



contents

Ш

the basics

about futures contracts

CME E-mini stock index futures: contract specifications

v trading examples

- v comparing stock index futures and exchange traded funds
- vi getting started trading CME stock index futures
- vii about Chicago Mercantile Exchange
- viii quick reference





INTRODUCTION

Chicago Mercantile Exchange's E-mini futures track the most popular broad-based stock index benchmarks in the financial world. The E-mini futures complex consists of the following four products:

- **E-mini S&P 500° futures** Created to track the Standard & Poor's 500 Index, the key benchmark for large-capitalization U.S. stocks
- E-mini NASDAQ-100° futures Created to track the NASDAQ-100 Index, a key benchmark of technology, telecom and biotechnology issues

E-mini Russell 2000[®] futures Created to track the Russell 2000 Index, one of the major benchmarks for small-capitalization U.S. stocks

►-mini S&P MidCap 400[™] futures Created to track the Standard & Poor's MidCap 400 Index, the key benchmark for mid-size U.S. companies

Pioneered by Chicago Mercantile Exchange (CME) and sequentially launched between 1997 and 2002, all E-mini futures are traded completely electronically via electronic order management software on your PC or through a registered commodity futures broker

over the telephone. In addition to offering unique opportunities for risk management and market exposure, E-mini stock index futures are appealing because of their excellent liquidity and around-theclock availability. At one-fifth the size of their standard counterparts, these contracts have found an audience among professional and individual investors alike.

The E-mini S&P 500 and E-mini NASDAQ-100 contracts are the fastest growing products CME has ever launched. The success of the E-mini complex overall has established CME as the "Index Exchange," with more than a 95% market share of all domestically traded stock index futures and options on futures. CME's Equity quadrant as a whole is also known as one of the world's most liquid trading environments for stock index products, when measured in terms of volume and open interest.

The strategies/opportunities available to the trader make E-mini stock index futures well worth considering. Please note, however, that futures trading is not suitable for all investors, and involves the risk of loss, including the possibility of loss greater than your original investment.

WHAT ARE STOCK INDEX FUTURES?

Stock index futures are contracts to buy or sell the value of a specific stock index at a specific price on a specific date in the future. Businesses and individual traders trade stock index futures for different reasons, but primarily to try to profit from or protect themselves from changes in the price of the underlying indexes. Financial professionals, such as pension and mutual fund managers, typically use CME index futures for managing risk and hedging portfolios

against adverse price moves. Others, such as day traders or position traders, trade these products to speculate on the price fluctuations of the stock market.

Stock index futures closely follow the price movement of their respective indexes, typically referred to as the "underlying" or "cash" indexes. Intraday, monthly and yearly correlations between cash indexes and futures are very close. On some occasions, the futures may diverge from the cash index for short periods



No Small Success Story–Growth of E-mini S&P 500 Futures

of time, but market forces (such as arbitrage) usually work to bring these brief variances back into line.

If in trading futures you **purchase** an index futures contract, you hope to gain from future price increases when you offset your trade by selling the contract. Correspondingly, if you initially sell (i.e., selling short) an index futures contract, you hope to gain if the price of the contract declines. Remember though, if your forecast proves wrong, you risk loss. The rapid price changes associated with stock indexes and stock index futures create continuous opportunities for the successful trader. It can be more efficient, however, for a trader who believes the market will decline to trade stock index futures instead of equity securities. This is because a stock index futures trade involves just one transaction to get into the market and one to get out, while selling a basket of equity securities is likely to involve numerous transactions.



No Small Success Story–Growth of E-mini NASDAQ-100 Futures

the basics

4

WHY TRADE E-MINI STOCK INDEX FUTURES?

CME's stock index futures comprise the Exchange's fastest growing products for a number of compelling reasons. These products offer:

- A fast, cost-effective way to actively trade products that track the stock indexes and offer the equivalent of broad market exposure to a variety of major stock indexes
- Substantial liquidity in terms of large open interest, volume and tight bid/offer spreads
- Online access available around the globe and virtually around-the-clock throughout the trading week
- The ability to employ a variety of trading strategies, such as hedging strategies (to attempt to protect a portfolio against a declining market) and spreading strategies (to attempt to take advantage of the relative out-performance of one sector of the market versus another)
- Potentially lower trading costs compared to trading a basket of equities



Growth of E-mini Russell 2000 Futures and E-mini S&P MidCap 400 Futures

E-mini Russell 2000 Futures
 S&P E-mini MidCap 400 Futures

DIFFERENCES BETWEEN TRADING STOCK INDEX FUTURES AND STOCK INDEXES

	STOCK INDEX FUTURES	STOCKS
Type of broker	Series 3 licensed commodity futures broker	Series 7 licensed stock broker
Underlying	Cash index	Ownership of shares in a company
Settlement	Mark to market daily	T+3*
Margining	Performance bond met via cash or T-bills Can range from 5–20% of contract value	Reg T margin: put up 50%, borrow 50%. Interest charged on borrowed funds
Risk	Leverage can magnify gains as well as losses by several fold	Leverage can magnify gains as well as losses by two-fold, assuming Reg T margins
Short Selling	No uptick rule No borrowing of shares No dividends on futures	Uptick rule** Short seller borrows shares and must pay dividends to owner of shares (long)
Online Availability	Yes	Yes
Regulation	Commodity Futures Trading Commission (CFTC)	Securities and Exchange Commission (SEC)
Financial Safeguards	CME Clearing House	Securities Investor's Protection Corporation (SIPC)

BUYING AND SELLING STOCK INDEX FUTURES

Buy Low/Sell High, or Vice Versa

the basics

For those willing to incur the risk, you can profit from trading stock index futures the same way as any other investment-by buying low and selling high. One difference with futures, however, is that it's just as common to sell short-to sell first-and then buy back later as it is to buy first, or go long. With futures trading, if you think prices are going up, you simply establish a "long" (buy) position, and if you think prices are going down, you initiate a "short" (sell) position.

