Futures Markets and Forward Markets

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Futures markets and forward markets trade contracts that determine a current price for a commodity transaction designated to take place at a later date. Despite being fundamental to financial and commodity trading, there is some confusion over the precise definition of futures and forward contracts. While common usage sometimes defines futures and forwards as synonyms, a futures contract is a specialized form of forward contract that is standardized and traded on a futures exchange. As such, a technical distinction is required between futures markets and forwards markets. Some forward contracts, such as those traded on the London Metals Exchange, have many features of futures contracts. Other types of forward contracts are more complicated, such as the forward contracting provisions embedded in long term oil delivery contracts. While it is tempting to claim that futures contracts represent an evolution of forward trading, much recent progress in contract design has come in over-the-counter (OTC) trading, the primary venue for many types of forward contracting.

History of Forward and Futures Contracts

The history of forward contracts can be traced back to ancient times. Due to the difficulties of transport and communication, trading based on samples was common and some form of forward contracting was essential. The contracting process usually involved only the producers and consumers of the goods being traded. During the 16th century, liquidity of forward markets was

substantially increased by the emergence of the Antwerp bourse. By the mid-17th century, forward markets had developed to where the Amsterdam bourse featured both forward and option contracts for commodities, such as wheat and herring, and for foreign stocks and shares. The beginning of trade in futures contracts is usually traced to mid-19th century Chicago where the Board of Trade – founded in 1848 – transacted the first "time contract" in 1851. The grain trade of that era typically involved merchants at various points along major waterways purchasing grain from farmers which was then held in storage, often from fall or winter into spring. In order to avoid the risk of price fluctuation and to satisfy bankers, merchants started going to Chicago to transact contracts for future, spring delivery of grain. The contracts set a price for delivery of a standardized grade at a later delivery date. While these early contracts were similar to modern futures contracts, some terms and conditions of these time contracts were specific to the original parties to the transaction, as with a forward contract.

The Futures Contract and the Futures Exchange

A significant difference between futures and forward contracts arises because futures contracts are legally required to be traded on futures exchanges while forwards are usually created by individual parties operating in the decentralized OTC markets. Because a futures contract is transacted on an exchange, the traders originating the contract use the exchange ***clearinghouse*** as the counter-party to their trade. While both a short trader (seller) and long trader (buyer) are required to create a futures contract, both traders execute the trade with the clearinghouse as the direct counter-party. This allows a futures contract to be created without the problems associated with forward contracting which typically depends on the creditworthiness of the counter-party.

By design, futures contracts are readily transferable via the trading mechanisms provided by the exchange. Because forward contracts depend on the performance of the two original parties to the contract, these contracts are often difficult to transfer. One practical implication of this difference is that if a futures trader wants to close out a position, an equal number of offsetting contracts for that commodity month is transacted and the original position is cancelled. Forward contracts are usually offset by establishing another forward contract position with terms as close as possible to those in the original contract. Unless the forward contract provides a method for cash settlement at delivery, this will potentially involve two deliveries having to be matched in the cash market on the delivery date.

To facilitate exchange trading, futures contracts possess a number of key features, especially ***standardization*** and ***marking to market*.** The elements of standardization provided by the futures contract and by the rules and regulations of the exchange governing such contracts involve: the deliverable grade of the commodity; the quantity deliverable per contract; the range of quality within which delivery is permissible; the delivery months; and, the options associated with the specific grade and date of delivery that is permissible. Standardization is achieved by making each futures contract for a given commodity identical to all other contracts except for price and the delivery month. In addition to standardization, forwards and futures also differ in how changes in the value of the contract over time are handled. For futures, daily settlement, also known as marking to market, is required. In effect, a new futures contract is written at the start of every trading day with all gains or losses settled through a margin account at the end of trading for that day. This method of accounting requires the posting of a "good faith" initial margin deposit combined with an understanding that, if the value in the margin account falls

below a maintenance margin amount, funds will be transferred into the account to prevent the contract from being closed out. On the other hand, settlement on forward contracts usually occurs by delivery of the commodity at the maturity of the contract. Hence, futures contracts have cash flow implications during the life of the contract while forwards usually do not.

Modern Usage of Forward and Futures Contracts

In modern markets, considerable variation is observed in the relative use of forward or futures contracting across commodity markets. For example, in currency markets, the large value and volume of many individual trades has the bulk of transactions for future delivery conducted in the currency forward market. Exchange traded currency futures contracts are an insignificant fraction of total trading volume in the global currency market. As trading in forwards is closely integrated with cash market transactions, direct trading in forward contracts is restricted to the significant spot market participants, effectively the largest banks and financial institutions. Because currency forward contracts do not have regular marking to market, restricted participation is needed to control default risk. As such, differences in the functioning of futures and forward markets impacts the specific method of contracting selected for conducting commodity transactions. For example, in contrast to forward trading, futures markets are designed to encourage participation by large and small speculative traders. The increased participation of speculators not directly involved in the market for the physical commodity provides an important source of additional liquidity to futures markets not available in forward markets. In order to achieve this liquidity certain restrictions are imposed on trading, such as limits on position sizes and the imposition of filing requirements. By restricting participation to

large players in the commodity market, many of the restrictions required for the functioning of futures markets are not present in forward markets.

References

Chance, Donald and Robert Brooks. (2006). *An Introduction to Derivatives and Risk Management* (7th ed.). Cincinnati, OH: Southwestern

Chicago Board of Trade. (2006). *The Chicago Board of Trade Handbook of Futures and Options*. New York: McGraw-Hill.

Poitras, Geoffrey. (2002). *Risk Management, Speculation and Derivative Securities*. New York: Academic Press.