) Individual or organization that, for a fee, makes recommendations and issues reports on commodities futures or options. A CTA may also manage accounts for others.

congestion Occurs when a commodity's price trades for an extended period of time in a narrow price range.

consolidation Occurs when the price range of a commodity or security is considered an indication that a strong price move is imminent.

contango The price of a spot (actual) commodity is lower than the price for future delivery. See normal market.

contract grade Exchange-authorized quality grade of a commodity that can be delivered against a futures contract. *Syn.* base grade.

contract market Commodity Futures Trading Commission-designated exchange where futures on a specified commodity can be traded.

contract month *See* delivery month.

contract unit Unit of delivery specified in a futures contract.

correlation coefficient *See* R coefficient.

country basis Local cash market price of a commodity in comparison to its nearby futures price at the Chicago Board of Trade. Local prices are likely to vary widely from region to region owing to the lopsidedness of supply and demand. *Syn.* local basis.

covered call writer Investor who sells a call option while owning the underlying futures contract that guarantees the ability to deliver if the call is exercised.

covered put writer Investor who sells a put option while owning an asset that guarantees the ability to pay if the put is exercised.

CPO *See* commodity pool operator.

cracking Process by which crude oil is turned into distillates.

crack spread Futures hedge position with long crude oil futures and short heating oil or gasoline futures.

credit spread A futures option strategy established where the premium received for the option sold exceeds the premium paid for the option bought.

cross hedge Futures position in a particular security or commodity established to protect a position in a different but related commodity.

crushing Process by which soybeans are turned into oil and meal.

crush spread Futures hedge position with long soybean futures and short soybean oil and meal futures.

CTA *See* commodity trading adviser.

D

day order Order valid only until the close of trading on the day it is entered; if not executed by the close of trading, it is canceled.

day trader Trader in commodities who opens all positions after the opening of the market and offsets or closes out all positions before the close of the market on the same day.

dealer An individual or a firm engaged in the business of buying and selling securities or futures for its own account, either directly or through a broker.

debit spread Futures hedge position where the premium paid for the option bought exceeds the premium received for the option sold.

delivery month Month specified for a futures contract to be settled.

delivery point Location or facility to which a commodity must be delivered in order to fulfill a futures contract.

delta Measure of responsiveness of option premiums to change in the price of the underlying asset. Deep-in-the-money options have deltas near 1 and respond most to futures price changes. Deep-out-of-the-money options have deltas near zero.

demand Consumer willingness to pay for a good or service.

derivative Investment vehicle, the value of which is based on the value of another asset. Futures contracts, forward contracts, options, and CMOs are common derivatives. Derivatives are generally used by institutional investors to increase overall portfolio return or to hedge portfolio risk.

descending triangle Chart pattern indicating a market has started to fall; considered to be a bearish indicator.

diagonal spread Option strategy with simultaneous purchase and sale of options of the same class, but with different exercise prices and expiration dates.

discretion Authority given to a party other than the beneficial owner of an account to manage the account concerning the futures. One with futures account discretion decides the commodity, the number of contracts, and/or whether to buy or sell. The authority to merely decide timing or price is not "discretion."

discretionary account Account for which the customer gives the registered representative authority to enter transactions.

distant contract Of two or more futures contracts, the contract with the longest time remaining to expiration. *Syn.* distant delivery.

distant delivery *See* distant contract.

Dow Jones Industrial Average (DJIA) Widely used stock market indicator, composed of 30 large, actively traded industrial stocks.

E

effective cost Net price paid for a commodity, including hedging costs.

eurodollar U.S. currency held in banks outside the United States.

eurodollar future Contract based on short-term eurodollar deposits, settled in cash by subtracting the three-month LIBOR average from 100.

exchange Organization, association, or group of persons providing a marketplace in which securities, futures, and options can be bought and sold.

exchange rate *See* foreign exchange rate.

exercise Use of a right granted under a contract. For example, a futures call holder exercises by buying the underlying futures at the agreed-upon ("exercise") price within the agreed-upon time period.

exercise price Cost per unit at which the holder of an option may buy or sell the underlying futures. *Syn.* strike price.

expiration date Specified date on which an option buyer no longer has rights specified in an option contract.

ex-pit transaction Commodity trade executed outside an exchange trading ring or pit. Many ex-pit trades are violations.

