

Interest Rate Equalization

$$r_N^{US} - r_N^{Euro} = E(\Delta Euro)$$

An Issue

- You are considering investing in Mexico, buying a firm now worth 10,000,000 Pesos.
- You have been assured that, a year from now, it will be worth 11,000,000 Pesos. Guaranteed.
- What will be the exchange rate?

An Issue

$$r_N^{US} = 5\%$$

$$r_N^{Euro} = 4\%$$

Today: 1€ = \$1
Tomorrow: 1€ = \$1.02

An Issue

Investment in US	\$100,000,000
With Interest	\$105,000,000
Investment in Euros	€100,000,000
With Interest	€104,000,000
Converted (at € = \$1.02)	\$106,080,000

$$r_N^{US} = 5\%$$

$$r_N^{Euro} = 4\%$$

Today: 1€ = \$1
Tomorrow: 1€ = \$1.02

An Issue

Investment in US	\$100,000,000
With Interest	\$105,000,000
Investment in Euros	€100,000,000
With Interest	€104,000,000
Converted (at € = \$1.02)	\$106,080,000

$$r_N^{US} = 5\%$$

$$r_N^{Euro} = 4\%$$

Today: 1€ = \$1
Tomorrow: 1€ = \$1.02

An Issue

Tomorrow: 1€ = \$1.01	\$100,000,000
	\$105,000,000
Investment in Euros	€100,000,000
With Interest	€104,000,000
Converted (at € = \$1.02)	\$106,080,000

$$r_N^{US} = 5\%$$

$$r_N^{Euro} = 4\%$$

Today: 1€ = \$1
~~Tomorrow: 1€ = \$1.02~~

An Issue

Tomorrow:
1€ = \$1.01

Or:

Today: 1€ = \$1.01

Tomorrow:
1€ = \$1.02

$$r_N^{US} = 5\%$$

$$r_N^{Euro} = 4\%$$

An Issue

Tomorrow:
1€ = \$1.01

Or:

$$r_N^{US} - r_N^{Euro} = E(\Delta Euro)$$

$$r_N^{US} = 5\%$$

$$r_N^{Euro} = 4\%$$

Tomorrow:
1€ = \$1.02

An Issue

$$r_N^{US} - r_N^{Euro} = E(\Delta Euro)$$

Examples

US Rate	European Rate	Expected Exchange Movement
4%	5%	$\Delta(C/\$) = -1\%$
5%	5%	$\Delta(C/\$) = 0\%$
6%	5%	$\Delta(C/\$) = 1\%$

$$r_N^{US} - r_N^{Euro} = E(\Delta Euro)$$

Compare and Contrast

$$r_N^{US} - r_N^{Euro} = E(\Delta Euro)$$

$$\eta_N^{US} - \eta_N^{Euro} \neq E(\Delta Euro)$$

End

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