Simple *ad hoc* Two Country Model of the Risk Premium

Define the risk premium as the additional return necessary to induce the holding of a particular asset. This means one drops explicitly the uncovered interest rate parity condition. Hence:

$$rp_t \equiv i_t^{US} - i_t^{Eu} - \Delta s_{t+1}^e \tag{1}$$

where depreciation expected between time t and t+1, based on time t information, is expressed as:

$$\Delta s_{t+1}^e \equiv \varepsilon_t(s_{t+1}) - s_t \tag{2}$$

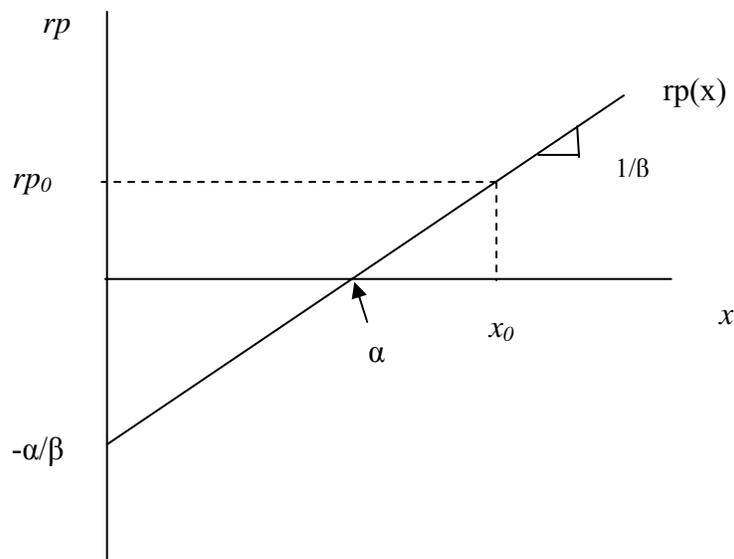Notice that if UIP holds, then the risk premium, rp, is zero. What determines the risk premium?

Arbitrarily define x as the share of wealth allocated to $ assets.

$$x = \alpha + \beta rp \tag{3}$$

Rearranging and assuming asset supply equals asset demand,

$$rp = -\beta^{-1}\alpha + \beta^{-1}x \tag{4}$$

One then obtains the following diagram:

If $x=\alpha$, then the risk premium is zero. However, if $x=x_0$, then in some sense, the interest rates on US assets must be higher in order to compensate individuals for the fact that they are holding greater amounts of US assets than they would like (consistent with no risk premium). What does α equal? In a mean-variance framework (familiar to those of you who know the capital asset pricing model, or CAPM, for stock returns), α is a function of the degree of risk aversion, and the extent to which real returns on US assets are correlated with the dollar returns on Euro area assets.

What about the slope? When the slope is flat, then $\$^{1} = 0$, and $\$ = 4$, and assets are perfectly substitutable. Graphically, this means that with perfect substitutability, there is a zero slope and intercept to this curve, and hence always a zero risk premium.