Comparing the Rate of Return on Assets between Two Countries:
The arithmetic of Chapter 14

The home Rate of Interest is $R_\$$.
The foreign Rate of Interest is $R_€$.
The Spot Exchange Rate is $E_{\$/€}$ which we shall abbreviate to E.
The exchange rate expected in the future is E^e.

Take $1 and compare the return at home, $R_\$$, to the return if you were to take the 1$ abroad and invest in €'s abroad at $R_€$ and then bring it back in $.

$\$1(1+R_\$)$ is what you can earn at home

If you take that money and convert it into Euros, then this gives you $[\$1/E_{\$/€}]$ Euros to invest

Invest your $[\$1/E_{\$/€}]$ Euros for the year meaning that at the end of the year you have $[\$1/E_{\$/€}](1+R_€)$ Euros.

Take your $[\$1/E_{\$/€}](1+R_€)$ end of year Euros and bring them home at the exchange rate you expect to prevail at the end of the year; E^e:
$[\$1/E_{\$/€}](1+R_€)E^e$

Therefore you compare $\$1(1+R_\$)$ with $[\$1/E_{\$/€}](1+R_€)E^e$.

If $\$1(1+R_\$)>[\$1/E_{\$/€}](1+R_€)E^e$, then keep your money at home.

If $\$1(1+R_\$)<[\$1/E_{\$/€}](1+R_€)E^e$, then you take your money abroad.

If $\$1(1+R_\$)=[\$1/E_{\$/€}](1+R_€)E^e$, then you are indifferent between investment at home or abroad.

This relationship is *approximated* by:

$$R_\$=R_€+\left(\frac{E^e-E}{E}\right).$$

In equilibrium the rate of return on domestic assets is equal to the rate of return on foreign assets plus the expected depreciation of the dollar. This approximation follows from:

$$(1+R_\$)=\left(\frac{E^e}{E}\right)(1+R_€)$$

$$(1+R_\$)=\left(\frac{E^e}{E}\right)+R_€\left(\frac{E^e}{E}\right)$$

$$(1+R_\$)=\left(\frac{E^e-E}{E}\right)+1+R_€\left(\frac{E^e}{E}\right)-R_€\left(\frac{E}{E}\right)+R_€$$

$$\left(R_{\$}\right) = \left(\frac{E^e - E}{E}\right) + R_{€} + R_{€}\left(\frac{E^e - E}{E}\right)$$

However, since $R_{€}$ and $\left(\frac{E^e - E}{E}\right)$ are both percentage rates, their product is considered to be a second order of small in comparison to the levels of R or $\left(\frac{E^e - E}{E}\right)$. Thus we assume that their product is zero: $R_{€}\left(\frac{E^e - E}{E}\right) \rightarrow 0$, and we are left with the relationship in the text:

$$R_{\$} = R_{€} + \left(\frac{E^e - E}{E}\right).$$