

Exhibit 13.8 Popular Foreign Stock Index Futures Contracts

NAME OF STOCK FUTURES INDEX	DESCRIPTION
Nikkei 225	225 Japanese stocks
Toronto 35	35 stocks on Toronto stock exchange
Financial Times Stock Exchange 100	100 stocks on London stock exchange
Barclays share price	40 stocks on New Zealand stock exchange
Hang Seng	33 stocks on Hong Kong stock exchange
Osaka	50 Japanese stocks
All Ordinaries share price	307 Australian stocks

Electronic trading of futures contracts is creating an internationally integrated futures market. As mentioned previously, the CME Group has instituted Globex, a round-the-world electronic trading network. It allows financial futures contracts to be traded even when the trading floor is closed.

13-6c Currency Futures Contracts

A **currency futures contract** is a standardized agreement to deliver or receive a specified amount of a specified foreign currency at a specified price (exchange rate) and date. The settlement months are March, June, September, and December. Some companies act as hedgers in the currency futures market by purchasing futures on currencies that they will need in the future to cover payables or by selling futures on currencies that they will receive in the future. Speculators in the currency futures market may purchase futures on a foreign currency that they expect to strengthen against the U.S. dollar or sell futures on currencies that they expect to weaken against the U.S. dollar.

Purchasers of currency futures contracts can hold the contract until the settlement date and accept delivery of the foreign currency at that time, or they can close out their long position prior to the settlement date by selling the identical type and number of contracts before then. If they close out their long position, their gain or loss is determined by the difference between the futures price when they created the position and the futures price at the time the position was closed out. Sellers of currency futures contracts either deliver the foreign currency at the settlement date or close out their position by purchasing an identical type and number of contracts prior to the settlement date.

SUMMARY

- A financial futures contract is a standardized agreement to deliver or receive a specified amount of a specified financial instrument at a specified price and date. Financial institutions such as commercial banks, savings institutions, bond mutual funds, pension funds, and insurance companies trade interest rate futures contracts to hedge their exposure to interest rate risk. Some stock mutual funds, pension funds, and insurance companies trade stock index futures to hedge their exposure to adverse stock market movements.
- An interest rate futures contract locks in the price to be paid for a specified debt instrument. Speculators who expect interest rates to decline can purchase interest rate futures contracts, because the market value of the underlying debt instrument should rise. Speculators who expect interest rates to rise can sell interest rate futures contracts, because the

market value of the underlying debt instrument should decrease.

- Financial institutions (or other firms) that desire to hedge against rising interest rates can sell interest rate futures contracts. Financial institutions that desire to hedge against declining interest rates can purchase these contracts. If interest rates move in the anticipated direction, the financial institutions will gain from their futures position, which can partially offset any adverse effects of the interest rate movements on their normal operations.
- Speculators who expect stock prices to increase can purchase stock index futures contracts; speculators who expect stock prices to decrease can sell these contracts. Stock index futures can be sold by financial institutions that expect a temporary decline in stock prices and wish to hedge their stock portfolios.
- A single stock futures contract is an agreement to buy or sell a specified number of shares of a specified stock on a specified future date. The trading of single stock futures is regulated by the Commodity Futures Trading Commission (CFTC) and the Securities and Exchange Commission (SEC).

- Investors who expect a particular stock's price to rise over time may consider buying futures on that stock. Investors who expect a particular stock's price to decline over time can sell futures contracts on that stock. This activity is similar to selling a stock short, but single stock futures can be sold without borrowing the underlying stock from a broker. Investors can close out their position at any time by taking the opposite position.
- Traders in the futures market may be exposed to market risk, basis risk, liquidity risk, credit risk, prepayment risk, and operational risk. The over-the-counter trading of futures contracts and other derivative securities can expose the entire financial system to systemic risk, in which the trading losses of one firm could spread to others if collateral is not sufficient to cover losses. The Financial Reform Act in 2010 resulted in the creation of the Financial Stability Oversight Council, which is responsible for making recommendations that could reduce any risks to the financial system. The council includes the head of the Commodity Futures Trading Commission, which regulates financial futures trading.

POINT COUNTER-POINT

Has the Futures Market Created More Uncertainty for Stocks?

Point Yes. Futures contracts encourage speculation on indexes. Thus, an entire market can be influenced by the trading of speculators.

Counter-Point No. Futures contracts are commonly used to hedge portfolios and therefore can

reduce the effects of weak market conditions. Moreover, investing in stocks is just as speculative as taking a position in futures markets.

Who Is Correct? Use the Internet to learn more about this issue and then formulate your own opinion.

QUESTIONS AND APPLICATIONS

- 1. Futures Contracts** Describe the general characteristics of a futures contract. How does a clearinghouse facilitate the trading of financial futures contracts?
- 2. Futures Pricing** How does the price of a financial futures contract change as the market price of the security it represents changes? Why?
- 3. Hedging with Futures** Explain why some futures contracts may be more suitable than others for hedging exposure to interest rate risk.

