

Econ 1 Sample Second Midterm

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Part 1—do all five (15 points/7.5 minutes)

- Friedman’s “three equalities”:
 - Milton and Rose Director Friedman argued that equality of outcomes is impossible for any society, and attempts to attain it destroy freedom; that equality of opportunity is a worthy goal but one that can never be fully attained; and that equality of perception—equality before God, equality before the law—is necessary for any free society.
- Monopolistic competition:
 - A monopolistically competitive market structure is one in which small firms find themselves facing downward-sloping demand curves and thus possess a degree of market power; such a market structure will tend to have more firms and higher average total costs than would be economically efficient, and thus less producer surplus in the long run than would be desirable.
- Substitution effects:
 - A substitution effect is that when one price rises and another price falls so as to keep real income constant then consumers tend to buy less of the first good and more of the second; distinguished from income effects in which either price declines make consumers richer and so they buy more of everything or price rises make consumers poorer and so they buy less of everything.
- Cost minimization:
 - Profit-maximizing firms practice cost minimization: they try to make the amount they produce at the least possible cost, and often working out the consequences of cost minimization is the easiest way to solve quantitative problems involving firm behavior.
- Quotas:
 - A quota is when the government refuses to allow the quantity of a good sold on the marketplace to exceed a certain level; almost always a bad idea because an inefficient amount of the commodity will be produced and consumed, and it will be produced or consumed or both by the wrong people—by people who are not the low-cost producers or the high-value demanders.

Friedman's "three equalities"

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Part II-1

- Suppose that Johnny D's Pirate Emporium has daily fixed costs of \$10000, and its marginal cost curve is given by $Q = P/2$. Suppose that it produces an undifferentiated product in a perfectly competitive industry. Suppose that it is the most efficient firm around. Suppose that its technology and organization is easily copied. At what scale of production—what level of daily quantity Q —is its average total cost minimized for this firm? What does the long-run supply curve look like for this perfectly-competitive industry? Explain your reasoning.
 - Its average total costs are $10000/Q + Q$. At a Q of 10000, $ATC=10001$; at a Q of 1000, $ATC=1010$; at a Q of 100, $ATC=200$, at a Q of 10, $ATC=1010$. It looks like we should explore what ATC cost curve looks around $Q=100$. At a Q of 50, $ATC=250$; at a Q of 100, $ATC=250$; at a Q of 99, $ATC=200.01$; at a Q of 101, $ATC=200.01$. A Q of 100 is the cost-minimizing scale of production for this firm, with an average total cost of 200 per unit.
 - If the market price is greater than 200, new entrant firms will find it profitable to copy Johnny D's technologies and organizations, enter the market, and make money. So new firms will enter until the price falls to 200. At a price of 200, only firms as efficient as Johnny D's will survive--but because its technology and organization are easily copied, there will be lots of such firms.
 - The long-run supply curve will be flat, horizontal, at a price of \$200 per unit.

Part II-1

- Q: Suppose that Johnny D's Pirate Emporium has daily fixed costs of \$10000, and its marginal cost curve is given by $Q = P/2$. Suppose that it produces an undifferentiated product in a perfectly competitive industry. Suppose that it is the most efficient firm around. Suppose that its technology and organization is easily copied. At what scale of production—what level of daily quantity Q —is its average total cost minimized for this firm? What does the long-run supply curve look like for this perfectly-competitive industry? Explain your reasoning.

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- A1: Its average total costs are $10000/Q + Q$. At a Q of 10000, $ATC=10001$; at a Q of 1000, $ATC=1010$; at a Q of 100, $ATC=200$, at a Q of 10, $ATC=1010$. It looks like we should explore what ATC cost curve looks around $Q=100$. At a Q of 50, $ATC=250$; at a Q of 100, $ATC=250$; at a Q of 99, $ATC=200.01$; at a Q of 101, $ATC=200.01$. A Q of 100 is the cost-minimizing scale of production for this firm, with an average total cost of 200 per unit.

Part II-1

- A2: If the market price is greater than 200, new entrant firms will find it profitable to copy Johnny D's technologies and organizations, enter the market, and make money. So new firms will enter until the price falls to 200. At a price of 200, only firms as efficient as Johnny D's will survive--but because its technology and organization are easily copied, there will be lots of such firms.
- The long-run supply curve will be flat, horizontal, at a price of \$200 per unit.

Part II-2

- Suppose that we consider the daily market for ice-cream sandwiches in the neighborhoods surrounding Crony Capitalism Junior University in the town of Old Stick...
Supply: $Q = 3000(P - 2)$ Demand: $Q = 66000 - 6000P$ What is the equilibrium price? What is the equilibrium quantity? What is the equilibrium producer surplus? Consumer surplus?
 - Supply = Demand happens when $3000P - 6000 = 66000 - 6000P$; $9000P = 72000$; $P = 8$; $Q = 18000$
 - Since we have a linear demand curve and the maximum willingness to pay is 11, the average willingness to pay is $(11+8)/2 = 9.5$, and the average consumer surplus per unit is 1.5. That gives us \$27,000 of total consumer surplus. Since we have a linear supply curve and supply = 0 at a price of 2, the average cost to producers is $(8+2)/2=5$. The average producer surplus per unit is 3. That gives us \$54000 of producers surplus.