Getting In and Getting Out

Futures in general lend themselves to a variety of different trading timeframes: short-, medium- or long-term. Electronically traded stock index futures, however, can be particularly attractive to shorterterm or day-traders, because the fluctuations in the index markets make it possible to take advantage of short-term price movements.

Once you have established your position, you have three alternatives:

Offset your position by taking an equal but opposite position.

You can exit from any futures position before expiration by taking an equal but opposite futures position (selling if you have bought; buying if you have sold). Most futures are offset in this way. You don't have to wait until the expiration date to complete your trade – in fact, few investors do. • Wait until your contract expires, and then make or take cash settlement.

Cash settlement is made according to a "Special Opening Quotation" (SOQ), a price calculated for each domestic stock index product. This means your account will be debited or credited, in cash, the difference between your purchase/sale price and the final settlement as determined by the SOQ. For a detailed explanation of this process, see the CME Web site at www.cme.com. Of course if you offset your position, this process doesn't apply.

• "Roll" the position over from one contract expiration into the next.

If you hold a long position in an expiration month, you can simultaneously sell that expiration month and buy the next expiration month (known as a "calendar spread") for an agreed-upon price differential. By transferring or "rolling" a position forward this way you are able to hold it for a longer period of time. For example, if a trader is holding a March E-mini futures contract, he or she can sell the March futures before expiration and buy a June futures, thereby expanding the timeframe of his trade.

* Date of transaction plus three days.

** The "uptick" rule states that before a short sale can be initiated, a stock must trade on an "uptick" (e.g., a transaction whereby a stock trades up, for example from 40.00 to 40.01.)





11 about futures contracts

WHAT'S A CONTRACT WORTH?

To determine the value of a stock index futures contract, you need to know its multiplier and the current index futures level.

E-mini S&P 500

Index value x \$50 = One E-mini S&P 500 futures contract value

The E-mini S&P 500 multiplier is \$50. If the S&P 500 futures index level is 950, multiply that by \$50. $950 \times $50 = $47,500$

If you buy one E-mini S&P 500 futures contract at 950, you are trading an instrument valued at \$47,500. **Remember:** It is not required to put up the full contract value. Your performance bond enables you to control a considerable amount of product for a fraction of its value.

E-mini NASDAQ-100

Index value x \$20 = One E-mini NASDAQ-100 futures contract value

The E-mini NASDAQ-100 multiplier is \$20. For example, if the NASDAQ-100 index level is 1100, multiply that by \$20. $1100 \times $20 = $22,000$ If you buy one E-mini NASDAQ-100 futures contract at 1100, you are trading an instrument valued at \$22,000.

E-mini Russell 2000

Index value x \$100 = One E-mini Russell 2000 futures contract value

The E-mini Russell 2000 multiplier is \$100. For example, if the Russell 2000 index level is 400, multiply that by \$100. **400 x \$100 = \$40,000** If you buy one E-mini Russell 2000 futures contract at 400, you are trading an instrument valued at \$40,000.

E-mini MidCap 400

Index value x \$100 = One E-mini S&P MidCap 400 futures contract value
The E-mini S&P MidCap 400 multiplier is \$100.
For example, if the S&P MidCap 400 index level is 450, multiply that by \$100.
450 x \$100 = \$45,000
If you buy one E-mini S&P MidCap 400 futures contract at 450, you are trading an instrument valued at \$45,000.

WHAT'S A "TICK" AND WHAT'S IT WORTH?

Unlike stocks, which move in penny increments, futures contracts move in minimal increments called "ticks," and the value of the tick is different for each product.

E-mini S&P 500 Futures

The E-mini S&P 500 futures tick value is 0.25 index point, or \$12.50 per contract. Thus:

- A move of one tick, from 950.00 to 950.25, equals \$12.50.
- With this move, a long (buying) position would be credited \$12.50, and a short (selling) position, debited \$12.50.
- A move of one entire E-mini S&P 500 futures index point-the equivalent of four ticks-would equal \$50, and so on.

E-mini NASDAQ-100 Futures

The E-mini NASDAQ-100 futures tick value is 0.50 index point, or \$10 per contract. Thus:

- A move of one tick, from 1100.00 to 1100.50, equals \$10.
- With this move, a long (buying) position would be credited \$10, and a short (selling) position debited \$10.
- A move of one entire E-mini NASDAQ-100 futures index point-the equivalent of two ticks-would equal \$20, and so on.

E-mini Russell 2000 Futures

The E-mini Russell 2000 futures tick value is 0.10 index point, or \$10 per contract. Thus:

- A move of one tick, from 400.00 to 400.10, equals \$10.
- With this move, a long (buying) position would be credited \$10, and a short (selling) position debited \$10.
- A move of one entire E-mini Russell 2000 futures index point-the equivalent of ten ticks-would equal \$100, and so on.

