Problem Set II: Tariff in the MS/MD diagram:

II. 1. Impact of a Most Favored Nation (MFN) tariff:

a) Define a MFN tariff
b) Draw two graphs: border price (PB) against foreign exports (i.e. the Foreign export supply curve, XS) and a graph plotting the domestic price (PH) against domestic imports (M). Draw the MS and MD curves in this diagram. What is the relation between MS and XS? Now draw the MS curve when a tariff of T is introduced.
c) Use these diagrams to analyze the impact of an MFN tariff on prices and quantities. Indicate the free trade price PFT, the new domestic price P' and the new border price P'-T. Compare the imported quantities with the tariff M' and under free trade MFT.
d) In order not to have too many things in the same MS/MD diagram, draw a new diagram with identical MS and MD curves. Put the three prices PFT, P' and (P'-T) on the axis. Use the diagram to analyze the gross welfare effect of a tariff on Home and Foreign and on world welfare.
e) Now use the open economy S&D diagram of Home combined with the MS/MD diagram to distinguish between effects on surpluses of different groups: consumers, producers and the government. Which group could make political pressure to put a tariff, which group would suffer from the tariff? Could one see which group gains and which group looses from the Ms/MD diagram already? Explain.

II. 2. Most Favored Nation (MFN) tariff with three countries:
Redo exercise I.1.b+c for the case that Home trades with two symmetric countries 'Partner' and 'RoW' (rest of the world). Analyze the quantity and price effects when Home introduces a MFN tariff (compared to the free trade case). Make sure to indicate the free trade price and the new domestic price at Home and the border prices RoW and Partner are facing. What happens to trade volumes? Compare the result to the result in exercise 1 above. What is the difference? How does the tariff affect welfare of RoW and Partner?

II. 3. Country size and the MS curve:
When we speak about a 'small' nation, we mean a nation that is so small compared to the rest of the world that it cannot influence the world price (e.g. Luxemburg's demand for oil).
a) How would the MS curve of a small nation look like? What does the slope of the MS curve tell you about the size of the country?
b) Do large and small countries have different welfare effects from imposing a tariff? Can you show graphically that a small country (no impact of its demand on the world price) always has welfare losses from imposing a tariff?

II. 4. Equivalence of tariffs and subsidies in a SOE:
This exercise is a bit tricky, but try your best! Use a the MS/MD diagram OR the S&D diagram to show that an import tariff equal to T has exactly the same impact on prices, quantities and welfare as a domestic consumption tax equal to T combined with a domestic production subsidy equal to T.
Would you find the same result in a 2-country world?