MGEC02 – TOPIC 6 – Homework

6.1 two markets: one geography, two imperfectly-substitutable products

McDonalds and Tim Hortons have about the same number of restaurant locations in Etobicoke, often quite close to each other. They both offer fast-food meal options equally suitable for lunches. The lunch-time demand from McDonalds in Etobicoke has been estimated as Qm = 21 – 3Pm + 2Pt, where Qm is tens of thousands of meat sandwiches ordered in the time-slot 11:30 a.m. to 1:30 p.m. each week. Pm is the average price of a McDonalds meat sandwich in Canadian $, and Pt is the average price of a Tim Hortons meat sandwich. The lunch-time demand from Tim Horton's in Etobicoke has been estimated as Qt = 10 – 2Pt + Pm, where Qt is in tens of thousands of meat sandwiches ordered in the time-slot 11:30 a.m. to 1:30 p.m. each week. The short-run marginal cost of producing 1 meat sandwich is MCm = 2 for McDonalds and MCt = 2.5 for Tim Hortons. McDonalds decides to test-run a new two-month contest in Etobicoke. It finds its lunch-time demand for meat sandwiches in Etobicoke has increased to Qm' = 28 – 4Pm + 2Pt each week during the contest period.

(a) If McDonalds and Tim Hortons behaved like Bertrand competitors in their Etobicoke fast-food lunch market, what would their respective equilibrium prices and quantities in Etobicoke be for lunch-time meat sandwiches before the contest? **Is this a partial equilibrium result or a general equilibrium result?**