E-mini S&P MidCap 400 Futures

The E-mini S&P MidCap 400 futures tick value is 0.10 index point, or \$10 per contract. Thus:

- A move of one tick, from 450.00 to 450.10, equals \$10.
- With this move, a long (buying) position would be credited \$10, and a short (selling) position, debited \$10.
- A move of one entire E-mini S&P MidCap 400 futures index point-the equivalent of ten ticks-would equal \$100, and so on.

EXPIRATIONS AND CONTRACT SYMBOLS

13

about futures contracts

CME E-mini stock index contracts trade in quarterly time frames, with March, June, September and December expirations. CME uses the following ticker symbols to distinguish each contract and each month. However, quote vendors may display these products differently. Before you trade, talk to your vendor or broker to learn how they display quotes.

E-MINI STOCK INDEX FUTUR	ES SYMBOLS	MONTH SYMBOLS FOR CME CONTRACTS				
Contract	CME Ticker Symbol	Expiration Months March June September December			December	
E-mini S&P 500	FS	Н	М	IJ	7.	
	NO		M	-	7	
E-IIIIII NASDAQ-100	ШĄ	п	IVI	U	L	
E-mini Russell 2000	ER2	Н	М	U	Z	
E-mini S&P MidCap 400	EMD	Н	М	U	Z	

GETTING PRICE INFORMATION

What's the Current Price?

An important question! Real-time, online price information is now available directly from CME on a subscription basis. To find out more about this highly cost efficient and customizable service, please go to www.cme.com and click on E-quotes on the site's home page. Prices are also available through a number of different quote vendors. You may also ask your broker about the choices available.

How to Read Index Prices

In addition to streaming and real-time quotes, you will also want to know how to interpret futures prices reported in newspapers and other print sources. Although the amount of information published by a source often differs, the information will look something like the table below.

FUTURES								
E-MINI NASE	DAQ-100 IND	EX (CME)				\$20 TIMES	INDEX	
	Open	High	Low	Settle	Change	Lifetime High	Lifetime Low	Open Interest
September	1101.50	1103.50	1097.50	1100.00	-10.80	1104.00	1071.50	165,500
December	1106.50	1112.50	1104.00	1104.00	-9.50	1120.00	1092.00	721
March	1110.50	1116.00	1122.00	1110.00	-10.00	1140.00	1100.00	52

Est vol 280,172; vol Fri 282,269; open int 166,273 + 1000

The tables in the daily newspaper listings reflect the previous day's prices. Open interest figures are published on a two-day lag.

15 about futures contracts

Futures Prices: Terms to Know

Basis (or Premium/Discount)

depending on cost-of-carry factors.

The following terms will help you understand futures price quotes in both online and print formats.

Futures contracts sometimes trade at discounts or

The right, but not the obligation, to buy a futures

contract at the option's strike price on or before the

Top bid or top price at which a contract was traded

The highest price or bid and the lowest price or

offer reached in the lifetime of a futures contract or

premiums to their underlying cash instruments

Open interest

The accumulated total of all currently outstanding contracts. Refers to unliquidated purchases and sales.

The price at which the first transaction was

Put

Open

completed.

The right, but not the obligation, to sell a futures contract at the option's strike price on or before the expiration date.

Settle (Settlement price)

The official daily closing price, typically set at the midpoint of the closing range.

Strike price

The price at which the buyer of a call (put) option may choose to exercise the right to purchase (sell) the underlying futures contract. Also known as exercise price.

Lowest offer or the lowest price at which a contract was traded during the trading period. The number of contracts traded for each delivery month during the trading period.

Net change

Low

Call

High

expiration date.

during the trading period.

a specific delivery month.

Life-of-contract highs and lows

The amount of increase or decrease from the previous trading period's settlement price.

h a contract month during the tra

Volume

TRADING ON CME'S GLOBEX® ELECTRONIC TRADING PLATFORM

100% Electronic

With no trading "pits" or paper order slips, E-mini stock index trades are executed efficiently and fast on CME's GLOBEX electronic trading platform. And because the E-mini contracts trade in an all-electronic open auction, there's no worrying about routing your order across multiple markets for that elusive "best price" – the best price rules the day. Plus with virtually around-the-clock access, trading takes place on your time.

How Do You Connect to the GLOBEX Platform?

You can connect to the GLOBEX platform in different ways. Some brokerage firms provide their own software for you to use on your PC, or you might use trading software provided by one of the many software vendors whose products support these contracts. Customers can now also connect via the Internet using CME's new GLOBEX Traderst Internet option. For connectivity options visit www.cme.com.



Growth of Electronic Trading on GLOBEX Platform

1992 through 2002



CONTRACT SPECIFICATIONS



19 CME E-mini stock index futures: contract specifications

E-MINI S&P 500 INDEX FUTURES & OPTIONS CONTRACT HIGHLIGHTS*

The S&P 500 is a capitalization-weighted index of 500 large, actively traded U.S. stocks. These stocks are traded on the New York Stock Exchange, the American Stock Exchange and The Nasdaq Stock Market. The primary calculator for the S&P 500 Index is Reuters.

