the sale of a futures contract today as a temporary substitute for the sale of the actual instrument in the future. By using a long hedge, the loss on an actual instrument would be offset by a gain in the futures market when the holder buys back (offsets his short position) at an anticipated lower rate of interest. Thus, he can lock in the current higher rate of interest, or lock in the yield on a reinvestment of cash-market instrument, he can lock in the current higher rate of interest. A model mortgage banker holding a pool of mortgages for future sale can lock in the current higher rate of interest by buying a mortgage futures contract. A mortgage banker will sell his short position (short hedge) at an anticipated lower rate of interest. Thus, he can lock in the current higher rate of interest, or lock in the yield on a reinvestment of cash-market instrument, he can lock in the current higher rate of interest.

The second objective—to lock in the interest cost of debt to be incurred at a future date, thereby locking in a spec-and reducing the adverse effects of mismatched asset/liability maturities, a bank can hedge in the futures market. A short hedge in the futures market would lock in the current higher rate of interest, or lock in the yield on a reinvestment of cash-market instrument, he can lock in the current higher rate of interest. A model mortgage banker holding a pool of mortgages for future sale can lock in the current higher rate of interest by buying a mortgage futures contract. A mortgage banker will sell his short position (short hedge) at an anticipated lower rate of interest. Thus, he can lock in the current higher rate of interest, or lock in the yield on a reinvestment of cash-market instrument, he can lock in the current higher rate of interest.

The fourth objective—lock in a fixed-income security to be purchased in the future would entail the initiation of a short hedge in the futures market. A short hedge in the futures market would lock in the current higher rate of interest, or lock in the yield on a reinvestment of cash-market instrument, he can lock in the current higher rate of interest. A model mortgage banker holding a pool of mortgages for future sale can lock in the current higher rate of interest by buying a mortgage futures contract. A mortgage banker will sell his short position (short hedge) at an anticipated lower rate of interest. Thus, he can lock in the current higher rate of interest, or lock in the yield on a reinvestment of cash-market instrument, he can lock in the current higher rate of interest.
The rapid growth of the interest-rate futures market has attracted widespread attention in the financial industry. Increasingly, banks, thrift institutions, government agencies, and other institutional money managers are utilizing interest-rate futures to hedge against interest-rate risk.

This Economic Commentary examines some of the ways in which financial institutions can use futures markets to minimize interest-rate risk and focuses on some of the problems confronting potential hedgers.

Hedging and Speculating

Participants in futures markets generally can be classified as either hedgers or speculators—at least in theory. Each futures transaction has two sides—one party to the transaction seeks to avoid the risk of future price fluctuation (hedger), while the other party is willing, for a price, to assume the risk (speculator). Although this dichotomy obviously fails to capture all of the distinctions among market participants and their activities, it does provide a useful framework with which to explain the risk-shifting function of the market.

On the other hand, the economic justification of a futures market is its role as a mechanism for transferring the risk of price fluctuations to persons more tolerant of such risk. Hedging is the assumption of a futures-market position (equal and opposite to an existing or contemplated cash-market position) as a substitute for the government’s ability to market its debt. Regulators also are concerned about possible misuse of the futures markets by financial institutions.

The formal structure of a futures market is its role as a mechanism for transferring the risk of price fluctuations to persons more tolerant of such risk. Hedging is the assumption of a futures-market position (equal and opposite to an existing or contemplated cash-market position) as a substitute for the government’s ability to market its debt. Regulators also are concerned about possible misuse of the futures markets by financial institutions.

In addition to providing a hedging mechanism, the futures market offers a vehicle for speculation. Speculators assess the probable direction of future price movement and risk their capital to profit from the accurate forecast. Speculators are assumed to be taking the opposite side of a hedger’s futures contract by accepting the risk of price fluctuation. In addition, they provide the market with the liquidity necessary for hedgers to buy and sell large quantities of a commodity contract with ease. The liquidity provided by speculators tends to reduce overall price volatility. Futures markets in turn require an abundance of speculators to perform their economic function of providing a risk-transfer mechanism.

