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The Fisher Effect

Offshore borrowing plays with the notion of the Fisher Effect, a central assumption in international economics.

Recall the textbook definition that the Fisher Effect allows that real returns across countries can be assumed to be equal. Thanks to arbitrage seeking market participants, if expected real returns were higher in one currency vs. another, then capital would flow from the second currency to the first.

Currency rates, according to purchasing power parity theories, will move to offset inflation rate differences, so that an inflation rise in a given country will tend to bring about a fall in value for that country's currency. The interest rates would also tend to rise relative to foreign interest rates.

Together these conditions make up the "international Fisher Effect," whereby currencies with low interest rates tend to revalue relative to those with high interest rates. Again, arbitrage ensures that the two exchange rates stay in line with interest rates to equalize expected real returns.

The same principle drives the notion that the forward rate, based on interest rate differentials, is the best predictor of future spot.

Continuing education

Offshore Borrowing

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The key to understanding borrowing in a non-base or foreign currency begins with the age old premise that there are no free lunches.

A common reason for borrowing offshore funds denominated in a non-base currency (i.e., a foreign currency from the borrower's viewpoint) is the attraction of a "low" interest rate compared to the interest rate attaching to base (or domestic) currency funds. Additionally, a company may perhaps have exhausted all of its local credit lines and may therefore wish to borrow from offshore sources. This decision is not without risk.

Risks of offshore borrowings

The primary risk inherent in drawing down any offshore borrowing is exchange rate risk. Unless exposures generated by the offshore borrowing are fully covered, the borrower faces the risk of an appreciation in the non-base currency borrowed vis-a-vis the base currency over the term of the loan.

In the event of such an appreciation, the base currency equivalent of the non-base principal sum borrowed will be greater at the maturity of the loan than at drawdown. In other words, the borrower will be forced to pay more of its base currency to repay the offshore loan. If the appreciation has been sufficiently large, any interest rate "advantage" obtained by borrowing offshore may be more than eroded.

Thus, the offshore borrowing decision may yield a total cost of funds after repayment that far exceeds the comparable domestic cost of funds.

Removing uncertainty. In order to remove the exchange rate risk from an offshore borrowing, the borrower needs to cover two types of exposures generated by the offshore borrowing (assuming the borrower has no income denominated in the borrowed currency): (1) the principal sum of the offshore loan; and (2) the interest payments (though these represent exposure of a much smaller magnitude).

The cost of covering both types of exposures must be factored into the all-in cost of offshore borrowing with certainty.

This process of covering exposures arising from an offshore loan is illustrated in Figure 1, which shows a six-month foreign currency borrowing with interest paid once and only at maturity. (Foreign currency flows are denoted by black arrows; base currency flows are denoted by grey arrows; large arrows represent principal; small arrows represent interest.)

From Figure 1 it can be seen that the price-efficient way to fully cover an offshore loan is to:

(i) cover the principal sum of the loan using a swap and

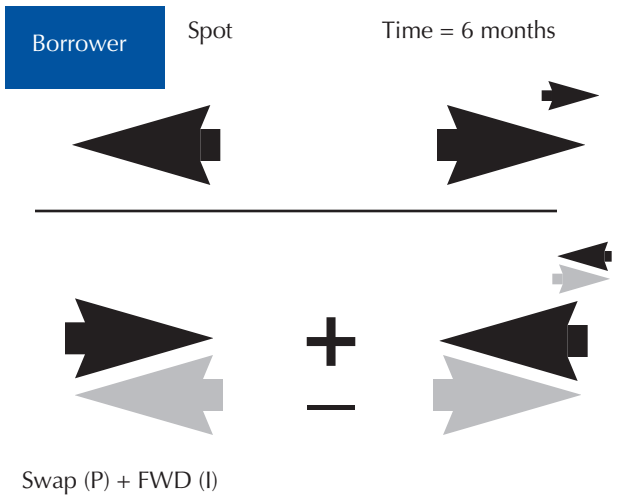
(ii) cover any interest payments using outright forward contracts.

Generally speaking, the transaction consists of:

(a) borrowing in a foreign currency and then

continued on reverse

Figure 1: Covering an Offshore Borrowing



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covering the foreign currency loan principal; plus

(b) covering the foreign currency interest payments (see box, below right).

When all is said and done, the full covering of exchange rate exposure of an offshore borrowing (i.e., the covering of both principal and all interest) will in principle produce a fully covered cost of funds that is very close to (if not greater than) what the borrower could otherwise borrow locally.

In other words, there is no gain without the risk—at least not for long.

The role of the arbs. If the fully-covered cost of off-shore borrowing dips below the local cost of funds, arbitragers step in. Typically, professional arbitragers will borrow offshore fully covered in relatively large volumes. The result being to:

- Drive up the affected foreign currency interest rate and
- Drive down domestic interest rates due to the sheer weight of money brought onshore fully covered.

The arbitragers cease borrowing offshore when there is no further advantage to be obtained (i.e., when the fully covered offshore borrowing cost equated the corresponding domestic interest rate). Opportunities for arbitrage rarely persist for long.

Assuming risk: an intermediate course?

Why borrow off-shore if the cost of hedging erases the benefit? The answer is to reduce the level/cost of hedging. There are indeed some intermediate courses lying between a fully uncovered and a fully covered offshore loan that might enable the borrowers to obtain an effective cost of funds at less than the corresponding domestic rate.

The trick is to chose an uncovered alternative that keeps the risk at an acceptable level. And, it must be stressed that such courses cannot be guaranteed to provide outcomes better than the on-shore rate.

Possible alternative courses include:

- Utilizing a large interest rate differential between the domestic and the foreign currencies and remain uncovered until a certain predetermined proportion of the interest rate differential is eroded by an appreciation of the foreign currency, and only then close out all exposures.
- Fully covering any exchange rate exposures generated by the offshore loan, but covering such exposures for less than the full term of the loan—if this approach is followed, the borrower by definition covers any exchange rate risk, but incurs an interest rate risk which must be managed.
- Diversifying into a "basket" of foreign currencies and attempting to manage borrowing exposures into those currencies depreciating against the domestic currency and out of appreciating currencies—to the extent the borrower is involved with freely "floating" currencies, this is virtually tantamount to "beating the market" (an ambitious undertaking!).

If the above approaches are to be adopted, an almost constant monitoring of exposures is needed, usually requiring the services of a skilled (and perhaps lucky) exposure manager who has the resources to follow markets on a 24 hour basis.

Managing risk and reward

Without such risk management "infrastructure," the probability of unanticipated losses exceeding gains increases—and with it, the advantage of borrowing offshore in the first place.

In general, the local borrower cannot have both the interest rate advantage of a "cheap" offshore loan and total certainty about the effective cost in domestic currency terms of the offshore loan (excepting intermittent arbitrage opportunities).

Typically, if "advantage" is to be taken of relatively low offshore interest rates, some exchange rate and/or interest rate exposure must be accepted. Any unmanaged risks will be at the borrower's peril. There is no free lunch.

Bare bones offshore borrowing

Basic transaction: Borrow at foreign currency interest rate.

Covering principal with swap: Invest at foreign currency interest rate + borrow at base currency interest rate.

Net of the above transactions: Equivalent to borrowing at base currency interest rate.

Alternative course: Stay partially uncovered—

- utilize a large interest rate differential until it erodes to a certain point;
- cover for only a portion of the loan's term;
- diversify borrowings into a "basket" of foreign currencies and manage exposure into currencies depreciating and out of currencies appreciating against the domestic currency.

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