	FUTURES	OPTIONS ON FUTURES	
Opening Date	September 9, 1997		
Ticker Symbols	ES	Calls: ES Puts: ES AON: EG	
Contract Size	\$50 x S&P 500 Index	futures price	
Strike Prices	N/A	5-point intervals for two nearest contracts, 10-point intervals for deferred months	
Minimum Price Fluctuation (Tick)	.25 index points = \$12. (Futures calendar spreads: .05 ind	50 per contract ex points = \$2.50 per contract)	
Trading Hours (Chicago Time)	Virtually 24-hour trading, Sunday afternoon through Friday afternoon		
Contract Months	Mar, Jun, Sep, Dec	All 12 calendar months	
Last Day of Trading	Trading can occur up to 8:30 a.m. (Chicago time) on the third Friday of the contract month	Mar, Jun, Sep, Dec same as underlying futures contract. Other 8 months: the third Friday of the contract month	
Position Limits	Position limits work in conjunctic existing S&P 500 position limits	on with	

Quarterly Futures and Options Settlement Procedures: Cash settlement. All open positions at the close of the final trading day are settled in cash to the Special Opening Quotation** on Friday morning of the S&P 500 Index.

Option Exercise: American Style. An option can be exercised until 7:00 p.m. (Chicago time) on any business day the option is traded. An option that is in-the-money, and has not been exercised prior to the termination of trading, shall be automatically exercised unless contrary instructions have been delivered to the Clearing House by 7:00 p.m. on the day of determination of the Final Settlement Price.

* Please refer to CME Rules for official specifications. ** Go to www.cme.com for more details on determining the Special Opening Quotation.

20 CME E-mini stock index futures: contract specifications

E-MINI NASDAQ-100 INDEX FUTURES CONTRACT HIGHLIGHTS*

The NASDAQ-100 is a modified capitalization-weighted index of 100 of the largest and most active non-financial, domestic stocks traded on The Nasdaq Stock Market. The index is computed and distributed by The Nasdaq Stock Market.

	FUTURES
Opening Date	June 21, 1999
Ticker Symbol	ΝΟ
	- · · · · ·
Contract Size	$20 \times NASDAQ-100$ Index futures price
Minimum Price	.50 index points = $\$10$ per contract (Futures calendar spreads: 05 index points = $\$1$ per contract)
	(a dates calonal spreads for man points of per conduct)
Trading Hours	
(Chicago Time)	Virtually 24-hour trading, Sunday afternoon through Friday afternoon
Contract Months	March, June, September, December
Last Day of Trading	Trading can occur up to 8:30 a.m. (Chicago time) on the third Friday of the contract month
De sitie en Linsite	Position limits work in conjunction with existing NASDAO 100 position limits

Quarterly Futures and Options Settlement Procedures: Cash settlement. All open positions at the close of the final trading day are settled in cash to the Special Opening Quotation** on Friday morning of the NASDAQ-100 Index, computed from a five-minute volume-weighted average of each component stock's opening prices.

21 CME E-mini stock index futures: contract specifications

E-MINI RUSSELL 2000 INDEX FUTURES CONTRACT HIGHLIGHTS*

The Russell 2000 is a capitalization-weighted index of approximately 2,000 actively traded, small-capitalization U.S. stocks. These stocks are traded on the New York Stock Exchange, the American Stock Exchange and The Nasdaq Stock Market. The index is computed and distributed by the Frank Russell Company.

	FUTURES
Opening Date	October 24, 2001
Ticker Symbol	ER2
Contract Size	\$100 × Russell 2000 Index futures price
Minimum Prico	10 index points $-$ \$10 per contract
Fluctuation (Tick)	(Futures calendar spreads: .05 index points = \$5 per contract)
Trading Hours	
(Chicago Time)	Virtually 24-hour trading, Sunday afternoon through Friday afternoon
Contract Months	March, June, September, December
	The dimensional terms and the Q. Q. C. and (Claimers the shared had had had be determined by
Last Day of Trading	contract month
Position Limits	Position limits work in conjunction with existing Russell 2000 position limits
	resident mints work in conjunction with existing reason 2000 position mints

Quarterly Futures and Options Settlement Procedures: Cash settlement. All open positions at the close of the final trading day are settled in cash to the Special Opening Quotation** on Friday morning of the Russell 2000 Index.

* Please refer to CME Rules for official specifications. ** Go to www.cme.com for more details on determining the Special Opening Quotation.

E-MINI S&P MIDCAP 400 INDEX FUTURES CONTRACT HIGHLIGHTS*

The S&P MidCap 400 is a capitalization-weighted index of 400 medium-cap, actively traded U.S. stocks. These stocks are traded on the New York Stock Exchange, the American Stock Exchange and The Nasdaq Stock Market. The primary calculator for the S&P MidCap 400 Index is Reuters.

	FUTURES
Opening Date	January 28, 2002
Opening Date	
Ticker Symbol	EMD
Contract Size	\$100 × S&P MidCap 400 Index futures price
Minimum Price	.10 index points = $$10$
Fluctuation (Tick)	(Futures calendar spreads: .05 index points = \$5 per contact)
Trading Hours	Virtually 24-hour trading Sunday afternoon through Friday afternoon
(Chicago hine)	
Contract Months	March, June, September, December
Last Day of Trading	Trading can occur up to $8:30$ a.m. (Chicago time) on the third Friday of the contract month

Quarterly Futures and Options Settlement Procedures: Cash settlement. All open positions at the close of the final trading day are settled in cash to the Special Opening Quotation** on Friday morning of the S&P MidCap 400 Index.