F

FCM *See* futures commission merchant.

Fed *See* Federal Reserve System.

Federal Reserve Board (FRB) Seven-member group that directs operations of the Federal Reserve System. Board members are appointed by the President, subject to approval by Congress.

Federal Reserve System Central banking system of the United States. Regulates flow of money and credit. The system includes 12 regional banks, 24 branch banks, and hundreds of national and state banks. *Syn.* Fed.

fictitious quotation Bid or an offer published before identification by source and verification as legitimate. A fictitious quote may create the appearance of trading activity where none exists.

fill or kill order (FOK) Order instructing floor broker to fill the entire order immediately; if the entire order cannot be executed immediately, it is canceled.

FinCen The Financial Crimes Enforcement Network (FinCEN) is a bureau of the U.S. Department of the Treasury that collects and analyzes information about financial transactions to combat money laundering, terrorist financing, and other financial crimes.

floor broker *See* commission house broker.

floor trader Exchange member executing transactions from the exchange floor only for his own account. *Syn.* local.

FOK *See* fill or kill order.

foreign currency Money issued by a country other than that of the investor's home. Most options and futures contracts on numerous foreign currencies trade on the International Monetary Market (IMM).

foreign currency future Futures contract covering a set amount of currency issued by a foreign country.

foreign exchange rate Price of one country's currency relative to the price of another currency. *Syn.* exchange rate.

forward contract Cash market transaction specifying a future delivery date. Terms of forward contracts are not standardized. Forward contracts are not traded in contract markets.

forward market Nonexchange trading of commodities and foreign currencies in which delivery is set for a future date. *Syn.* forward trade.

forward trade *See* forward market.

fraud Deliberate concealment, misrepresentation, or omission of material information or the truth, intended to deceive or manipulate another party for unlawful or unfair gain.

FRB *See* Federal Reserve Board.

full power of attorney Written authorization permitting a party other than the beneficial owner of an account to make deposits and withdrawals and execute trades in such account.

fully disclosed broker *See* introducing broker.

fundamental analysis Method to forecast futures prices by attempting to measure the intrinsic value of a particular future. Fundamental analysts study the economy, supply and demand factors, weather, and other conditions.

fungible Interchangeability owing to identical characteristics or value. A futures contract is fungible if it can be exchanged for another futures contract.

futures commission merchant (FCM) Individual or organization soliciting or accepting orders and extending credit for the purchase or sale of commodities futures. *Syn.* commission house; wire house.

futures contract Standardized, exchange-traded agreement to buy or sell a particular type and grade of commodity for delivery at an agreed-upon place and time in the future. Futures contracts are transferable between parties.

futures exchange Centralized facility for continuous trading of commodity futures contracts.

futures market Continuous auction market where traders buy and sell commodities contracts for delivery on a specified future date. Trading occurs through open outcry and hand signals in a trading pit or ring.

G

good till canceled order (GTC) Order remaining valid until it is either executed or canceled. *Syn.* open order.

grade Quality classification of a commodity, specified in a futures contract.

Grain Futures Act of 1922 First federal legislation to regulate futures trading. Administered by the U.S. Department of Agriculture, the act regulated futures trading of grains and certain other agricultural commodities and set quality standards.

gross processing margin (GPM) Difference between the cost of buying soybeans and revenue from selling the resultant meal and oil after processing.

GTC *See* good till canceled order.

