Midterm Exam

You have two hours to complete this exam. The exam can be taken at any time on March 1st. Please include your start time and stop time on your exam. Completed exams should be emailed to me (jmparman@wm.edu) by midnight. Time taken to scan and email answers does not count against your two hours. You can combine graphs and written answers in a single file or use one file for written answers and a second for graphs. If you choose to use multiple files, please send them in a single email.

Answer all questions completely but concisely. Including additional incorrect information in an otherwise correct answer may result in the loss of points. As a rough guide, each five points on the exam typically requires about two sentences to correctly answer. The exam is open notes and open book. You may use your notes, the textbook and any of the materials posted on our course Blackboard site. Other materials are not permitted. Good luck!

1. (10 points) Recall from the Joskow article that during California's electricity crisis, retail rates were effectively capped at $65 per mWh for up to four years. Provide one argument for this feature of California electricity deregulation on equity grounds. Also provide one argument against this feature on efficiency grounds.

2. (30 points) Suppose that there are two preschools in town competing with one another. They compete primarily by running advertisements on the local news website, WYDaily.com. Each preschool can decide to either run a positive ad about how great it runs it's program or run a negative ad about how terrible the other school's programs are run. Each type of ad costs the same amount of money. Each enrolled child earns a preschool $100 in profits. The number of enrolled students each school gets will depend on the type of ad run by the school and by its competitor. These enrollments are given by the following payoff matrix where red corresponds to the ad choice and enrolled pupils at school A and blue corresponds to the ad choice and enrolled pupils at school B. If you have printed this in black and white, Preschool A enrollments are the number on the left in each box while Preschool B enrollments are the number on the right.

Preschool B

|		Negative	Positive
Preschool A	Negative	10,10	25,5
	Positive	5,25	30,30

(a) If there was no regulation of the Williamsburg preschool market and no collusion between the preschools, what would you expect the ad choice of each school to be in equilibrium? Justify your answer.

(b) Suppose that the two preschools colluded, both agreeing to only run positive ads. Explain why each school would have an incentive to cheat on this collusive agreement and what factors would make them more likely to cheat.

(c) Is there a role for government regulation to prevent collusion in this market on efficiency grounds? You can assume that there is a net benefit to families from sending their child to preschool (the benefits exceed the costs of tuition). Justify your answer.

(d) In the absence of collusion, is there a role for government regulation restricting the types of ads placed in the market on efficiency grounds? You can assume that there is a net benefit to families from sending their child to preschool (the benefits exceed the costs of tuition). Justify your answer.

3. (30 points) Consider the antitrust case brought against Microsoft. Recall that one primary concern in the case was that Microsoft was abusing its power in the operating system market to gain monopoly power in the browser market.

   (a) Microsoft would claim that its growing market share in the browser market would actually yield additional consumer surplus and additional total surplus. Provide an economic argument consistent with Microsoft's claims.

   (b) Netscape would claim that Microsoft's growing market share in the browser market would reduce total surplus, leading to inefficiency. Provide an economic argument consistent with Netscape's claims.

   (c) Consider our Baker quote from class on fixed costs and competition:

   > If the fixed costs to entry are not sunk, and entrants have variable costs comparable to incumbents, the market is "contestable" and performs competitively regardless of market concentration among incumbent sellers.

   How does this quote apply to the browser market and the need to regulate Microsoft's control of the browser market at the time that Internet Explorer controlled that market?

4. (30 points) The graphs below depict the marginal cost curve and demand curve for personal training in Williamsburg (graph (a)) and for hot yoga in Williamsburg (graph (b)). Note that the demand curves and marginal cost curves are identical for these two industries. The main difference between these industries is that personal training can take place anywhere, including local parks, and therefore personal trainers have no fixed costs. Hot yoga, however, requires building a studio and installing a costly heating system, leading to very high fixed costs.
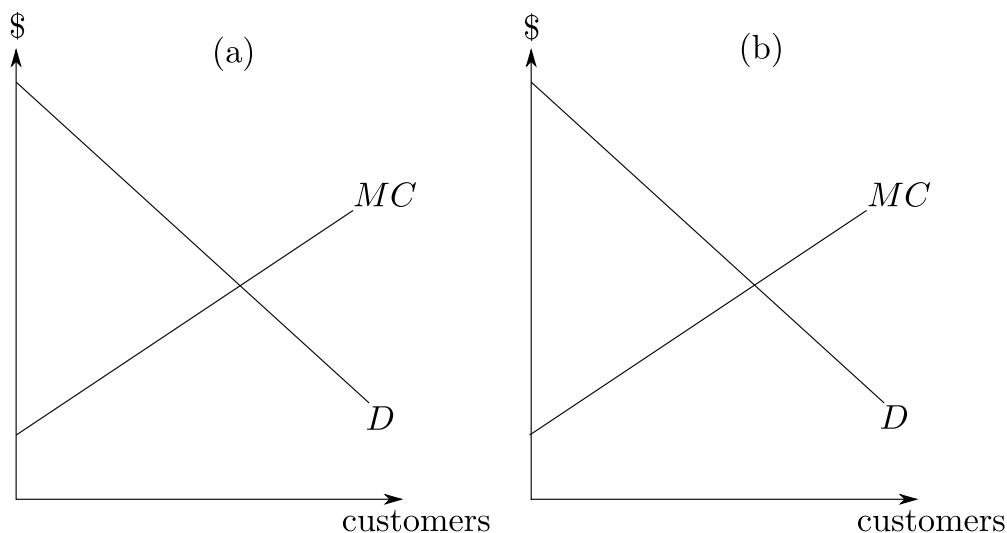
(a) Given the information on fixed costs, draw appropriate average cost curves on each of the graphs.

(b) Suppose that Williamsburg's city council is resigned to having a single fitness instructor and a single hot yoga studio. However, to protect customers, the city council will fix the prices of classes. The city council decides to use average cost pricing for the personal trainer. Show the price that the city council will set, the quantity of customers the personal trainer will have, and the deadweight loss relative to the efficient number of customers on graph (a).

(c) The city council also decides to use average cost pricing for the hot yoga studio. Show the price that the city council will set, the quantity of customers the studio will have, and the deadweight loss relative to the efficient number of customers on graph (b).

(d) Is average cost pricing a reasonable regulatory approach in each of these industries (given that the city council can set prices)? Fully explain your answer. Your answer can consider efficiency, equity, and the cost and feasibility of regulations.

(e) Which of these two industries, personal training or hot yoga, is more likely to remain a natural monopoly in the absence of regulation? Be certain to fully justify your answer.