CME Group

Curbing Currency Risk with CME Nikkei 225 Futures

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From the perspective of a U.S. investor, a frequently asked question is whether the currency risk in Japanese yen-denominated assets could possibly turn a profitable trade into a loss. More specifically, would a profitable trade in CME Nikkei 225 Yen-denominated Futures turn into a losing one because of an adverse FX move? In stark contrast to a cash stock basket trade, the answer is no.

If an investor converts U.S. dollars into yen and buys Nikkei 225-member stocks, a 5% gain, when calculated in yen, can turn into a 5% loss in dollars if yen depreciates by 10% in the intervening period. This would not be the case if one goes long in CME's yen-denominated Nikkei 225 futures. This is the case because yen-based Nikkei futures' principal amount is not exposed to currency fluctuation. It's worth noting that like a yen-denominated cash stock position, a dollar-denominated cash position in foreign assets (for example, dollar-denominated Japanese stock ETFs) would still expose the notional value of the assets together with the return on the assets to exchange rate risks.

The following example illustrates this point. In this hypothetical example, the Nikkei 225 index advances 5%, and the yen-dollar rate declines 10% during the period.

			Cash transaction - Long Nikkei index constituent stocks		**Futures transaction - Long equivalent Yen Nikkei futures position**	
	USD/JPY	Nikkei 225 Index Level	Principal (Yen)	Principal ($)	Contract multiplier	Notional (Yen)
Entry	$0.0104	12,000	¥6,000,000	$62,500	¥500	¥6,000,000
Cash flow				*($62,500)*		
Change%	-10%	+5%				
Exit	$0.0094	12,600	¥6,300,000	$59,063		¥6,300,000
Cash flow				*$59,063*		*¥300,000*
Net Cash flow				***($3,438)***		***¥300,000***
P/L ($)				***($3,438)***		***$2,813***

In the parlance of finance, a futures position is an unfunded investment – entering a long futures position is equivalent to borrowing funds at an implied financing rate to buy the underlying assets.

Alternatively, we can think of the payment of the principal sum being deferred until the contract expiration. As a result, both the asset and liability (deferred principal investment) would be affected similarly by the interim foreign exchange move and thus offset each other. Indeed, the deferred payment of the principal sum is the very definition of a futures contract.

Further, initial margin requirements can be satisfied using dollar-denominated assets. This allows market participants to avoid the bulk of the FX risk.

Spread between Yen- Versus Dollar-denominated Nikkei Futures

In February, trading volume in both the yen- and dollar-based versions of CME Nikkei 225 futures contracts surged sharply. Trading in yen-denominated futures averaged 45,874 contracts a day, up 49% from January and more than double the level from the same month in 2012. For dollar-denominated futures, an average of 17,146 contracts changed hands, a jump of 162% over February 2012.

While both yen- and dollar-based Nikkei 225 futures offer the same exposure to market movements in the underlying index, the yen version is trading at a discount to the dollar version. While both are not subject to FX risk for the principal sum, dollar-denominated futures offer the added benefit of inoculating the profit and loss from the FX risk as well.

Find More Research on the Nikkei 225 Contracts on the CME Group Website:
http://www.cmegroup.com/trading/equity-index/files/QD_Guide_Nikkei225_FINAL.pdf.

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