

Clarification on Real Wage Calculation

(Based on Sample Problem 1 discussed on May 17)

	MPL		Labor Endowments
	Beer	Wine	
Germany	1/10	1/20	800
Japan	1/125	1/500	10000

Under No Trade:

Real wage for Beer in Japan = $MPL_{L_B}^{\text{Japan}} = 1/125$

Real wage for Wine in Japan = $MPL_{L_W}^{\text{Japan}} = 1/500$

Real wage for Beer in Germany = $MPL_{L_B}^{\text{Germany}} = 1/10$

Real wage for Wine in Germany = $MPL_{L_W}^{\text{Germany}} = 1/20$

Under trade:

First identify the trade pattern.

We found: Japan specializes in Beer
Germany specializes in Wine

Meaning:

- All workers in Japan will be employed in Beer Sector
 - ⇒ they will be paid $MPL_{L_B}^{\text{Japan}}$ units of Beer = $1/125$
 - ⇒ This is **real wage in Japan in terms of Beer**
- Similarly, all workers in Germany will be employed in Wine Sector
 - ⇒ they will be paid $MPL_{L_W}^{\text{Germany}}$ units of Wine = $1/20$
 - ⇒ This is **real wage in Germany in terms of Wine**

Now, Japan is producing no Wine.

If workers in Japan wants to exchange beer for wine, they exchange their beer holding at the world relative price of beer.

Therefore, **real wage in Japan in terms of Wine** = $MPL_{L_B}^{\text{Japan}} * \text{world relative price of beer}$
 $= MPL_{L_B}^{\text{Japan}} * P_{\text{beer}}^T / P_{\text{wine}}^T$
 $= 1/125 * 1/3$
 $= 1/375$

Now, Germany is producing no Beer.

If workers in Germany wants to exchange wine for beer, , they exchange their wine holding at the world relative price of wine.

Therefore, **real wage in Germany in terms of Beer** = $MPL_{L_W}^{\text{Germany}} * \text{world relative price of wine}$
 $= MPL_{L_W}^{\text{Germany}} * P_{\text{wine}}^T / P_{\text{Beer}}^T$
 $= 1/20 * 3$
 $= 3/20$