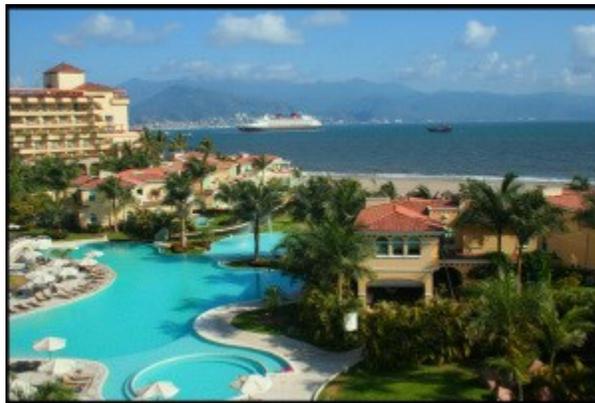


Hedging Transactions Involving Foreign Exchange Risk – A Primer: Falling in Love with a Puerto Vallarta Condo (Part A)

Posted by [Farok J. Contractor](#) on [August 14, 2015](#): <http://wp.me/p4vZwE-sU>

Posted in: [Borrowing Rate](#), [Certificate of Deposit \(CD\)](#), [FOREIGN EXCHANGE RISK](#), [Forward Contract](#), [Home Equity Loan](#), [INTERNATIONAL BUSINESS](#), [International Business Case Studies](#), [Mexican Peso](#), [Money Market Hedge](#), [Real Estate Investment](#), [Spot Market](#), [Spot Rate](#), [US Dollar](#). Tagged: [Borrowing Rate](#), [Certificate of Deposit \(CD\)](#), [Condo Investment](#), [Foreign Exchange Risk](#), [Forward Contract](#), [Home Equity Loan](#), [International Business Case Studies](#), [Mexican Peso](#), [Mexico](#), [Money Market Hedge](#), [Puerto Vallarta](#), [Real Estate Investment](#), [Spot Market](#), [Spot Rate](#), [US Dollar](#), [Zona Romantica](#). [Leave a comment](#)

© Farok J. Contractor, 2015



CASE STUDY (A): The American Buyers' Perspective

The two case studies presented examine foreign exchange risk from two perspectives:

***(Part A)** An American couple has put a down payment on a lovely new condo in Puerto Vallarta, agreeing to pay 5,000,000 Mexican pesos on delivery of the condo in 12 months.*

***(Part B)** But the next day, they have second thoughts and offer the Mexican real estate developer \$307,000 instead. The Mexican firm needs to consider the foreign exchange risk from its perspective—while ensuring the sale.*

[The Charm of the Zona Romantica: An Excited Conversation](#)

You and your partner have worked hard. On your recent vacation in Puerto Vallarta, you fell in love with a condominium under construction in the *Zona Romantica*, complete with a glimpse of the Pacific Ocean. You arranged to wire-transfer funds to put down a deposit—and you also signed an agreement to pay an additional 5,000,000 Mexican pesos on delivery of the apartment in 12 months.

Whipping out your iPhone 7, you calculate that the dollar cost, at the current exchange rate of .0609 USD/MXN (or 16.42 MXN/USD) would be 5,000,000 (.0609), or \$304,500. “Phew!” you say to your partner. “We can just about afford this if we eat Spam and ramen noodles for the next year!”

What’s the Problem?

On the flight back to Newark, New Jersey, your partner’s brow is furrowed. “What’s the problem?” you ask. S/he replies, “Well, the Mexican peso is at a record low against the US dollar right *now*. But the dollar’s strength may not last over the course of the next year.” You blink as s/he adds: “On this vacation, we got 16.42 pesos for \$1 . . . but don’t you remember that on our last vacation a year-and-a-half ago we got only 12.86 pesos? If the dollar weakens again next year, we may have to pay more than we can afford.”