How Futures Markets Operate

The interest-rate futures market operates essentially as a risk-transfer mechanism. Futures markets for agricultural goods and other commodities, Market participants enter into contracts calling for delivery of a standardized quantity of a commodity at a specified time in the future at a price determined at the time the contract is made. Futures contracts evolved from forward contracts—cash-market transactions in which two parties agree to the purchase and sale of a commodity at a specified time. Although similar in principle, there are significant differences between the two contracts. In particular, the terms of each forward contract are tailored to the needs of the parties to the transaction, while futures contracts are standardized with respect to contract dates, quantity of the commodity, and method of delivery. Changes in the market conditions change the terms of a futures contract, such as, quantity, deliverable grade, method of delivery, and maximum allowable daily price fluctuation. The exchanges limit the delivery date of futures contracts to designated months. Because dealers and exchange-traded futures are interchangable with all other contracts of the same delivery month, a seller (or buyer) can easily offset his contract by buying (or selling) an identical contract.

The formal structure of a futures market contract includes the informal structure of the contract.
The rapid growth of the interest-rate futures market has attracted widespread attention in the financial industry. Increasingly, banks, thrift institutions, government-sponsored enterprises, and other institutional money managers are utilizing interest-rate futures to hedge against interest-rate risk.

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Hedging and Speculating

Participants in futures markets generally can be classified as either hedgers or speculators—at least in theory. Each futures transaction has two sides—one party to the transaction seeks to avoid the risk of future price fluctuation (hedge), while the other party is willing, for a price, to assume the risk (speculator). Although this dichotomy obviously fails to capture all of the distinctions among market participants and their activities, it does provide a useful framework with which to explain the risk-shifting function of the market.

In contrast to the economic justification of a futures market is its role as a mechanism for transferring the risk of price fluctuations to persons more tolerant of such risk. Hedging is the assumption of a futures-market position (equal and opposite to an existing or contemplated cash-market position) as a temporary substitute for the intended future transaction, which could be realized at a future date due to changes in the level of an index that forms the basis of the contract.

Hedgers are willing to forego the potential profits of a favorable price move in return for protection against the potential losses that would result from an unfavorable price move. By assuming offsetting positions in the cash and futures markets (that is, long the cash, short the futures, and vice versa), the hedger expects to gain in one market what he loses in the other. In essence, hedging eliminates the effects of a major change in the price of a commodity and substitutes the more manageable risk of a change in the relationship between cash (or spot) and futures prices.

4. The percentage of contracts on which delivery is interjected into hedging. Changes in the cash-futures basis, some element of risk is inherent (hedgers, for example, would not enter into hedging if the cash price were lower than the futures price). Although the price spread sometimes widens (for speculative activity, although differences in delivery time and delivery grade also impart an element of risk), a normal hedging strategy seeks to maintain the cash-futures spread below 3 percent of the contract price. Thus, because futures markets are primarily risk-transfer markets, the existence of a futures market presumes the existence of a viable cash market. Nevertheless, the ability to deliver the commodity against a futures contract ensures a close economic relationship between cash and futures prices.

In addition to providing a hedging mechanism, the futures market offers a vehicle for speculation. Speculators assess the probable direction of future price movements and risk their capital to profit from their accurate forecasts. Speculators are assumed to be taking the opposite sides of a hedge (by accepting the risk of price fluctuation). In addition, they provide the market with the liquidity necessary for the hedgers to buy and sell large quantities of the underlying commodity contract with ease. The liquidity provided by speculators tends to reduce overall price volatility. Futures markets therefore require an abundance of speculators to perform their economic function of providing a risk-transfer mechanism.

How Futures Markets Operate

The interest-rate futures market operates essentially in the same way as the cash market for any standardized commodity, such as the weekly delivery of a specified quantity of a standardized commodity at a specific date in the future. In other words, futures markets are standardized with respect to contract terms. Consequently, cash transactions for purchase or sale of the actual commodity are made under terms agreeable to the parties to the transaction.
The rapid growth of the interest-rate futures market has attracted widespread attention in the financial industry. Increasingly, banks, thrift institutions, government securities dealers, and other institutional money managers are utilizing interest-rate futures to hedge against interest-rate risk. This Economic Commentary examines some of the ways in which financial institutions can use futures markets to minimize interest-rate risk and focuses on some of the problems confronting potential hedgers.

Hedging and Speculating

Participants in futures markets generally can be classified as either hedgers or speculators—at least in theory. Each futures transaction has two sides—one party to the transaction seeks to avoid the risk of price fluctuation (hedger), while the other party is willing, for a price, to assume the risk (speculator). Although this dichotomy obviously fails to capture all of the distinctions among market participants and their activities, it does provide a useful framework with which to explain the risk-shifting function of the market.

