

**Formulae Sheet**

**FIN 440: International Finance**

**Larry Schrenk, Instructor**

*NOTE: This sheet is for study purposes only. You may* ***not*** *use it during the exam.*

**Topic 1: Introduction**

None

**Topic 2: FX Market Overview**

None

**Topic 3: FX Quotations**

Spot Price



 (American terms)

 (European terms)

Converting between American and European Terms



**Topic 4: The Bid-Ask Spread and Cross Exchange Rates**

Bid-Ask Conversions



Cross-Exchange Rate Formulae: Method 1



Cross-Exchange Rate Formulae: Method 2



Bid-Ask Cross-Exchange Rates



**Topic 5: Triangular Arbitrage and Forward Markets**

Spot Rate and Forward Rate at t = 0



Forward Cross-Exchange Rates



Forward Premium



**Topic 6: Interest Rate Parity I**

Interest Rate Parity (IRP)



**Topic 7: Interest Rate Parity II**

Forward, Spot and Investment Returns





**Topic 8: Purchasing Power Parity**

Absolute Purchasing Power Parity



Inflation



Percentage Changes in FX rates (ePPP)



NOTE: Do not use the approximation: 

Relative Purchasing Power Parity Forward Rate (FPPP)



**Topic 9: Fisher Effects and Forecasting**

Fisher Effect (FE)



NOTE: Do not use the approximation: 

q



e (not ePPP)



International Fisher Effect (IFE)



Forward Expectations Parity (FEP)





**Topic 10: Futures Contracts**

None

**Topic 11: Option Contracts**

The FX Black-Scholes Model







**Topic 12: Transaction Exposure**

None

**Topic 13: Bond Markets**

Bond Price



Bond Price

Use financial calculator.

**Topic 14: Equity Markets**

None

**Topic 15: Currency Swaps**

Swap Value

V$ = B£ x S($/£) – B$

**Topic 16: Portfolio Analysis**

Two Asset Portfolio Return



Two Asset Portfolio Variance



Sharpe Ratio



Realized Dollar Return

*Ri*$ = (1 + *Ri*)(1 + *ei*) – 1

Effects of Changes in the Exchange Rate

Var(*Ri*$) = Var(*Ri*) + Var(*ei*) + 2Cov(*Ri*,*ei*) + ΔVar

CAPM

r = rf + β(E[rM] - rf)

**Topic 17: International Banking and Money Markets**

Capital Adequacy (Basel)



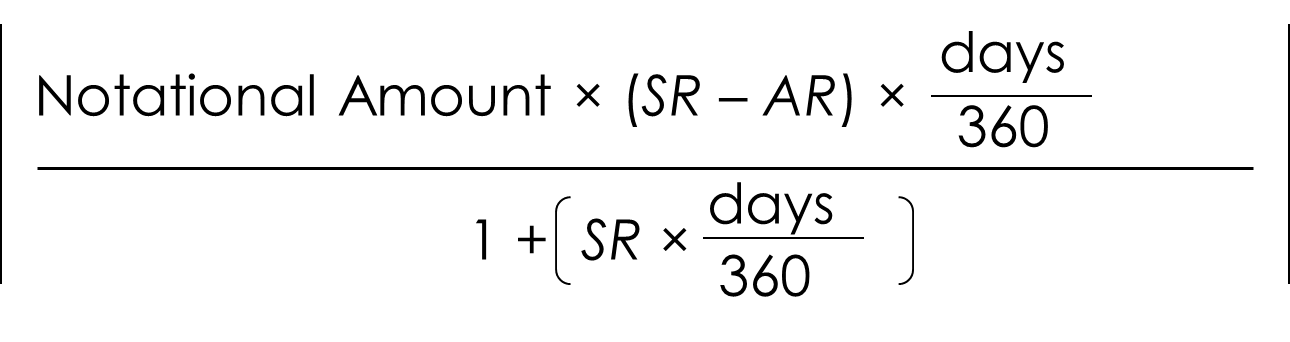
Leverage Ratio (Basel)



Liquidity Coverage Ratio (Basel)



Forward Rate Agreement



**Topic 18: Capital Structure**

WACC



Equity Risk Premium

Base Premium for Mature Equity Market + Country Equity Risk

**Topic 19: Capital Budgeting I**

WACC Equivalency (under PPP)



**Topic 20: Capital Budgeting II**

APV

NPVOCF + PV(Tax Advantage) – PV(Financial Distress) + PV(Real Options) + …

Lessard Model

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**Topic 21: Cash Management**

None

**Topic 22: Trade Financing**

None

**Topic 23: Tax Environment and Transfer Pricing**

None