(I) Tariffs, Effective Rate of Protection

The production of gasoline in Colombia requires crude oil and labor. One barrel of crude oil is needed to produce one barrel of gasoline. The world price of crude oil is $20 per barrel and the world price of gasoline is $30 per barrel.

(1) Suppose the Colombian government imposes a $5 per barrel tariff on gasoline and there is no tariff on crude oil.

Calculate the effective rate of protection on gasoline.

(2) Consider now an alternative scenario where the Colombian government imposes a $5 per barrel tariff on crude oil and the tariff on gasoline is zero.

Calculate the effective rate of protection on gasoline.

(II) Real Exchange Rate

Consider the following fictitious information in year 1 and 2 about two countries (say US and Mexico). Mexico’s currency is the peso.

<table>
<thead>
<tr>
<th>Mexico’s price level (in pesos)</th>
<th>US price level (in dollars)</th>
<th>Number of pesos needed to buy one dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 0</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Year 1</td>
<td>400</td>
<td>110</td>
</tr>
</tbody>
</table>

(1) Calculate the inflation rate in Mexico and the US between years 2 and 1.

(2) Calculate the real exchange rate for Mexico in both years. Did the peso appreciate or depreciate in real terms with respect to the dollar?