* Please refer to CME Rules for official specifications. ** Go to www.cme.com for more details on determining the Special Opening Quotation.



25

trading examples

Trading Example 1

POSITION TRADING USING THE E-MINI S&P 500

Suppose that on March 13, a bullish trader decides to go long one E-mini S&P 500 (ES) at 850.00.

Performance bond: Approximately \$3,500 At end of March 13, ES is trading at 850.00 Gain in position: 0.00 Value of margin account: \$3,500

At close next day March 14, ES is trading at 840.00 Loss in position 10 pts. x \$50/pt. = **\$500** Variation margin (change in account): **\$500 debit** Value of margin account: \$3,000

At close two days later, March 15, ES is trading at **846.00** Gain in position from previous day = 6 pts. x \$50/pt. = **\$300** Variation margin (change in account): **\$300 credit** Value of margin account = \$3,300

At close on March 16, trader sells ES at 860.00 Gain in position from previous day = 14 pts. x 50/pt. = 700Variation margin (change in account): 700 credit Value of margin account = 4,000Position is now closed out.

Gain or loss on entire trade is sum of variation margins = -\$500 + \$300 + \$700 = + \$500

While the position was closed out at a profit, if the trader liquidated after day 1 or day 2, he/she would have had a loss.

26 trading examples

Trading Example 2

HEDGING A PORTFOLIO WITH E-MINI S&P 500 STOCK INDEX FUTURES

Suppose an investor owns a mutual fund or portfolio of stocks that is highly correlated with the S&P 500 composite index. The current value of the portfolio is \$100,000.

Investor's Outlook	Short term bearish looking for a decline of at least 10%.			
Investor's Strategy-				
A "Short Hedge"	Sell short two* E-mini S&P 500 futures contracts to hedge the portfolio.			
Current S&P 500 index				
(cash)	900.00 pts.			
Current F-mini S&P 500				
	000 00 ptc			
(futures) Note: Futures contracts can a futures contract nears, this p In this example, however, th	and do trade at a premium or discount to the cash index du remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison.	ue to cost-of-car 003, the futures	ry factors. As expiration of the are at a slight discount to cash	
(futures) Note: Futures contracts can a futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index du remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly dec	ue to cost-of-car 203, the futures k Index has d declined 10.5 clined 10.0%	rry factors. As expiration of that are at a slight discount to cash eclined 10.2 % to 808.20 5%.	
(futures) Note: Futures contracts can : futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index do remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly dec	ue to cost-of-car 203, the futures k Index has d declined 10.5 clined 10.0%	ry factors. As expiration of the are at a slight discount to cash eclined 10.2 % to 808.20 5%. to 810.00.	
(futures) Note: Futures contracts can a futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index du remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly deco Initial value of portfolio	ue to cost-of-car 203, the futures k Index has d declined 10.5 clined 10.0% \$ 100,000	ry factors. As expiration of the are at a slight discount to cash eclined 10.2 % to 808.20 5%. to 810.00.	
(futures) Note: Futures contracts can a futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index du remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly dec Initial value of portfolio Value of portfolio	ue to cost-of-car 203, the futures k Index has d declined 10.5 lined 10.0% \$ 100,000 \$ 89,800	rry factors. As expiration of the are at a slight discount to cash eclined 10.2 % to 808.20 5%. to 810.00.	
(futures) Note: Futures contracts can : futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index du remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly dec Initial value of portfolio Value of portfolio after 10.2% decline Profit/loss on portfolio	ue to cost-of-car 203, the futures k Index has dideclined 10.5 clined 10.0% \$ 100,000 <u>\$ 89,800</u> \$ -10,200	rry factors. As expiration of thare at a slight discount to cash eclined 10.2 % to 808.20 5%. to 810.00.	
(futures) Note: Futures contracts can : futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index th remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly dec Initial value of portfolio Value of portfolio after 10.2% decline Profit/loss on portfolio Initial value of E-mini S&P 500 futures contract:	ue to cost-of-car 203, the futures k Index has d declined 10.5 clined 10.0% \$ 100,000 \$ 89,800 \$ -10,200 \$ 45,000	ry factors. As expiration of the are at a slight discount to cash eclined 10.2 % to 808.20 5%. to 810.00. $(900 \ge 550 = 545.000)$	
(futures) Note: Futures contracts can : futures contract nears, this p In this example, however, th Outcome	and do trade at a premium or discount to the cash index th remium/discount will converge toward zero. As of early 20 e values are the same for ease of comparison. Suppose that two weeks later the S&P 500 Stock Correspondingly, the investor's portfolio has of December S&P 500 futures have similarly dec Initial value of portfolio Value of portfolio after 10.2% decline Profit/loss on portfolio Initial value of E-mini S&P 500 futures contract: Value of E-mini S&P 500 futures after 10% decline:	ue to cost-of-car 203, the futures k Index has di declined 10.5 clined 10.0% \$ 100,000 \$ 89,800 \$ -10,200 \$ 45,000 \$ 40,500	ry factors. As expiration of the are at a slight discount to cash eclined 10.2 % to 808.20 5%. to 810.00. $(900 \ge 500 = $45,000)$ $(810 \ge 500 = $40,500)$	

Total gain from futures Multiply \$4,500 by 2 (\$100k portfolio required two futures contracts) = \$ 9,000

 trading examples

 Loss on portfolio

 Gain from futures hedge

 +\$ 9,000

 Overall profit/loss

 -\$ 10,200

 Loss on portfolio

 Loss on portfolio

 Loss on portfolio

 -\$ 10,200

 -\$ 10,200

 Control of the second secon

27

In this example, the hedge using stock index futures helped to protect the portfolio from a decline in the market. The decline in the investor's portfolio was offset by gains from the purchase of two E-mini S&P 500 futures contracts at a lower price than the investor sold them for – the short hedge. As a result, this investor's combined holdings showed only a small loss despite a significant decline in the market of 10%.

