Interest Rate Arbitrage

- Arbitrage equalizes return on foreign/domestic assets

Four key rates determine return

- \( r_s \) - the spot rate
- \( r_f \) - the forward rate
- \( i_{US} \) - the interest rate on U.S. bonds
- \( i_{UK} \) - the interest rate on U.K. bonds

Example: Given $100,000 to invest for 1 year

\[
i_{US} = 6\% \quad r_s = $1.50/£
\]
\[
i_{UK} = 10\% \quad r_f = $1.60
\]

Goal: Highest returns (w/o risk)

**Domestic Return:** \( $(1 + i_{US}) \)

- Invest in U.S.: Yield = $100,000 * (1+i_{US})

\[
$100,000 \times (1.06) = $106,000
\]

**Foreign Return:** \( ($/r_s)(1 + i_{UK})r_f \)

- \{\$100,000/$1.5/£\} * (1.10) * $1.60/£
  = 66,666\frac{2}{3} £ * (1.10) * $1.60/£ = $117,333 \Rightarrow \text{Invest U.K.}

**U.K. Asset offers best return**

- A riskless profit for investing in U.K.
- Arbitrage activity raises spot & lowers forward rate

Implication?

CIAP (Covered Interest Arbitrage Parity):

\( \Rightarrow \text{Arbitrage profit opportunity disappears} \)

\[
(1 + i_{US}) = r_f / r_s (1 + i_{UK})
\]

\[
(1 + i_{US})/(1 + i_{UK}) = r_f / r_s
\]