

Scoring is 2 points for each question. Questions 10 will be scored at 4 points each.

1) If EURJPY is 145.35, how many EUR can JPY 250,000,000 buy?

2) Assuming the following rates (which include both bid and offer)

EURUSD 1.0625 / 27

USDJPY 136.35 / 40

- a) If a customer (i.e., market taker) buys USD 25 million versus EUR, what will the EUR amount be?
- b) If a customer buys USD 10 million versus JPY, what will the JPY amount be?

3) Derive the following cross rates from their components using the spot rates listed below. Assume all rates are mid-market and ignore bid-offer spread for this exercise

Assume these rates:

USDJPY 136.85

GBPUSD 1.2175

USDCHF 0.9305

EURUSD 1.0625

Calculate these rates:

a) EURJPY

b) CHFJPY

c) EURGBP

d) GBPCHF

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- 4) A trader has the following position, selling CAD 35.70 million versus USD at 1.4120. If the current USDCAD rate is 1.3628, what is the mark-to-market value of the position?
- 5) A USD-based trader has the following position: selling EUR 105 million versus CHF at a spot EURCHF rate of 1.1025. The current spot EURCHF rate is 0.9865.
- a) What do you need to know to calculate the mark-to-market value of the position (in USD)?
 - b) Choose a level for the rate you need to know and show what USD-value the trade would have.
- 6) A EUR-based car manufacturing company sources parts from Mexico.
- a) What is the company's immediate FX exposure (i.e., which currency pair is the company exposed to and is it long or short that pair?)
 - b) What type of hedge would reduce the company's FX risk?

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- 7) With the following information and assuming covered interest rate parity holds, determine if you would pay or earn the points and what the forward rate would be. (Note that the points are given without positive or negative signs.)
- a) USDJPY spot rate 137.10, JPY deposit rate -0.10%, USD deposit rate 4.50%. You want to sell USD forward against the yen, and the forward points are quoted as "170".
 - b) EURGBP spot rate 0.8750, EUR deposit rate 2.50%, GBP deposit rate 3.50%. You want to sell EUR forward against the British pound, and the forward points are quoted as "37".

- 8) Find the all-in 6-month forward rate for GBPUSD, assuming covered interest rate parity holds, ignoring bid/ask, and assuming the following:

GBPUSD spot 1.2134
GBP deposit rate 3.52%
USD deposit rate 4.53%
162 days between spot and the forward date

Assume that GBP money market rates follow ACT/365, USD rates follow ACT/360.

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9) Par forwards

A client wants to sell EUR versus USD in a strip of three forwards, but they want you (a market maker) to quote a single rate for all three forwards as a single package.

The client wishes to pay EUR 10 million on each of the 1-year, 2-year and 3-year dates.

Calculate the rate you should quote. Assume all USD interest rates for all maturities equal 4.75% (use an annual bond basis for simplicity), and assume the following spot and forward rates:

EURUSD	1.0635
EURUSD 1 year	1.0858
EURUSD 2 year	1.1070
EURUSD 3 year	1.1271

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- 10) (This problem counts for 4 points.) Assume there are 153 days between spot and the 5-month forward date, assume covered interest rate parity holds, and assume the following rates (all mid-market rates) and that both deposit rates are quoted ACT/360:

USDCAD	1.3710
5mo USD deposit	4.70%
5mo CAD deposit	4.45%

How many pips would spot have to move, and in which direction, before the forward points moved 1 pip (higher)?