On the other hand, if the market had advanced, the portfolio's gains would have been offset by losses on the hedge of the two E-mini S&P 500 futures contracts. If this were to occur, the investor would have had to consider removing his hedge (or managing his hedge) by buying back the short futures contracts, after realizing his market opinion was wrong. By not offsetting his futures hedge as soon as possible, the investor risks not participating in the upside of the stock market. That's because in an advancing market, a short hedge using stock index futures might prevent the investor from participating on the upside.

In summary, before using E-mini futures as a hedging vehicle, the investor must consider:

• The size of the portfolio being hedged. The value of the stock index futures contract or contracts being used for the hedge must be similar to the size of the investor's equity portfolio.

The correlation of one's portfolio to the stock index product used for hedging. The stock index futures product must track the stocks the investor has in his or her portfolio. For example, you would use E-mini S&P 500 futures to hedge a portfolio of large-cap stocks.

Performance bond requirements for the stock index futures contract

28 trading examples

Trading Example 3

USING E-MINI NASDAQ-100 INDEX FUTURES TO GAIN MARKET EXPOSURE

Situation	An investor is expecting a large cash infusion due to sale of his business. He wishes to invest the cash proceeds of the sale (about \$60,000) in high-tech stocks when the deal closes in four-to-five months.
Problem	Investor is very bullish near-term, especially on technology stocks. Lacks immediate cash to construct an equity portfolio to take advantage of his view.
Investor's Strategy- A "long hedge"	Buy three E-mini NASDAQ-100 futures contracts (each contract worth approximately \$20,000) as a way to attempt to take advantage of anticipated technology stock growth.
	Strategy is easy to execute.
	Offers trader a way to act on market opinion while waiting for cash to buy stocks.
	Initial cash outlay (performance bond) much less than \$60,000. (Likely to be about 10% of that amount, depending on current performance bond requirements).
Advantages	Less costly and more efficient than buying a basket of stocks

If the market rises before the investor receives the \$60,000, the futures would typically also rise, allowing the investor to participate in the advance. Four to five months later, the investor could purchase the stocks. The higher price that he would pay for the stocks would be offset by the profits in the futures contracts.

If the prices of the stocks (and the NASDAQ-100 Index) decline, however, the futures contracts would typically also have declined in value. If the trader still wished to invest in a tech stock portfolio, however, the cost of doing so would now also be lower.

The investor, in effect, "locks in" a stock price with his "anticipatory long hedge" in stock index futures, and is able to participate in the market changes with less cost and more efficiency than if he had purchased a basket of tech stocks.

29 trading examples

THE USE OF LEVERAGE

Dollar profits and losses are similar, but the percentage of profit or loss is higher when trading E-mini stock index futures than trading Exchange Traded Funds (also called index tracking stocks).

Take a look at the comparisons below.

The NASDAQ-100 futures index is trading at 1100,

Then:

E-mini NASDAQ-100 futures Contract value = \$22,000 (\$20 × 1100 = \$22,000)

Performance bond \$2,250**

NASDAQ-100 Index Tracking Stock (QQQs) 800 shares of QQQ = \$22,000 (\$27.50/share* × 800 = \$22,000)

Margin \$11,000

And if NASDAQ-100 moves up 50 index points to 1150, your dollar profit*** is

the same profit is \$1,000 (\$20 × 50 = \$1,000) **the same** profit is \$1,000 1150 - 1100/40 = 1.25 × 800 = \$1,000

...but your percentage profit is

higher \$1,000 profit on \$2,250 = 44% **lower** \$1,000 profit on \$11,000 = 9.1%

However, if NASDAQ-100 moves down 50 index points to 1050, your loss is

the same loss is \$1,000 (\$20 × -50 = \$1,000) the same loss is \$1,000 1100 - 1050/40 (\$1.25 loss/share × 800 = \$1,000)

...but your percentage loss is

higher \$1,000 loss on \$2,250 = 44% lower \$1,000 loss on \$11,000 = 9.1%

* QQQs are priced to approximate 1/40 the value of the NASDAQ-100 Index.

*** Brokerage firms may require a larger initial performance bond. CME initial performance and maintenance bonds may also vary over time. *** Profits and losses do not include commissions and fees.