In economic justification of a futures market is its role as a mechanism for transferring the risk of price fluctuations to persons more tolerant of such risk. Hedging is the assumption of a futures-market position (equal and opposite to an existing or contemplated cash-market position) as a temporary substitute for the intended future sale or purchase of the actual commodity. Hedgers are willing to forgo the potential profits of a favorable price move in return for protection against the potential losses that would result from an unfavorable price move. By assuming offsetting positions in the cash and futures markets (that is, long the cash, short the futures, and vice versa), the hedger expects to gain in one market what he loses in the other. In essence, hedging eliminates the effects of a major change in the price of a commodity and substitutes the more manageable risk of a change in the relationship between cash (or spot) and futures prices.

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The effectiveness of the futures market is that a commercial user can replace the risk of price change in the entire commodity by taking the opposite side of a hedger’s futures position. The liquidity of the futures market presumes the existence of a viable cash market. Nevertheless, the ability to deliver or refuse delivery of a commodity at a fixed price is a requirement of a standardized quantity of a commodity at a specified time in the future at a price as determined at the time the contract is made.

In addition to providing a hedging mechanism, the futures market offers a vehicle for speculation. Speculators assess the probable direction of future price movements and risk their capital to profit from an accurate forecast. Speculators are assumed to be taking the opposite side of a hedger’s position by accepting the risk of price fluctuation. In addition, they provide the market with the liquidity necessary for hedgers to buy and sell large blocks of futures or physical commodity contracts with ease. The liquidity provided by speculators tends to reduce overall price volatility. Futures markets also require an abundance of speculators to perform their economic function of providing a risk-transfer mechanism.

How Futures Markets Operate

The interest-rate futures market operates essentially in the same manner as other futures markets for agricultural goods and other commodities. Market participants enter into contracts called futures contracts, which are agreements to buy or sell a commodity at a fixed price at a specified time in the future.

The formal structure of a futures market contains the informal structure of a cash market, with the physical delivery of a commodity at a fixed price at a specified time in the future and the formal structure of futures markets and exchanges. Futures contracts are standardized with respect to the commodity, the terms of the contract, and the time the contract expires. By contrast, the terms of the cash market are negotiated individually. The buying and selling of futures contracts is subject to the rules of the futures exchange, and the clearing of the contract is handled by the clearinghouse of the exchange. The clearinghouse is a separate entity that maintains a record of all the futures contracts entered into and ensures that each contract is liquidated by offsetting trades. Additionally, the clearinghouse guarantees the performance of each contract by maintaining a margin account for each participant in the market. This margin account is funded by a deposit of cash or securities that is held by the clearinghouse.

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FORWARD MARKETS

A forward market is an informal marketplace where parties agree to exchange a commodity or financial instrument at a future date and at a price agreed upon today. If a bank is managing a portfolio of fixed-income securities, for example, it may wish to protect itself against a rise in interest rates. By using a long hedge, the bank can lock in the current higher price of the actual security (or lower loan rate) is offset by the lower cost of purchasing the actual security (or lower loan rate) is offset by the lower cost of purchasing the actual security.

In a forward market, the clearinghouse interposes itself in the middle of each transaction, eliminating the need for market participants to concern themselves with the identity or credit standing of the other party to the transaction. Members of the clearinghouse post margins on their contracts, similar to performance bonds, to ensure the financial integrity of the market. Each day the accounts of clearing members are adjusted as to gain or loss. Losses posted to an account must be eliminated by the deposit of cash prior to the opening of the trading the following day. In contrast, forward markets generally do not require margin deposits or daily settlement of accounts. Parties to a forward contract must, therefore, assess the credit worthiness of the other party to the transaction. For this reason, forward contracts may entail a greater risk of default.

Primary Uses of Interest-Rate Futures

The interest-rate futures market offers financial institutions and other institutional money managers the opportunity to manage interest-rate risk at relatively low cost. By hedging in the futures market, money managers can effectively neutralize the consequences of rising interest rates. The second objective—to lock in the interest cost of debt to be issued at a future date—would entail the initiation of a short hedge in the futures market. A short hedge, therefore, is the purchase of a futures contract today as a temporary substitute for the sale of the actual instrument in the future. By using a short hedge, the bank can lock in the current higher price of the actual security.

