

NCEL and Interest Rate Futures

Assim Jang

In the period just after interest rate futures were listed in the US and began trading in 1975, there were concerns that futures markets in financial instruments could disrupt the underlying cash markets. Studies of price variability conducted by various researchers on US treasury securities, however, indicated that, in fact, daily volatility in cash prices is reduced because of the existence of the futures markets.

Similar conclusions have been drawn from studies conducted in other countries which have highlighted that trading in commodity and financial futures contracts brings price stability in the underlying cash markets. Results in Pakistan will not be any different.

Financial markets of today rely heavily on trading technologies. The role of information systems has evolved from disseminating price data and supporting clerical and back-office functions of floor-based markets, to provide new screen-based markets, which can eliminate time and geographic boundaries. In a number of futures markets today, automation reliably handles front, middle and back-office functions such as order routing, quote display, price determination, trade execution and post-trade position management.

NCEL's order routing, trade matching, risk management and back-office systems can be configured to handle and provide access to multiple markets ranging from commodity and interest rate futures to inter-bank REPO market through the use of a single front end.

The greatest beneficiary of the evolution of electronic markets is interest rate futures market, which now accounts for almost 97% of all futures contracts traded worldwide with a CAGR of 19%. The benefits of an electronic screen based market, price discovery process and market transparency for end-users as bid and ask prices are visible and executable for all market participants but are immeasurable as compared to the non-transparent over the counter markets (OTC) which provides a distorted view due to counterparty risk.

An OTC market generally collapses into a small club of participants, who have homogeneous credit risk. Club markets do not allow for free entry into intermediation. They support elevated intermediation fees for club members, have fewer market participants and result in reduced liquidity.

Sometimes, in the interest of regulating such a market and to avoid payments crises, a large numbers of participants are forcibly shut out and as a result the market yields a fraction of liquidity which could have come about if participation was enlarged. In short, club markets, in any form, impede development of new products and limit growth.

In an electronic exchange, on the other hand, a large number of market participants can be handled with ease without 'trade counterparty information' being visible to anyone in the marketplace. Both parties of a trade receive confirmations without learning the

identity of the counterparty. Anonymous trading allows order-flow providers to post bid and invite quotations at their set prices, free from any influence of other market participants. This anonymity enables pure order executions.

Financial institutions, in particular, who offer debt contracts to their depositors and accept debt contracts from their borrowers would greatly benefit by the introduction of screen based trading of interest rate futures contracts, on underlying government debt instruments, as they will allow them to increase their product offerings without taking on additional market risks as well as operate efficiently particularly in an environment where interest rates may increase. Without having a vibrant interest futures market, their choices will only be limited to sell or hold and in the case of the latter it may require marking their portfolios to market. Either way, it will impact their earnings adversely.

Interest rate futures are widely used by a number of different investors. For instance, fixed income fund managers adjust the risk/return characteristics of their fixed income portfolios with futures. Originators of both fixed and floating rate mortgages use futures contracts to hedge the interest rate risk of their mortgage positions.

Other common uses of interest rate futures on government debt securities are:

- *Lock-in a Purchase Price:* If an investment manager anticipates positive cash inflows that will be used to purchase fixed-income securities in the future and is concerned about the possibility of higher prices, he can buy interest rate futures with delivery months near the time of the anticipated cash flows. This establishes a maximum purchase price.

- *Safeguard Investment Value:* By selling interest rate futures, an investment manager can lock-in attractive selling prices and preserve the value of a portfolio or a security against possible price falls.

- *Cross-Hedge:* Government securities (risk free) prices and yields are the benchmark against which most other fixed income instruments are compared. Interest rate futures, based on underlying risk free securities, can be used to control risk and enhance the returns from non- Government securities. For instance, an investment grade corporate bond maturing in 5 years could have its yield quoted as 185 basis points over the benchmark treasury security, which in this case can be the 5 year PIB. As a result of its benchmark characteristics, interest rate futures are useful risk management tools for corporate bonds.