E-MINI S&P 500 FUTURES VS. STANDARD & POOR'S DEPOSITARY RECEIPTS (SPDRs®)

E-mini S&P 500 Stock Index Futures	(SPDRs) Index Tracking Stock	
S&P 500	S&P 500	
Electronic	Floor/ECN	
Yes	No	
Yes	Yes	
\$22.1 billion	\$3.2 billion	
2 hasis points	6 0 hasia pointa**	
5 basis politis	0–9 basis points	
ES	SPY	
	E-mini S&P 500 Stock Index Futures S&P 500 Electronic Yes Yes S22.1 billion 3 basis points ES	E-mini S&P 500 Stock Index FuturesS&P 500 Depositary Receipts (SPDRs) Index Tracking StockS&P 500S&P 500S&P 500Floor/ECNYesNoYesYesS22.1 billionS3.2 billion3 basis points6–9 basis points**ESSPY

E-mini capital requirement is significantly lower

For example, if the S&P 500 Index is at 950, then:

One E-mini S&P 500 Futures contract is valued at \$47,500 (\$50/point × 950 = \$47,500) 500 shares of SPDRs are valued at \$47,500 (\$95/share*** x 500 = \$47,500)

but:

Capital requirement for trading one E-mini S&P 500 contract is \$3563 (initial performance bond****) Capital requirement for trading 500 SPDRs shares is \$23,750 in margin (half the total value of shares)

* These can widen considerably during highly volatile markets. Source: Exchange Traded Funds and E-mini Stock Index Futures by David Lerman
 ** Plus a 12-basis-point annual management fee.

*** SPDRs are designed to trade at roughly 1/10 the level of the S&P 500 Index.

**** Initial and maintenance performance bonds may vary over time, and brokers may require higher margins.



34 comparing stock index futures and exchange traded funds

E-MINI NASDAQ-100 FUTURES VS. NASDAQ-100 INDEX TRACKING STOCK (QQQs)

Type of Investment	E-mini NASDAQ-100 Stock Index Futures	NASDAQ-100 Index Tracking Stock (QQQ)
Underlying Index	NASDAO 100	ΝΑΩΛΟ 100
	NASDAQ-100	NASDAQ-100
Trading Method	Electronic	Floor/ECN
24 Hour Trading	Yes	No
Short Selling	Yes	Yes
2002 Average		
Daily \$ Volume	\$4.8 billion	\$2.5 billion
Average Bid/Ask Spread*	4-9 basis points	/-18 dasis points**
Ticker Symbol	NQ	QQQ
Where Traded	СМЕ	Amex /NYSE /ECNs

E-mini capital requirement is significantly lower

For example, if the NASDAQ-100 Index is at 1100, then:

One E-mini NASDAQ-100 futures	800 shares of QQQ
contract is valued at \$22,000	are valued at \$22,000
(\$20/point x 1100 = \$22,000)	(\$27.50/share*** x 800 = \$22,000)
•	

VS.

Capital requirement for

Trading one E-mini NASDAQ-100 is \$2,250 (initial performance bond****)

Capital requirement for

Trading 800 QQQ shares is \$11,000 in margin (half the total value of shares)



* These can widen considerably during highly volatile markets. Source: Exchange Traded Funds and E-mini Stock Index Futures by David Lerman

** Plus a 20-basis-point annual management fee.

*** QQQs are priced to approximate 1/40 the value of the NASDAQ-100 Index.

**** Initial and maintenance performance bonds may vary over time, and brokers may require higher margins.



37 getting started trading CME stock index futures

ARE FUTURES RIGHT FOR YOU?

Do You Have a Strategy?

Are you a technical analyst? A momentum trader? Do you focus on market fundamentals? Whatever your approach, you can adapt your existing trading style to futures. Do You Have a Plan to Manage Your Money?

As with any type of trading, a money management plan-and the discipline to follow it-are essential to the successful trading of these products.

FINDING AND WORKING WITH A FUTURES BROKER

Look for a Good Match

Futures and options on futures contracts are bought and sold through futures brokerage firms, while stocks are bought and sold through stock brokerage firms. If your existing broker doesn't offer trading in futures, you will need to open an account with a Series 3 licensed commodities brokerage representative.

You may find a good futures broker on the reference of a friend or co-worker currently using the futures markets; or, a broker might call you directly and introduce him/herself. But if you don't have someone who can help, you can start your search by going to the "Find a Broker" section of the CME Web site at www. cme.com. You can also check the National Futures Association's Web site (www.nfa.futures.org).

Know Your Trading Objectives

As you talk with prospective futures brokers, let them know what your objectives are for getting into the market. Is it strictly to try to take advantage of price fluctuations? Do you want to hedge an exposure you are carrying elsewhere in your portfolio? Will all your trading be on your PC, or will you want to phone in trades when you're away from the screen? A clear understanding of your trading needs and approach up front will help your broker serve you Futures Association at 312-781-1410. most effectively.

Your broker represents YOU – he or she will enter your order as you instruct and report the execution price back to you promptly. In addition, you may want your broker to give you advice and help on various aspects of the market and to simply "be there" when you have questions.

Get the Training You Need

Be sure to take advantage of any training or other assistance your brokerage firm provides – especially if you will be using an electronic trading system provided by your broker. Before making live trades with these products, it's a good idea to practice first with virtual trades on a simulated trading program.

Trading Without Broker Assistance

If you reach a point where you feel comfortable with your own trading decisions, there are a growing number of Internet-based order routing systems available through futures brokerage firms. You will need to speak with a broker or other qualified person before opening an online account and you will need a certain degree of knowledge of futures or experience trading futures.

All brokers in the U.S. must pass qualifying

examinations and receive a license before they are permitted to handle customer orders. You can check on the registration status of your broker, or "Associated Person," by calling the National

Sign Account Papers

Once you've chosen a broker, you would then open a trading account. You will need to meet the financial requirements set by your particular broker, and will need to sign a risk disclosure statement indicating that you understand the risks involved in futures and options trading. You may also need to sign a performance bond agreement (a statement that binds you to pay for any losses incurred in the course of trading) and a futures account agreement outlining how the account is to be handled by the broker.