Bringing your iPhone out again, you divide the 5,000,000 pesos payable next year by 12.86, getting a cost of \$388,802. “Holy cow!” you cry. “That would be . . . let’s see . . . $388,802 - 304,500 = 84,302$ more than we calculated! We can’t afford that! We’d better get some financial advice.”

Solutions Offered by a Financial Advisor

David Oliva, a financial advisor at Implicit Trust Financial Services, LLP (ITFS), [\[*\]](#) has an emollient manner. His task is to soothe client worries. Oliva offers the couple four choices. *One of them just may work*, he says to himself.

Choice 1: Try to renegotiate the deal

Oliva begins. “See whether the Mexican real estate firm is willing to accept US dollars on delivery of the apartment one year from now—say, \$307,000. This would still be more than the \$304,500 you thought you’d pay using the current 16.42 MXN/USD spot rate of exchange—but if they agree, you’ll have nailed down your dollar cost a year in advance.”

Choice 2: Do nothing more and take a chance on the peso/USD spot market 12 months from now

“Who knows?” Oliva continues. “A year from today, the dollar may still be strong. And if the peso weakens even more, you could end up paying *less* than the \$304,500 you calculated at the current exchange rate. But of course, there is an equal or greater chance that the dollar will weaken—or, same thing, that the peso may appreciate—in which case you could end up paying *much more* than \$304,500.” At that, the furrow reappears on your partner’s brow.

Choice 3: Make a forward contract

Banks and financial institutions offer a service called a “forward contract” under which the bank guarantees (say 12 months in advance) an exchange rate (applicable at the end of the 12 months). Glancing at his computer screen, Oliva says that the 12-month forward rate for the Mexican peso is .0637 USD/MXN. “This is the exchange rate that the bank will agree to now, even though the currencies will not change hands until 12 months later.” He adds, “You do not need to do anything today except sign a legally binding contract with the bank, whereby the bank agrees to deliver to you 5,000,000 pesos 12 months from today, and you agree to pay the bank 5,000,000 (.0637) = \$318,500 at that time.”

Sitting in ITFS’s office, your partner is still agitated. “But \$318,500 is a lot more than the \$304,500 cost we calculated in Puerto Vallarta,” s/he says, glumly. “You don’t understand,” Oliva responds, “\$318,500 would be a firm dollar cost to you—known in advance—whereas the \$304,500 calculation you made in Puerto Vallarta using the exchange rate then in effect is not going to hold. Exchange rates change every day, or even every hour, and the dollar cost of your condo a year from now is unknown because we do not know what the exchange rate will be at that time. At least making a forward contract with a bank will nail it down and help you sleep in peace over the next 12 months.”

Fidgeting in your chair, you try to digest the choices presented so far: (1) renegotiating the deal, (2) doing nothing more and taking a chance, or (3) making a forward contract at a slightly higher rate to nail it down.

Hmmm . . .

Choice 1, renegotiating the deal, would be a shot in the dark because the contract for the condo was already signed for 5,000,000 pesos. Would the Mexican real estate company be willing to accept payment of \$307,000 12 months later? After all, they would then have to carry the foreign exchange risk since their operating currency and cash flows are in pesos.

Choice 2, doing nothing more and just waiting it out to see what happens, could mean a higher or lower dollar cost than \$304,500—an unpredictable and difficult situation since your finances are already stretched to the limit.

Choice 3, making a forward contract, would enable you to sleep at night since the US dollar cost would be nailed down 12 months in advance at \$318,500. But in return for that peace of mind, the cost in dollars would be much greater than you thought it would be in Puerto Vallarta.

Hmmm . . . none of the choices so far seem good.