- 4. Treasury Bond Futures** Will speculators buy or sell Treasury bond futures contracts if they expect interest rates to increase? Explain.
- 5. Gains from Purchasing Futures** Explain how purchasers of financial futures contracts can offset their position. How is their gain or loss determined? What is the maximum loss to a purchaser of a futures contract?
- 6. Gains from Selling Futures** Explain how sellers of financial futures contracts can offset their position. How is their gain or loss determined?

7. Hedging with Futures Assume a financial institution has more rate-sensitive assets than rate-sensitive liabilities. Would it be more likely to be adversely affected by an increase or a decrease in interest rates? Should it purchase or sell interest rate futures contracts in order to hedge its exposure?

8. Hedging with Futures Assume a financial institution has more rate-sensitive liabilities than rate-sensitive assets. Would it be more likely to be adversely affected by an increase or a decrease in interest rates? Should it purchase or sell interest rate futures contracts in order to hedge its exposure?

9. Hedging Decision Why do some financial institutions remain exposed to interest rate risk, even when they believe that the use of interest rate futures could reduce their exposure?

10. Long versus Short Hedge Explain the difference between a long hedge and a short hedge used by financial institutions. When is a long hedge more appropriate than a short hedge?

11. Impact of Futures Hedge Explain how the probability distribution of a financial institution's returns is affected when it uses interest rate futures to hedge. What does this imply about its risk?

12. Cross-Hedging Describe the act of cross-hedging. What determines the effectiveness of a cross-hedge?

13. Hedging with Bond Futures How might a savings and loan association use Treasury bond futures to hedge its fixed-rate mortgage portfolio (assuming that its main source of funds is short-term deposits)? Explain how prepayments on mortgages can limit the effectiveness of the hedge.

14. Stock Index Futures Describe stock index futures. How could they be used by a financial institution that is anticipating a jump in stock prices but does not yet have sufficient funds to purchase large amounts of stock? Explain why stock index futures may reflect investor expectations about the market more quickly than stock prices.

15. Selling Stock Index Futures Why would a pension fund or insurance company consider selling stock index futures?

16. Systemic Risk Explain systemic risk as it relates to the futures market. Explain how the Financial Reform Act of 2010 attempts to monitor systemic risk in the futures market and other markets.

17. Circuit Breakers Explain the use of circuit breakers.

Advanced Questions

18. Hedging with Futures Elon Savings and Loan Association has a large number of 30-year mortgages with floating interest rates that adjust on an annual basis and obtains most of its funds by issuing five-year certificates of deposit. It uses the yield curve to assess the market's anticipation of future interest rates. It believes that expectations of future interest rates are the major force affecting the yield curve. Assume that a downward-sloping yield curve with a steep slope exists. Based on this information, should Elon consider using financial futures as a hedging technique? Explain.

19. Hedging Decision Blue Devil Savings and Loan Association has a large number of 10-year fixed-rate mortgages and obtains most of its funds from short-term deposits. It uses the yield curve to assess the market's anticipation of future interest rates. It believes that expectations of future interest rates are the major force affecting the yield curve. Assume that an upward-sloping yield curve with a steep slope exists. Based on this information, should Blue Devil consider using financial futures as a hedging technique? Explain.

20. How Futures Prices May Respond to Prevailing Conditions Consider the prevailing conditions for inflation (including oil prices), the economy, the budget deficit, and other conditions that could affect the values of futures contracts. Based on these conditions, would you prefer to buy or sell Treasury bond futures at this time? Would you prefer to buy or sell stock index futures at this time? Assume that you would close out your position at the end of this semester. Offer some logic to support your answers. Which factor is most influential on your decision regarding Treasury bond futures and on your decision regarding stock index futures?

21. Use of Interest Rate Futures When Interest Rates Are Low Short-term and long-term interest rates are presently very low. You believe that the Fed will use a monetary policy to maintain interest rates at a very low level. Do you think financial institutions that could be adversely affected by a decline in interest rates would benefit from hedging their exposure with interest rate futures? Explain.

Interpreting Financial News

Interpret the following statements made by Wall Street analysts and portfolio managers.

- a. “The existence of financial futures contracts allows our firm to hedge against temporary market declines without liquidating our portfolios.”
- b. “Given my confidence in the market, I plan to use stock index futures to increase my exposure to market movements.”
- c. “We used currency futures to hedge the exchange rate exposure of our international mutual fund focused on German stocks.”