H

head and shoulders Bar chart pattern with three peaks resembling a head and two shoulders. As prices move down to the right shoulder, a head and shoulders top is formed, meaning futures prices should be falling. A head and shoulders top typically forms after a substantial rise and indicates a bull market reversal. A head and shoulders bottom (inverted head and shoulders) indicates a market advance.

hedge Investment made to reduce risk of adverse price movements in a commodity or security. Normally, a hedge consists of a cash position combined with protecting futures or futures option position in a related commodity or security.

high Highest price a security or commodity reaches during a specified period of time, often one daily trading session. *See also* low.

holder The owner of a futures option or futures contract. *See also* long.

horizontal spread Simultaneous purchase and sale of two options on the same underlying future with the same exercise price, but different expiration dates. *Syn.* calendar spread; time spread.

I

IB *See* introducing broker.

index Comparison of current prices to a baseline, such as prices on a particular date. Indexes are used in technical analysis.

index arbitrage Trading a group of stocks in conjunction with stock index futures options or futures contracts to profit from incremental price differences.

inflation Persistent and measurable rise in general price levels.

inside information Material information that has not been disseminated to, or is not readily available to, the general public.

institutional investor Person or an organization trading futures or securities in sufficient quantity to qualify for preferential service and lower commissions. An institutional order can be of any size. Institutional investors are covered by fewer protective regulations because it is assumed that they are more knowledgeable and better able to protect themselves than the general investing public.

interest rate future Futures contract covering a set number of fixed-income securities, such as Treasury issues.

in-the-money An option that has intrinsic value, such as a call option when the future trades above the exercise price or a put option when the future trades below the exercise price.

intrinsic value Potential profit from exercising an option. A call option has intrinsic value when the underlying future trades above the exercise price.

introduced account Account opened by a salesperson not representing a clearing futures commission merchant.

introducing broker (IB) A futures brokerage firm that may not hold customers' money or futures positions; instead, it introduces customer accounts to a clearing futures commission merchant, which holds cash and futures positions for those accounts.

inverted market Nearby futures contracts sell at higher prices than distant futures contracts. *Syn.* backwardation.

investment adviser Any person who makes investment recommendations in return for a flat fee or percentage of assets managed.

investment adviser's customer account *See* introduced account.

investment objective Goal a client hopes to achieve through investing. In futures, examples include speculative profit and protecting cash positions.

K

Know Your Customer Rule Members must exercise due diligence to learn essential facts about each customer, including institutions. If the customer is an individual, NFA Rule 2-30 requires the following minimum information:

- Whether the account will be for speculative or hedge trading;
- The customer's employment status (name of employer, self-employed, retired);
- The customer's estimated liquid net worth; and
- The customer's marital status and number of dependents.

L

leverage transaction merchant (LTM) An individual or an organization permitted by the Commodity Futures Trading Commission to trade selected futures instruments outside commodity exchanges.

LIBOR *See* London Interbank Offered Rate.

limited power of attorney Written authorization for a party other than the beneficial owner of an account to enter orders for an account.

limit order Order instructing floor broker to buy a specified future at or below a certain price or to sell a specified future at or above a certain price.

limit up The maximum amount a futures contract may rise in a single trading day. This mechanism is useful in avoiding irrational, panic-driven pricing.

liquidity Ease with which an asset can be converted to cash. A market with many buyers and sellers and a high trading volume offers high liquidity.

local *See* floor trader.

local basis *See* country basis.

London Interbank Offered Rate (LIBOR) Average rate that creditworthy international banks, dealing in eurodollars, charge each other for loans.

long Owning a commodity, futures contract, futures option contract, or security. The buyer of a future has a long position.

long hedge Buying put options as protection against a decline in the value of actuals (cash commodities) or securities. Buying futures as protection against an increase in actuals.

long straddle Option strategy buying a call and a put on the same future with the same exercise price and expiration month.

long the basis Long actuals position hedged with a short futures position.

low The lowest price a futures contract or security reaches during a specified time period.

LTM *See* leverage transaction merchant.