Choice 4: Use a money market hedge

Seeing the couple's anxieties, Oliva thinks of yet another choice. "Let me see whether the so-called **money market hedge** might work out for you." Picking up his phone, Oliva calls his contact at Banamex (a large Mexican bank) in Mexico City and inquires about 12-month deposit rates in pesos. Turning around, Oliva shows them a calculation:

$$\frac{5,000,000}{1.0323} (.0609) = \$294,972.39$$

He then says, "If you convert \$294,972 into 4,843,553 pesos right now using the .0609 rate, you can swing the deal for a known cost of \$294,972. We would then deposit the 4,843,553 pesos in a 12-month savings account or peso certificate of deposit (CD) yielding 3.23% so that the peso deposit becomes $(4,843,553)(1.0323) =$ pesos 5,000,000 in 12 months. Once the peso CD matures, you use that to pay the real estate company 12 months later. *And* you will have nailed down your dollar cost at \$294,972 today!"

"Wow," your partner interjects, almost bouncing out of the chair as s/he speaks. "We're a working couple! We don't have \$294,972 lying around—not even close to that amount! Only after my mom retires next year can we hope to come into some money from the sale of her house. But that's not going to happen for another 11 months."

Oliva summons all his oleaginous skills to pacify his clients. "No worries," he says smoothly. "Maybe we can get you a home equity loan. You know, ITFS can lend you money against your home at only 4.2%. We already have an appraisal on your house." Returning to his computer, Oliva refreshes his earlier calculation to read:

$$\frac{5,000,000}{1.0323} (.0609) (1.042) = \$ 294,972.39 (1.042) = \$307, 361.23 \text{ cost 12 months later}$$

Now, with a big smile on his face, Oliva rotates triumphantly around from his computer screen toward his clients and says, "Tranquility here. The eagle has

landed.” Showing the couple a printout, Oliva explains the **six-step procedure for the money market hedge**:

Beginning of period (today):

- You borrow \$294,972.39 at 4.2% today.
- We convert \$294,972.39 into Mexican pesos $(294,972.39)/(.0609) = 4,843,553.20$ pesos today using the .0609 spot rate.
- You begin a deposit of pesos 4,843,553 in a 12-month CD earning 3.23% deposit interest today.

End of period (12 months later):

- The peso CD (or savings account) swells (principal + interest) to become 4,843,553.20 $(1.0323) = 5,000,000$ pesos in a year.
- Pay 5,000,000 pesos to the real estate firm and take possession of your Puerto Vallarta condo next year.
- The US dollar home equity loan comes due, and the \$294,972.39 borrowed 12 months earlier will be repaid (principal + interest) = $\$294,972.39 (1.042) = \$307,361.23$.

Your partner’s ears tingle with excitement. “Yes!” s/he cries. “That means that not only do we nail down, and know, the dollar cost of the condo in advance, but \$307,361 is only a small amount more than we had assumed in Puerto Vallarta. We can handle that—and sleep like babies over the next year!”

Leaning forward toward David Oliva, s/he almost gives him a hug (but decides against it). After a pause, Oliva clears his throat and says, “Oh, I forgot to mention that there will be additional ITFS fees and municipal taxes on the home equity loan transaction . . . these may come to around \$1,500.” You pause for a moment and then say, “Hmm . . . that would still mean a total cost of less than $(\$307,361 + 1,500)$ \$308,861.” Glancing at your partner and getting a nod, you say, “All right, let’s implement the money market choice quickly before the spot rate changes again. Can you prepare the documents this afternoon?”