Managing in Financial Markets

Managing Portfolios with Futures Contracts As a portfolio manager, you are monitoring previous investments that you made in stocks and bonds of U.S. firms and in stocks and bonds of Japanese firms. Though you plan to keep all of these investments over the long run, you are willing to hedge against adverse effects on your investments that result from economic conditions. You expect that, over the next year, U.S. and Japanese

interest rates will decline, the U.S. stock market will perform poorly, the Japanese stock market will perform well, and the Japanese yen (the currency) will depreciate against the dollar.

- a. Should you consider taking a position in U.S. bond index futures to hedge your investment in U.S. bonds? Explain.
- b. Should you consider taking a position in Japanese bond index futures to hedge your investment in Japanese bonds? Explain.
- c. Should you consider taking a position in U.S. stock index futures to hedge your investment in U.S. stocks? Explain.
- d. Should you consider taking a position in Japanese stock index futures to hedge your investment in Japanese stocks? (Note: The Japanese stock index is denominated in yen and therefore is used to hedge stock movements, not currency movements.)
- e. Should you consider taking a position in Japanese yen futures to hedge the exchange rate risk of your investment in Japanese stocks and bonds?

PROBLEMS

1. **Profit from T-Bill Futures** Spratt Company purchased T-bill futures contracts when the quoted price was 93.50. When this position was closed out, the quoted price was 94.75. Determine the profit or loss per contract, ignoring transaction costs.
2. **Profit from T-Bill Futures** Suerth Investments, Inc., purchased T-bill futures contracts when the quoted price was 95.00. When this position was closed out, the quoted price was 93.60. Determine the profit or loss per contract, ignoring transaction costs.
3. **Profit from T-Bill Futures** Toland Company sold T-bill futures contracts when the quoted price was 94.00. When this position was closed out, the quoted price was 93.20. Determine the profit or loss per contract, ignoring transaction costs.
4. **Profit from T-Bill Futures** Rude Dynamics, Inc., sold T-bill futures contracts when the quoted price was 93.26. When this position was closed out, the quoted

price was 93.90. Determine the profit or loss per contract, ignoring transaction costs.

5. **Profit from T-Bond Futures** Egan Company purchased a futures contract on Treasury bonds that specified a price of 91-00. When the position was closed out, the price of the Treasury bond futures contract was 90-10. Determine the profit or loss, ignoring transaction costs.
6. **Profit from T-Bond Futures** R. C. Clark sold a futures contract on Treasury bonds that specified a price of 92-10. When the position was closed out, the price of the Treasury bond futures contract was 93-00. Determine the profit or loss, ignoring transaction costs.
7. **Profit from Stock Index Futures** Marks Insurance Company sold S&P 500 stock index futures that specified an index of 1690. When the position was closed out, the index specified by the futures contract was 1720. Determine the profit or loss, ignoring transaction costs.

FLOW OF FUNDS EXERCISE

Hedging with Futures Contracts

Recall that if the economy continues to be strong, Carson Company may need to increase its production capacity by about 50 percent over the next few years to satisfy demand. It would need financing to expand and accommodate the increase in production. Recall that the yield curve is currently upward sloping. Also recall that Carson is concerned about a possible slowing of the economy because of potential Fed actions to reduce inflation. Carson currently relies mostly on commercial loans with floating interest rates for its debt financing.

- a. How could Carson use futures contracts to reduce the exposure of its cost of debt to interest rate movements? Be specific about whether it would use a short hedge or a long hedge.
- b. Will the hedge that you described in the previous question perfectly offset the increase in debt costs if interest rates increase? Explain what drives the profit from the short hedge, versus what drives the higher cost of debt to Carson, if interest rates increase.

INTERNET/EXCEL EXERCISES

1. Go to <http://futuresource.quote.com> and review the charts for an equity index product such as the S&P 500. Explain how the price pattern moved recently.
2. Now compare that pattern to the actual trend of the S&P 500, which is provided at the Yahoo! Finance

website (finance.yahoo.com). Describe the relationship between the movements in S&P 500 futures and movements in the S&P 500 index.

ONLINE ARTICLES WITH REAL-WORLD EXAMPLES

Find a recent practical article available online that describes a real-world example regarding a specific financial institution or financial market that reinforces one or more concepts covered in this chapter.

If your class has an online component, your professor may ask you to post your summary of the article there and provide a link to the article so that other students can access it. If your class is live, your professor may ask you to summarize your application of the article in class. Your professor may assign specific students to complete this assignment or may allow any students to do the assignment on a volunteer basis.

For recent online articles and real-world examples related to this chapter, consider using the following search terms (be sure to include the prevailing year as

a search term to ensure that the online articles are recent):

1. interest rate futures AND investment
2. interest rate futures AND gains
3. interest rate futures AND losses
4. interest rate futures AND speculators
5. interest rate futures AND hedge
6. stock index futures AND gains
7. stock index futures AND losses
8. stock index futures AND speculators
9. stock index futures AND hedge
10. futures AND risk