M

Major Market Index (Symbol XMI) Market indicator based on 20 well-known industries. It is price weighted.

margin Money or collateral an investor must deposit when buying or selling a contract.

market arbitrage The simultaneous purchase and sale of the same commodity or security on different exchanges to profit from price disparity between the two markets.

market-if-touched order (MIT) *See* board order market letter Publication that comments on or recommends futures, futures options, or related topics, and is distributed to an organization's clients or to the public.

market-on-close order Order specifying execution at, or as near possible to, the close of a session's trading in that future, or else it is canceled. The order does not have to be executed at the closing price. *Syn.* at-the-close order.

market order Order executed immediately at the best available price. Only a market order guarantees execution. *Syn.* unrestricted order.

MIT *See* market-if-touched order.

MMI *See* Major Market Index.

moving average chart Chart plotting average daily futures settlement prices over a defined period (for example, over three days). Average is computed by dropping the oldest day's settlement price and adding the newest.

municipal bond index future Futures contract based on performance of *The Bond Buyer* Municipal Bond Index of 20 long-term tax-exempt issues of state and local governments.

N

National Futures Association (NFA) Self-regulatory organization of the commodities futures industry to which all futures exchange members, commodity trading advisers, and commodity pool operators must belong. The NFA enforces regulations of the Commodity Futures Trading Commission.

nearby contract Of two or more futures contracts, the contract with the shortest time remaining to expiration. *Syn.* nearby delivery; nearby month.

nearby delivery *See* nearby contract.

nearby month *See* nearby contract.

negotiated commission Transaction fee for a futures trade established by the trader rather than the exchange. Commissions in the futures industry have been negotiable since 1978.

NFA *See* National Futures Association.

NFA Rule 2-30 See "Know Your Customer"

normal market Nearby futures contracts sell at lower prices than distant futures contracts. *Syn.* contango.

O

offset To liquidate a futures position by an equivalent but opposite transaction. A sale offsets an initial purchase. A purchase offsets an initial sale.

omnibus account An account opened in the name of an investment adviser or a broker-dealer for the benefit of its customers. The firm carrying the account does not receive disclosure of the individual customers' names or holdings and does not maintain records for the individual customers. *Syn.* special omnibus account.

opening purchase Entering the options market by buying calls or puts.

opening range *See* range.

opening sale Entering the options market by selling calls or puts.

open order *See* good till canceled order.

option A security that represents the right to buy or sell a specified amount of an underlying investment instrument—such as a stock, bond, futures contract—at a specified price within a specified time. The purchaser acquires a right, and the seller assumes an obligation.

Options Clearing Corporation (OCC) The organization that issues options, standardizes option contracts and guarantees their performance. The OCC made secondary trading possible by creating fungible option contracts.

out-of-the-money The term used to describe an option that has no intrinsic value, such as a call option when the future sells below the exercise price or a put option when the future sells above the exercise price.

overbought A technical analysis term for a market in which more and stronger buying has occurred than the fundamentals justify.

oversold A technical analysis term for a market in which more and stronger selling has occurred than the fundamentals justify.

overtrading *See* churning.

P

pattern A repetitive series of price movements on a chart used by a technical analyst to predict future movements of the market.

point A measure of a bond's price; $10 or 1% of the par value of $1,000.

point-and-figure chart A tool used by technical analysts to track the effects of price reversals, or changes in the direction of prices, of a commodity over time.

portfolio insurance A method of hedging a portfolio of common stocks against market risk by selling stock index futures short. The technique is frequently used by institutional investors.

position The amount of a security either owned (a long position) or owed (a short position) by an individual or by a dealer. Dealers take long positions in specific securities to maintain inventories and thereby facilitate trading.

position limit The rule established by options exchanges that prohibits an investor from having a net long or short position of more than a specific number of contracts on the same side of the market.

position trader A commodities speculator who buys or sells positions in the futures markets as a means of speculating on long-term price movements.

premium The amount of cash that an option buyer pays to an option seller.

price risk The potential that the value of a currency or commodity will change between the signing of a delivery contract and the time delivery is made. The futures markets serve to manage price risk.

price spread *See* vertical spread.

processing spread A hedge position in commodity futures assumed by a corporation that is in the business of processing raw materials into finished goods. The corporation buys futures on the raw materials and sells futures on the finished goods in order to protect its profits.