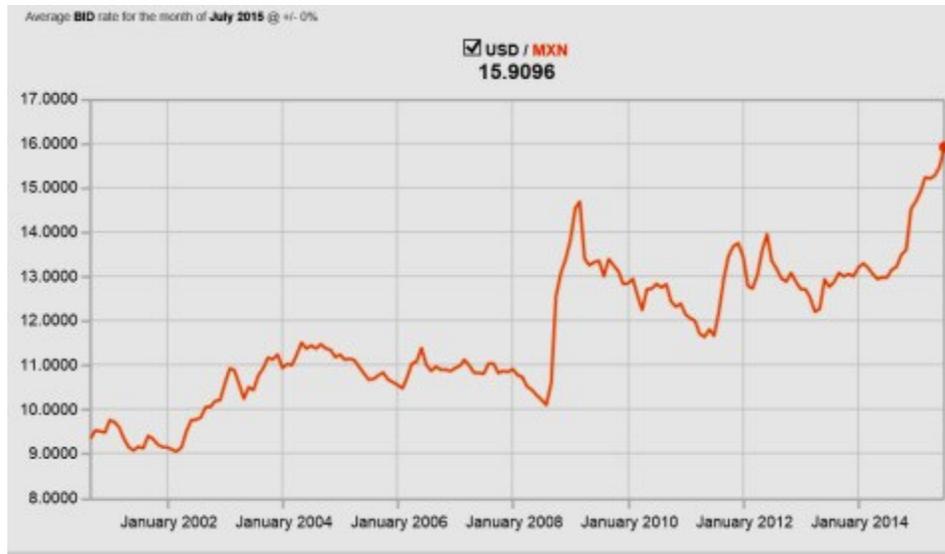
PART B: THE MEXICAN SELLERS' PERSPECTIVE

In Part B, we look at the financial risk from the perspective of the Mexican real estate development company—will it agree to accept US dollars for the condo?

Table 1A: Foreign Exchange and Interest Rates Available to American Clients
(Four Variables)

Spot Rate	12-Month Forward Rate	Peso 12-Month Deposit Rate	12-Month Dollar Borrowing Rate
.0609	.0637	3.23 %	4.2%
USD/MXN	USD/MXN	per annum	per annum

Figure 1: Recent History of the Mexican Peso



Source: Oanda.com

Conclusions and “Takeaways” from This Case – Part A

- Foreign exchange rates fluctuate constantly; a calculation is valid only for that day or even that hour.
- Foreign exchange risk (and “risk” in finance is either upside or downside movement) occurs when you, or your company, has to pay (or be paid) in a foreign currency at a future date.
- By “hedge” we mean here getting rid of any fluctuation and nailing down the final outcome in one’s own currency (i.e., knowing the outcome in one’s own currency in advance).
- The simplest hedge, **renegotiating the deal (Choice 1)**, is to try to get the other party to agree to receive payment in your currency or to pay you in your currency. But that does not get rid of foreign exchange risk—it simply transfers it to the other party. The currency of the contract (the payable or the receivable) is a matter for negotiation between the parties.
- **Doing nothing more and taking a chance (Choice 2)**—in other words, waiting to see what the spot rate on the maturity date turns out to be—is not a comparable option since the outcome cannot be known until the end.
- Banks provide a service to their clients called the **forward market transaction (Choice 3)**, whereby the bank agrees, in advance, to take/give foreign currency at a predetermined rate of exchange at the maturity date. Of course, at the maturity date (12 months, 6 months, 30 days, or whatever), the spot rate is almost sure to be different from the previously contracted forward rate. The bank assumes that risk. The client or company has no foreign exchange risk in the sense that, having committed to a forward rate at the beginning of the period, the outcome for them in their own currency is known in advance from the outset.
- The **money market hedge (Choice 4)** is more complicated (involving more action steps), but it can work out better than the forward market hedge, as in the above example—especially when the borrowing or deposit rates available to a particular party deviate from the average or when the amounts involved fall well below \$1 million.

Ultimately, **the decision boils down to four variables known at the beginning of the period**: the **spot rate** at the beginning of the time period, the **forward rate** at that time (but applicable at the end), and the **two interest rates**. Depending on these four variables available to a client or company, sometimes the forward market hedge

works out better; other times, the money market hedge does. But a quick calculation is needed to choose between them. [**]

REFERENCES

Hernández, J.R. (2014). *Peso-Dollar Forward Market Analysis: Explaining Arbitrage Opportunities during the Financial Crisis*. Working Paper No. 2014-09 (May), Banco de México (Documentos de Investigación). [For academic reference]

Shapiro, A. (2013). *Multinational Financial Management* 10th ed. Wiley. [For interested students]

[*] The financial advisor and company described are fictitious.

[**] See further discussion in [Part C](#).