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| Regulation & Antitrust Policy (Econ 180) | Signature: |  |
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**QUIZ #14 VERSION A**

**"Regulation and Deregulation of Transportation"**

INSTRUCTIONS: This exam is closed-book, closed-notes. Simple calculators are permitted, but graphing calculators or calculators with alphabetical keyboards are NOT permitted. Mobile phones or other wireless devices are NOT permitted. Points will be subtracted for illegible writing or incorrect rounding. Point values for each question are noted in brackets.

**I. Multiple choice:**  Circle the one best answer to each question. [3 pts each: 15 pts total]

(1) The price of a taxicab medallion equals the expected

1. annual revenue (fares) from operating a taxicab.
2. annual operating cost of a taxicab (fuel, maintenance, repairs, etc.).
3. discounted future economic profit from operating a taxicab.
4. annual economic profit from operating a taxicab.

(2) Why was trucking regulated?

1. Trucking is a natural monopoly.
2. Railroads were losing money.
3. Informal cartels had been keeping rates above competitive levels.
4. Shippers lobbied heavily for regulation of trucking.
5. All of the above.

(3) From 1938 when the Civil Aeronautics Board was created to 1978 when the Airline Deregulation Act was passed, the CAB received 79 applications for new trunk airlines. How many applications were approved?

1. 0.
2. 5.
3. 12.
4. 39.
5. 79.

(4) Deregulation caused profits to *rise* in the case of

1. railroads.
2. trucking.
3. airlines.
4. all of the above.
5. none of the above.

(5) Today, everything else equal, fares into or out of a city that happens to be an airline's major hub are usually

1. lower than fares into and out of a non-hub city.
2. equal to fares into and out of a non-hub city.
3. higher than fares into and out of a non-hub city.

**II. Problems:** Insert your answer to each question below in the box provided. Use margins and graphs for scratch work⎯only the answers in the boxes will be graded. Work carefully⎯partial credit is not normally given for questions in this section.

(1) [Effects of regulation on cost: 14 pts] The following graph shows demand and producers’ minimum average cost for a particular market. Note that, in the absence of regulation, the minimum average cost curve is the market's long-run supply curve.

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| a. Find the competitive equilibrium price. | $ |
| b. Find the competitive equilibrium quantity. | thousand |

Suppose a price floor of **$ 7** is imposed through regulation.

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| c. Find the new equilibrium quantity. | thousand |
| d. Compute the deadweight loss from the price floor. | $ thousand |
| e. Suppose there is no change in cost. Compute the rents created by regulation—that is, the transfer from consumers to producers. | $ thousand |

Suppose alternatively that average cost rises from **$ 3** to **$ 4** as a result of regulation (perhaps because all firms become inefficiently small or use inefficient input combinations).

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| f. Now recompute the rents created by regulation—that is, the transfer from consumers to producers. | $ thousand |
| g. Compute the total cost of regulation—that is, the deadweight loss plus the increase in cost. | $ thousand |

(2) [Effect of regulation on quality: 14 pts] The following graphs show demand and supply for low-quality and high-quality versions of the same good. Assume average cost also equals marginal cost.

First, consider the market without regulation.

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| a. Find the quantity purchased of the low-quality good. | million |
| b. Assume the demand for the high-quality good is given by "Old demand." Find the quantity purchased of the high-quality good. | million |

Suppose a price floor of **$ 7** is imposed on the low-quality good.

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| c. Find the new quantity purchased of the low-quality good. | million |
| d. Compute the deadweight loss in the low-quality market from the price floor. | $ million |

The low-quality and high-quality goods are substitutes, so demand for the high-quality good shifts right to "New demand." Suppose the same price floor of **$ 7** is now also imposed on the high quality good.

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| e. Find the new quantity purchased of the high-quality good. | million |
| f. Compute the deadweight loss in the high-quality market from the price floor. | $ million |

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| g. Compute the total cost of regulation—that is, the deadweight loss in the low-quality market plus the deadweight loss in the high-quality market. | $ million |

(3) [Maximum prices and exit restrictions: 15 pts] The following graphs show the demands and average costs for good A and good B. Assume average cost also equals marginal cost.

Suppose a regulated firm is required to supply good A at a price of **$ 1**.

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| a. Compute the deadweight loss in the market for good A from this pricing policy. | $ million |
| b. Compute the loss that the firm will experience in the market for good A from this pricing policy. | $ million |

Suppose the regulated firm is permitted to recover its loss in the market for good A by raising price above average cost in the market for good B.

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| c. What is the minimum price in the market for good B that would allow the firm to recover its loss in the market for good A? | $ |
| d. Compute the deadweight loss in the market for good B from this pricing policy. | $ million |

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| e. Compute the total cost of regulation with cross-subsidization—that is, the deadweight loss in the market for good A plus the deadweight loss in the market for good B. | $ million |

(4) [Measuring effects of regulation: 9 pts] The following data show average incomes of taxicab drivers in two cities in 2005 and 2010.

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|  | City X | City Y |
| 2005 | $50,000 | $36,000 |
| 2010 | $44,000 | $39,000 |

City X formerly restricted the number of taxis but repealed those restrictions in 2008. City Y never restricted entry. We seek to estimate the impact of entry restrictions on the average incomes of taxicab drivers—that is, the difference in income caused by the entry restrictions.

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| a. Estimate the impact using the inter-temporal approach. | $ |
| b. Estimate the impact using the market-comparison approach. | $ |
| c. Estimate the impact using the difference-in-differences approach. | $ |

(5) [Railroad deregulation: 6 pts] Which of the following resulted from partial deregulation of railroads in the 1980s? Write "TRUE" or "FALSE."

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| a. Shift in traffic from bulk commodities (like coal and wheat) to manufactures. |  |
| b. Increased spending on track, structures, and rolling stock. |  |
| c. Increased number of communities served. |  |

(6) [Trucking deregulation: 6 pts] Which of the following resulted from deregulation of interstate trucking in the 1980s? Write "TRUE" or "FALSE."

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| a. Shift in traffic from bulk commodities (like coal and wheat) to manufactures. |  |
| b. Increased wages of unionized drivers. |  |
| c. Decreased price of "backhaul" loads. |  |

(7) [Airline deregulation: 16 pts] Which of the following resulted from deregulation of airlines in the 1980s? Write "TRUE" or "FALSE."

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| a. Decreased travel time to reach destinations. |  |
| b. Shift from hub-and-spoke networks to more nonstop flights. |  |
| c. Lower fares for short-haul flights (e.g., Des Moines to Omaha). |  |
| d. Lower fares for long-haul flights (e.g., East Coast to West Coast). |  |
| e. Higher load factors. |  |
| f. Improved on-board services (meals, movies, etc.). |  |
| g. More frequent departure times. |  |
| h. Increase in accident rates. |  |

**III. Challenge question:** Write a one-paragraph essay answering the following question. [5 pts]

Suppose fast-food restaurants were required to charge a minimum price of at least $10 for a meal. What would happen to the quality of fast food? Why? Would consumers be better off? Why or why not?

[end of quiz]