

## Problem Set 5 (due date: 18.11.2013)

1. In the early 1970s, the six largest manufacturers of ready-to-eat breakfast cereals shared 95 percent of the market. Over the proceeding 20 years, these manufacturers introduced over 80 new varieties of cereals. How would you evaluate this strategy from the viewpoint of the Hotelling spatial model?
2. Consider a linear city whose (adult) population of 1 Million is uniformly distributed over the interval  $[0,5]$ . There is a monopoly operator of cinemas. The costs of building and operating a cinema are 500 000€ per year. Marginal costs of an additional cinemagoer are zero. Each inhabitant watches 36 movies a year as long as the price of a single attendance is below her maximum willingness to pay of 10€ minus her transport or inconvenience costs of  $|x' - x|$  if she has to move from her home at location  $x$  to the cinema at location  $x'$  to watch the movie.
  - a) How many cinemas should the monopolist operate, what will be the entrance fee, and where should the cinemas be located (if she is free to choose the location)?
  - b) What is the socially optimal number of cinemas?
  - c) Would the monopolist serve the whole market if the only location at which she could operate cinemas is the city center (location 2.5)? Which price would she charge?
  - d) Would the monopolist serve the whole market if the only location at which she could operate cinemas is outside of the city at location  $-1$ ? Which price would she charge?