- *Enhance Returns.* Interest rate futures are used to increase exposure to changing rates, allowing investors to profit from anticipated interest rate moves and enhance overall returns.

- *Fine-tune Positions.* Interest rate futures are used to adjust positions or to fine-tune risk-management strategies. By buying or selling futures, a fund manager can lengthen or reduce the duration of a portfolio, thereby increasing or decreasing sensitivity to interest rate changes.

· *Profit from Shifts in the Yield Curve.* Investors can construct trades based on the differences in interest rate movements at different points on the yield curve. For instance, an investor that expects the yield curve to steepen, making short maturity instruments gain in value relative to long dated instruments, can sell say a long term PIB futures contract, and buy one-year T-bill based futures contract.

These strategies are beneficial as they give investors a chance to customize their portfolio to their needs, and to adjust positions to reflect their outlook on interest rates and the market.

Traditionally, exchanges have focused on providing a platform for trading and post-trade processing. However, NCEL, using cutting edge technology, will provide to its participants a platform to undertake four closely integrated activities covering Pre-Trade Portfolio Decision Making, Implementation /Trading, Post-Trade Processing, and Position Accounting and Risk Management.

To assist participants in their decision making process, NCEL is developing an infrastructure for collection of spot prices of commodities from all major *mandis* in the country. It will also offer its participants modern day analytical tools such as the Zero Coupon Yield Curve which can be used for asset and liability management. Additionally, with electronic price and clearing feeds, investors will have real-time position accounting in order to manage risks more effectively. NCEL's system will allow easy integration with the participant's in-house accounting system.

NCEL's Electronic Trading System is based on "Interactive Matching" - a pricing and time priority algorithm. Interactive Matching creates an incentive to provide liquidity and place orders at attractive prices. However, due to the pre-trade risk checks participants who enter redundant orders or with misleading prices will be penalized as their initial margin will be utilized even if the order is non-executable.

All participants and their orders will be treated equally and the trading screen will display orders anonymously, showing bids and offers with size and the last trade price, but without any counterparty information.

Upon execution of a trade, NCEL will become the buyer to every seller and a seller to every buyer, thus taking on the role of a Central Counterparty (CCP) and eliminating settlement risk completely. This process is known as *Novation*, which generally means that an existing contract is extinguished and a new contract is created in its place. In the case of NCEL, the market contract between the buyer and seller, will be extinguished upon execution and registration of the trade and two open contracts will be created in its place.

NCEL, being the CCP, will require a huge amount of risk absorption which will be managed by its pre-trade risk checks against initial margins determined by using the industry standard *Value-at-Risk* methodology, mark-to-market daily settlement of

variation margins in cash, online surveillance and market monitoring and unambiguous default and emergency processes including a last resort Settlement Guarantee Fund.

NCEL will be setting up a Settlement Guarantee Fund with an initial capital sufficient to start its operations. Subsequently, all margins including clearing deposits of its Clearing Members will be credited to the fund thus ensuring that the corpus of the fund grows with increased trading activity.

Online market surveillance and monitoring will be an integral part of NCEL's day-to-day operations to spot anti-competitive practices such as pre-arranged trading, unusual price movements, wash trading, front running and crossing and opposite orders.

Another important point often overlooked, is that a futures exchange does not require a settlement infrastructure similar to that of a spot market as funds equivalent to a small percentage of the size of the contract are moved through the system unlike as in the case of a spot market.

In countries such as Malaysia, Thailand and India setting up of electronic derivatives exchanges has had a positive impact on a number of areas of the economy including transitioning investors into a transparent environment, development of intellectual capital and increased foreign investment as it is synonymous with transparency and good governance.

NCEL, upon going live within the next two months, will take Pakistan a step closer to the international markets and will pave the way for using screen based trading platforms for transparent price discovery including the inter-bank REPO market without participants taking on the counterparty risk.