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Part II-2

- A1: Supply = Demand happens when:
 - $3000P - 6000 = 66000 - 6000P$;
 - $9000P = 72000$;
 - $P = 8$;
 - $Q = 18000$

Part II-2

- A2: Since we have a linear demand curve and the maximum willingness to pay is 11, the average willingness to pay is $(11+8)/2 = 9.5$, and the average consumer surplus per unit is 1.5. That gives us \$27,000 of total consumer surplus. Since we have a linear supply curve and supply = 0 at a price of 2, the average cost to producers is $(8+2)/2=5$. The average producer surplus per unit is 3. That gives us \$54000 of producers surplus.

Part II-3

- When, broadly, might it be a good thing for a government to impose per-unit taxes on production? For it to offer per-unit subsidies? For it to impose quotas? Price ceilings? Price floors?
 - Per-unit taxes on production might be a good thing if the government needs to raise revenue to pay for programs that promote the general welfare, or if economic activities cause negative externalities that harm others not directly concerned with production and sale and thus unable to require that production and sale be win-win as a condition of their participation.
 - Per-unit subsidies might be a good thing if the economic activity subsidized produces positive externalities—spillovers—through advances in knowledge or other channels.
 - Quotas seem a bad idea always: there are other, better tools for regulation available.
 - Price ceilings can be welfare enhancing as a way of regulating a monopoly to reduce its market power and so inducing it to produce more. Price floors can be welfare enhancing as a way of regulating a monopsony—a single buyer—and so inducing it to demand more. If the distribution of wealth is inefficient from a utilitarian standpoint, price ceilings and price floors can serve as indirect ways of redistributing wealth to make it more efficient from a utilitarian point of view, but directly redistributing wealth is a better way to achieve that goal.

Part II-3

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Part II-3

- A1: Per-unit taxes on production might be a good thing if the government needs to raise revenue to pay for programs that promote the general welfare, or if economic activities cause negative externalities that harm others not directly concerned with production and sale and thus unable to require that production and sale be win-win as a condition of their participation.

Part II-3

- A2: Per-unit subsidies might be a good thing if the economic activity subsidized produces positive externalities—spillovers—through advances in knowledge or other channels.

Part II-3

- A3: Quotas seem a bad idea always: there are other, better tools for regulation available.

Part II-3

- A4: Price ceilings can be welfare enhancing as a way of regulating a monopoly to reduce its market power and so inducing it to produce more. Price floors can be welfare enhancing as a way of regulating a monopsony—a single buyer—and so inducing it to demand more. If the distribution of wealth is inefficient from a utilitarian standpoint, price ceilings and price floors can serve as indirect ways of redistributing wealth to make it more efficient from a utilitarian point of view, but directly redistributing wealth is a better way to achieve that goal.

Part III

- Of all the market structures we have considered—perfect competition, monopolistic competition, oligopoly, and monopoly—which is the best and which is the worst? What do you think the government should try to do to improve market structure in the economy?
 - A perfect answer would make seven points
 - Monopoly is the worst of all possible market structures except when there are very important economies of scale, in which case it may be the best or the only sustainable market structure.
 - Even when monopoly is the only sustainable market structure, a properly-regulated monopoly with a price ceiling that enables production at the efficient level is far superior, and if regulation is perfect it is as good as perfect competition.
 - Oligopoly is a mix of perfect competition and monopoly, and partakes of the advantages and disadvantages of both.
 - Perfect competition is the best of all market structures when producers are making an undifferentiated product and there are no economies of scale.
 - Monopolistic competition is inferior to perfect competition when firm market power arises from consumers' lack of knowledge about the market and from the costliness of search.
 - Monopolistic competition can be superior to perfect competition when different consumers have a genuine liking for different varieties of the good produced.
 - Regulating markets is a delicate task. Antitrust policies that break up monopolies may destroy efficient economies of scale. Price ceilings that are set too low may produce low quality or low levels of output. More detailed regulations may wind up entrenching monopolies as the only organizations that understand how to work the system the government has set up—especially if regulators use the “revolving door” and come to the government from jobs in and then return from the government to jobs in the regulated industry. You have to balance the costs of market failure against the costs of government failure.

Part III

- Q: Of all the market structures we have considered—perfect competition, monopolistic competition, oligopoly, and monopoly—which is the best and which is the worst? What do you think the government should try to do to improve market structure in the economy?

Part III

- A1: A perfect answer would make seven points: 1. Monopoly is the worst of all possible market structures except when there are very important economies of scale, in which case it may be the best or the only sustainable market structure.

Part III

- A2: Even when monopoly is the only sustainable market structure, a properly-regulated monopoly with a price ceiling that enables production at the efficient level is far superior, and if regulation is perfect it is as good as perfect competition.

Part III

- A3: Oligopoly is a mix of perfect competition and monopoly, and partakes of the advantages and disadvantages of both.

Part III

- A4: Perfect competition is the best of all market structures when producers are making an undifferentiated product and there are no economies of scale.

Part III

- A5: Monopolistic competition is inferior to perfect competition when firm market power arises from consumers' lack of knowledge about the market and from the costliness of search.

Part III

- A6: Monopolistic competition can be superior to perfect competition when different consumers have a genuine liking for different varieties of the good produced.

Part III

- A7: Regulating markets is a delicate task. Antitrust policies that break up monopolies may destroy efficient economies of scale. Price ceilings that are set too low may produce low quality or low levels of output. More detailed regulations may wind up entrenching monopolies as the only organizations that understand how to work the system the government has set up—especially if regulators use the “revolving door” and come to the government from jobs in and then return from the government to jobs in the regulated industry. You have to balance the costs of market failure against the costs of government failure.