The cost of this profit margin "insurance" is the sale of a futures contract today as a substitute for the sale of the actual instrument in the future. By using a short hedge, the loss on the actual instrument would be offset by a gain in the futures market when the holder buys back (offsets his short position) at an anticipated lower market price. A short hedge would be used by a bank in its asset/liability management to lock in the price of a similar, but not identical instrument—futures contracts today as a substitute for the sale of the actual instrument in the future. By using a short hedge, the bank can lock in the current higher price of the actual security (or lower loan rate) is offset by the lower cost of purchasing the actual security. By initiating a short hedge, a mortgage banker could protect himself against the price consequences of rising interest rates. A mortgage banker could use a short hedge to lock in the current higher price of the actual security (or lower loan rate) is offset by the lower cost of purchasing the actual security.

Conclusion

Interest-rate futures have the potential to modify substantially the way in which business is conducted in the capital markets. Although still in their infancy, interest-rate futures have proven to be a valuable tool for money managers seeking to avoid or minimize their exposure to interest-rate risk. To date, much of the participation in these markets has been speculative in nature. As interest-rate contracts continue to proliferate, however, commercial interests can be expected to become more frequent users of hedging instruments. The success of these markets will depend on the willingness of those who manage money—banks, securities dealers, savings and loans, mortgage bankers—to take advantage of the market's hedging opportunities.

5. Transaction costs are the costs of participation in the market and include commissions, search costs, and margin deposits. The views stated herein are those of the author and not necessarily those of the Federal Reserve Bank of Cleveland or of the Board of Governors of the Federal Reserve System.
This reason, forward contracts may entail a commodities exchange maintains a clearing-instrument, he can lock in the current higher of the other party to the transaction. For interest rates to rise before he can sell the of accounts. Parties to a forward contract are vulnerable to changes in the level of contrast, forward markets generally do not clearing members are adjusted as to gain or loss. Losses posted to an account must be eliminated by the deposit of cash prior to the opening of the trading the following day.

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Primary Uses of Interest-Rate Futures The interest-rate futures market offers financial institutions and other institutional money managers the opportunity to manage interest-rate risk at relatively low cost. By hedging in the futures market, money mana-
gers can achieve any of the following objectives:

1. Protect the value of a currently held portfolio of fixed-income securities that will be liquidated, or protected against a loss of a portfolio of fixed-income securities against a rise in interest rates; or 2. Lock the interest cost of debt to be issued at a future date; or 3. Fix the return on an investment in a fixed-income security before funds are available, or lock in the yield on a reinvestment or rollover of a portfolio. If a holder of a financial asset expects interest rates to rise before he can sell the instrument, he can lock in the current higher price by using a short hedge. A short hedge is the sale of a futures contract today as a temporary substitute for the sale of the actual instrument in the future. By using a short hedge, the loss on the actual instrument will be offset by a gain in the futures market when the holder buys back (offsets his short position) at an anticipated lower price. If the holder expects interest rates to rise, he can avoid a loss by using a long hedge, as he would in the actual market. For example, mortgage bankers holding a pool of mortgages for later resale to permanent investors would be vulnerable to losses on their holdings during periods of rising interest rates. By initiating a short hedge, a mortgage banker could protect himself against the price consequences of rising interest rates.

The second objective—to lock in the interest cost of debt to be issued at a future date—would entail the initiation of a short hedge in the futures market. A short hedge thus could be used by a bank in its asset/liability management. Banks especially are vulnerable to changes in the level of interest rates, as they often fund long-term assets (for example, mortgages and consumer loans) with short-term liabilities (for example, six-month money-market certificates and other short-term deposits). This “mis-match” of maturities, the bank's losses would be offset by the additional profit that would have resulted from an accurate interest-rate forecast in exchange for minimizing the potential increase in his purchase cost. Although interest-rate futures can be used to minimize interest-rate risk, some caveats are in order. If there is no futures market position, thereby retaining some interest-rate risk. The magnitude of interest-rate risk is probably reduced significantly by a selective or partial hedge.

Conclusion Interest-rate futures have the potential to modify substantially the way in which business is conducted in the capital markets. Although still in their infancy, interest-rate futures have proven to be a valuable tool for money managers seeking to avoid or minimize interest-rate risk.

To date, much of the participation in these markets has been speculative in nature. As contracts continue to proliferate, however, commercial interests can be expected to become more frequent users of these financial instruments. The success of these markets will depend on the willingness of those who manage money—banks, securities dealers, savings and loans, mortgage bankers—to take advantage of the market’s hedging opportunities.

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