pure hedge A futures position in a particular security or commodity that is held to minimize the risk of a long actuals position in the same security or commodity.

put (1) An option contract giving the owner the right to sell a specified amount of an underlying future at a specified price within a specified time. (2) The act of exercising a put option.

put buyer An investor who pays a premium for an option contract and receives, for a specified time, the right to sell the underlying future at a specified price.

put spread An option investor's position in which the investor buys a put on a particular future and writes a put on the same future, but with a different expiration date, exercise price, or both.

put writer An investor who receives a premium and takes on, for a specified time, the obligation to buy the underlying future at a specified price at the put buyer's discretion.

pyramiding A speculative strategy whereby an investor uses unrealized profits from a position held to increase the size of the position continuously, but by ever-smaller amounts.

Q

quality adjustment The amount by which the settlement price on a futures transaction is increased or decreased when the quality grade of the delivered commodity differs from that specified in the original contract.

R

range A future's low price and high price for a particular trading period, such as the close of a day's trading, the opening of a day's trading, or a day, month, or year. *Syn.* opening range.

R coefficient A statistical measure of how closely the movements of a future's price track the movements of the market. *Syn.* correlation coefficient.

resistance level A technical analysis term describing the top of a future's historical trading range.

reverse crush spread A speculative futures position established with short soybean futures and long soybean oil and meal futures.

rolling forward *See* switching.

S

sales charge *See* commission.

sales literature Any written material distributed to customers or the public by a firm in a controlled manner. Examples include circulars, research reports, form letters, market letters, performance reports and text used for seminars.

scale order An order of several limit orders placed at incrementally increasing or decreasing prices.

scalper A commodities trader who buys and sells many commodities contracts during a single day in the anticipation of profiting from small price fluctuations. Scalpers rarely carry positions from one day to the next, and their buying and selling activity contributes greatly to the liquidity of the commodities markets.

security Any piece of securitized paper that can be traded for value other than an insurance policy or a fixed annuity. Under the Act of 1934, this includes any note, stock, bond, investment contract, debenture, certificate of interest in profit-sharing or partnership agreement, certificate of deposit, collateral trust certificate, preorganization certificate, option on a security, or other instrument of investment commonly known as a security. Also categorized as securities are interests in oil and gas drilling programs, real estate condominiums and cooperatives, farmland or animals, commodity option contracts, whiskey warehouse receipts, multilevel distributorship arrangements, and merchandising marketing programs.The federal courts have established that, if a person invests money in a common enterprise and is led to expect profits from the managerial efforts of the promoter or a third party, the investment is a security.

selling a hedge Selling futures options as protection against a future decrease in commodities prices.

series Options of the same class that have the same exercise price and the same expiration date.

Series 3 The National Commodity Futures Exam. Passing this exam serves to meet the requirements for the National Futures Association to issue the license needed to do futures business with the public.

settlement The completion of a trade through the delivery of a security or commodity and the payment of cash or other consideration.

short The term used to describe the selling of a security, contract or commodity not owned by the seller.

short hedge Selling options or futures as protection against a decrease in the value of a long securities or actuals position.

short straddle An option investor's position that results from selling a call and a put on the same future with the same exercise price and expiration month.

short the basis A short cash position hedged with a long futures position.

special omnibus account *See* omnibus account.

speculation Trading a commodity with a higher than average risk in return for a higher than average profit potential. The trade is effected solely for the purpose of profiting from it and not as a means of hedging or protecting other positions.

speculator One who trades a commodity with a higher than average risk in return for a higher than average profit potential.

spot commodity *See* actual.

spot market *See* cash market.

spot market trade A foreign currency transaction between international banks that is settled and delivered within two business days.

spot price The actual price at which a particular commodity can be bought or sold at a specified time and place.

spread (1) In a quotation, the difference between the bid and the ask prices of a futures contract. (2) An options position established by purchasing one option and selling another option of the same class, but of a different series.

