

## Exercise 6

### Problem 1: GATT/WTO

- a) Consider a tariff game between two large countries, as in the work of Bagwell and Staiger. Let the welfare of each country be given by

$$W_i(t_i, t_{-i}) = 0.125 + 0.25(t_i - t_{-i}) - t_i(t_{-i} + t_i) \quad (1)$$

where  $i \in \{home, foreign\}$ . Find the optimal tariffs as a best response to the tariff set by the other country. Are tariffs strategic complements or substitutes? Determine the Nash equilibrium in tariffs, as well as the globally optimal tariff regime(s)

- b) Continuing from part a), let this be a repeated game, and suppose both governments have the same discount factor. What is the critical discount factor that is required to render the symmetric cooperative outcome self-enforcing under the threat of Nash-reversion?

**Problem 2:** Consider the spatial version of the Dixit-Stiglitz Model as presented in chapters 4 and 5 of Fujita, Krugman, Venables (1999).

- a) Derive the equations that characterise the *price index effect* and the *home market effect*. Explain what these effects imply for agglomeration.
- b) Derive the eight equations that determine the equilibrium in the two-region version of the model. Explain, using graphs, under which conditions manufacturing industry will be concentrated in one region, and when it will be equally divided across regions.