Deposit Performance Bond

Before you open an account to trade CME index futures or options, you must deposit cash or certain securities with your broker. CME establishes minimum initial and maintenance performance bond levels for all products traded at the Exchange; your broker's requirements may be higher. (Buyers of options pay the full price of the option and are not subject to performance bond requirements.)

ABOUT CHICAGO MERCANTILE EXCHANGE



41 about Chicago Mercantile Exchange

CHICAGO MERCANTILE EXCHANGE AND ITS ROLE

CME provides and regulates a marketplace for trading futures and options on futures, similar to the roles the New York Stock Exchange and the National Association of Securities Dealers (NASD) play for stocks. CME clears, settles and guarantees all matched transactions in CME contracts occurring electronically or through its floor facilities. Chicago Mercantile Exchange is registered with the SEC as a for-profit

shareholder corporation, and our markets are primarily regulated by the CFTC along with other U.S. governmental bodies.

On December 6, 2002, CME became the first publicly traded financial exchange in the United States.

FINANCIAL SAFEGUARDS

CME's financial safeguard system provides a unique blend of risk management and financial surveillance techniques designed for the protection of its customers. The keystone of this system is the ability to detect unsound financial practices, backed by the financial depth of its clearing members and its special Trust Fund. This combination provides unparalleled safeguards for the protection and benefit of all users of CME markets.

In the 100-year plus history of CME and its predecessor organizations, there has never been a failure by a clearing member to pay settlement

variation to the Clearing House; there has never been a failure by a clearing member to meet a performance bond call; there has never been a failure by a clearing member to meet its delivery obligations; and, most importantly, there has never been a failure of a clearing member resulting in a loss of customer funds.

This financial safeguard system has been remarkably successful in periods of tremendous volatility in the financial markets, and CME continuously works to improve and strengthen it.

42 about Chicago Mercantile Exchange

CME HISTORY OF INNOVATION

1898

Founding of the Chicago Butter and Egg Board, which in 1919 became the Chicago Mercantile Exchange (CME). Trading focused on a variety of agricultural markets.

1972

CME introduces the world's first financial futures – foreign currencies. This innovation transforms global finance, by offering the financial community the same opportunities for risk management that agribusiness had used for decades.

1982

CME lists the first successful stock index futures contract – the Standard & Poor's 500, the benchmark of the U.S. equity market.

1992

CME launches first global after hours electronic trading system – the GLOBEX electronic platform.

1997

CME introduces first "electronic mini" contract – E-mini S&P 500 futures. In less than three years, it becomes CME's third highest volume contract.

1998

CME launches the second generation of the GLOBEX electronic trading platform. The new system is a state-of-the-art, open and flexible system that enables further rapid expansion and brings electronic futures trading to a whole new level.

1999

CME launches the E-mini NASDAQ-100 contract. It becomes one of CME's two fastest growing products ever, along with the E-mini S&P 500.

2000

CME is the first major U.S. financial exchange to become a for-profit, shareholder corporation.

2001

E-mini S&P 500 volume doubles over previous year. E-mini NASDAQ-100 volume quadruples over previous year.

Launch of E-mini Russell 2000 in October.

2002

Launch of E-mini S&P MidCap 400 in January.

E-mini futures trading volume exceeds one million contracts for the first time in history.

On December 6, 2002, CME became the first publicly traded financial exchange in the United States.

43 about Chicago Mercantile Exchange

WHERE CAN YOU LEARN MORE?

Options Volatility & Pricing Sheldon Natenberg, 1994

Exchange Traded Funds and E-mini Stock Index Futures David Lerman, 2001 Wiley and Sons

Chicago Mercantile Exchange

A resource for complete futures products and trading information including publications, online courses, simulated trading, contract and price information.

www.cme.com

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E-MINI STOCK INDEX FUTURES COMPLEX... CONTRACT SPECIFICATIONS

	E-mini	E-mini	E-mini	E-mini
	S&P 500	NASDAQ-100	Russell 2000	S&P MidCap 400
Ticker Symbol	ES	NQ	ER2	EMD
Contract Size*	\$50 x E-mini S&P 500 \$47,500	\$20 x E-mini NASDAQ-100 \$22,000	\$100 x E-mini Russell 2000 \$40,000	\$100 x E-mini MidCap 400 \$45,000
Minimum Price Fluctuation (Tick)	.25 futures index points =\$12.50	.50 futures index points = \$10.00	.10 futures index points or \$10.00	.10 futures index points or \$10.00
Trading Hours	Nearly 24-hours, Sunday afternoon through Friday afternoon			afternoon
Contract Months**	H, M, U, Z			
Last Day of Trading	8:30 a.m. 3rd Friday of contract month			
Performance Bond Margin***	\$3,563	\$2,250	\$3,000	\$2,625

Expiration Dates	March 21, 2003
	June 20, 2003
	September 19, 2003
	December 19, 2003

45

quick reference

* Contract value fluctuates daily with market

** H = March, M = June, U = September, Z = December

*** ALL PERFORMANCE BONDS SUBJECT TO CHANGE, AND BROKERS MAY REQUIRE HIGHER MARGINS



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