spreader A commodities trader who attempts to profit from a change in price differences between commodities, futures contracts, or options contracts; a commodities arbitrageur.

spread order A customer order specifying two option contracts on the same underlying commodity and a price difference between them. A spread order takes priority over equal but separate bids and offers.

stagflation A period of high unemployment in the economy accompanied by a general rise in prices.

standardized contract A futures contract in which all the contract terms are set by the exchange except for price.

stock index future A futures contract based on an established stock market index, such as the S&P 500.

stop limit order A customer order that becomes a limit order when the market price of the future reaches or passes a specific price.

stop order A customer order that becomes a market order when the market price of the future reaches or passes a specific price.

straddle An option investor's position that results from buying a call and a put or selling a call and a put on the same future with the same exercise price and expiration month.

strangle An option investor's position that results from buying a call and a put when both options are out-of-the-money on either side of the current price of the underlying future. A strangle can be profitable only if the market is highly volatile and makes a major move in either direction.

strap Buying two calls and one put on the same future with the same exercise price and expiration month.

strengthening basis A converging of the spot price and the futures price of a commodity.

strike price *See* exercise price.

striking price *See* exercise price.

strip Buying two puts and one call on the same future with the same exercise price and expiration month.

suitability A determination made by a registered representative as to whether a particular type of future matches a customer's objectives and financial capability. The representative must have enough information about each customer in order to make this judgment.

supply The total amount of a good or service available for purchase by consumers.

support level A technical analysis term describing the bottom of a future's historical trading range.

switching A speculative strategy whereby an investor closes a commodity or an option position that specifies one delivery or expiration month and opens a position for the same commodity or option in another, more distant month. *Syn.* rolling forward.

symmetrical triangle On a technical analyst's trading activity chart, a pattern that indicates that the market is consolidating for the time being; considered to be a neutral indicator.

synthetic future A combination of a futures position with an option position that simulates the risk and return potential of a single futures purchase or sale.

T

technical analysis A method of evaluating futures by analyzing statistics generated by market activity, such as past prices and volume. Technical analysts do not attempt to measure a future's intrinsic value.

Telephone Consumer Protection Act of 1991 (TCPA) Federal legislation restricting the use of telephone lines for solicitation purposes. A company soliciting sales via telephone, facsimile, or email must disclose its name and address to the called party and must not call any person who has requested not to be called.

tick A minimum upward or downward movement in the price of a future.

time spread *See* horizontal spread.

time value The amount an investor pays for an option above its intrinsic value; it reflects the amount of time left until expiration. The amount is calculated by subtracting the intrinsic value from the premium paid.

trendline A tool used by technical analysts to trace a future's movement by connecting the reaction lows in an upward trend or the rally highs in a downward trend.

triangle On a technical analyst's trading activity chart, a pattern that shows a narrowing of the price range in which a future trades. The left side of the triangle typically shows the widest range, and the right side narrows to a point. *Syn.* pennant.

true-ups Periodic, interim partial settlements within the contract period, permitting both parties to keep track of gains and losses and adjusting margin requirements. Forwards experience losses and gains only after maturity (for example, they call for no interim payments [true-ups]).

type A term that classifies an option as a call or a put.

U

underlying futures The futures that are bought or sold when an option is exercised.

United States Department of Agriculture (USDA) The federal agency that promotes agriculture through setting quality standards and testing agricultural products for conformity.

USDA report A monthly release of the United States Department of Agriculture that estimates the supply of various agricultural commodities.

V

vertical spread The purchase and sale of two options on the same underlying future and with the same expiration date, but with different exercise prices. *Syn.* money spread; price spread.

volatility The magnitude and frequency of changes in the price of a future or commodity within a given time period.

W

weakening basis When the cash price of a commodity declines relative to the futures contract. Long hedgers benefit from this.

wire house *See* futures commission merchant.

writer The seller of an option contract. An option writer takes on the obligation to buy or sell the underlying future if and when the option buyer exercises the option. *Syn.* seller.

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