MONOPOLY AND THE REALM OF IMPERFECTION: OLIGOPOLY & MONOPOLISTIC COMPETITION

An On-line Animated Simulation

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ABSTRACT

Students prefer computers and on-line resources to more traditional books and journals. Each day a larger number of books are read on-line; and, we must meet students' needs by providing a degree of instruction on-line. With a dwindling manufacturing sector, a university degree has become a necessity rather than a privileged option. Many students see university as something they have to do rather than something they aspire to do. A large number of these students are marginal. If they exert any effort, they not only expect to pass, but they expect to be rewarded with an outstanding grade. It is becoming more difficult to instil good study skills along with a solid foundation in economic principles courses. The on-line simulations were developed to complement as well as provide an alternative to straight book work in an effort to spur interest, understanding and grades.

The latest economic simulation titled, "Monopoly and the Realm of imperfection: Oligopoly & Monopolistic Competition" is designed to be available on-line. It is similar to and yet so different from past simulations. We move from the usual flash model to one that is more movie-based. Imperfection refers to imperfect competition and two of its components: oligopoly and monopolistic competition along with a discussion of monopoly. This simulation guides students through the mathematics and graphing of a monopoly and natural monopoly; and then moves on to highlight the differences between monopoly and perfect competition. The kinked-demand curve of an oligopoly is studied along with price leadership pricing. Game theory is introduced using a duopoly. Monopolistic competition in the short run and in the long run is examined. Finally, monopolistic competition and perfect competition are compared and contrasted in the long run. The topic of efficiency is discussed as the various markets are introduced. Throughout, graphs are constructed, charts are studied, formulae are set and relationships are found. With colourful animation, a modicum of humour and an atmosphere of fun, students are able to review dry text and intense lecture material in a relaxed setting at their own convenience on the web. Areas of difficulty can be repeatedly viewed and no one else need know of the learner's concerns. A glossary of terms is instantly available and self-testing provides instant feedback. This multimedia presentation is meant to aid all students including visual learners and students with physical or learning challenges. It is with ease that this computer-based teaching technique emphasizes and aids students in understanding pertinent concepts in economics and re-enforces the learning process.

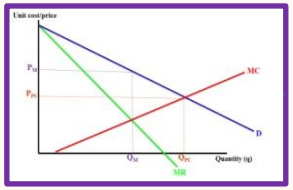
VISUAL & AUDITORY EXPERIENCE

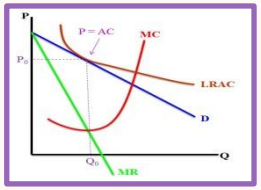
This simulation was developed to be shown in class after the chapters on monopoly, monopolistic competition and oligopoly have been taught; and later, used as a digital resource with a technology supported learning system. It creates:

- A visual representation of material to capture the students' imagination.
- An auditory stimulus.
- A self-help learning solution.
- A conduit to assist students with learning disabilities.

MONOPOLY

- Using mathematics and graphs students arrive at the monopoly price and output.
- The demand curve is the average revenue curve and it is downward sloping.
- The demand curve is bisected by the marginal revenue curve.
- To profit maximize , the firm sets marginal revenue equal to marginal costs, MR=MC.
- The firm is inefficient, it operates with excess capacity.
- Price is greater and output is less than the perfectly competitive firm.
- No supply curve exists.

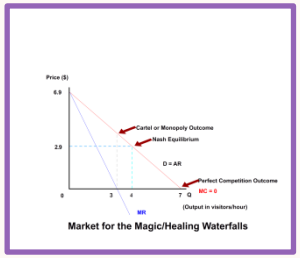




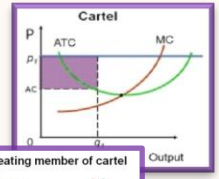
COMPARING MONOPOLY & PERFECT COMPETITION

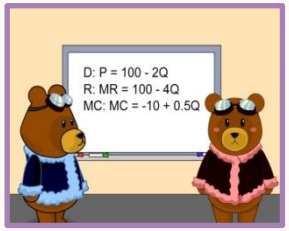
- Set marginal revenue equal to marginal cost when firms are set up to mimic a monopolist.
- Set price equal to marginal costs when firms are set up to mimic perfect competition.
- Total revenue is maximized when marginal revenue equals zero.
- Ultimately the comparison of the inefficient monopolist with the efficient firm in perfect competition is examined.
- The introduction of dead weight loss (DWL) and the formula

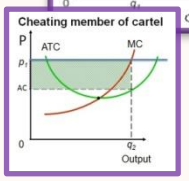
  ½ base*height.



Market for the Magic/Healing Waterfalls







MONOPOLISTIC COMPETITION

- Large number of firms; each firm supplies a small portion of total industry output; no barriers to entry; some control over price; zero economic profits in the long run.
- Demand curve slopes downward; excess capacity in the long run.
- Product differentiation creates monopoly power; firms only produce that version of a good.
- Product differentiation produces excess capacity in the long run.
- In the long run, price equal average total costs (P = ATC).
- Variety and innovation are a trade off to an efficient market.

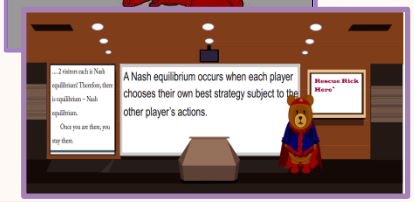
FUN WITH ECONOMICS

- Students are engaged in problem solving at their desks to gain understanding and not merely grades. Humour is incorporated for the enjoyment of viewing, learning and memory.
- Numerical answers are discussed.
- Problems may be solved again at the student's leisure.

# of visits Ian	# of visits Stuart	Total Market # of visits	Market Price	Ian's Profit	Stuart's Profit	Joint Profit
1	1	2	4.9	4.9	4.9	9.8
1	2	3	3.9	3.9	7.8	11.7
1	3	4	2.9	2.9	8.7	11.6
1	4	5	1.9	1.9	7.6	9.5
1	5	6	0.9	0.9	4.5	5.4
2	1	3	3.9	7.8	3.9	11.7
2	2	4	2.9	5.8	5.8	11.6
2	3	5	1.9	3.8	5.7	9.5
2	4	6	0.9	1.8	3.6	5.4
3	1	4	2.9	8.7	2.9	11.6
3	2	5	1.9	5.7	3.8	9.5
3	3	6	0.9	2.7	2.7	5.4
4	1	5	1.9	7.6	1.9	9.5
4	2	6	0.9	3.6	1.8	5.4
5	1	6	0.9	4.5	0.9	5.4

OLIGOPOLY - GAME THEORY

- Best to cooperate and reach a monopoly outcome.
- **Nash equilibrium:** firms interacting with each other, choose their best strategy given the strategies of other firms.
- The firm maximizes profits; competitive firm > **Quantity** > monopoly; monopoly > **Price** > competitive firm with Nash equilibrium.



RESCUE RICK TO THE RESCUE

- Our superhero Rescue Rick's mission is to ensure that students understand economic concepts.

OUTCOMES

- To recognize the formulae, graphs and what they represent as they pertain to monopoly, oligopoly and monopolistic competition.
- To profit maximize, each firm sets marginal revenue equal to marginal cost (MR = MC).
- To comprehend the existence of excess capacity and that the point of efficiency where price equals the minimum point of the average total cost curve (P = min ATC) is never reached.
- To understand that the monopolist has no supply curve.
- To recognize that in the long run a monopolist can operate with economic profits.
- To understand the alternative policies of marginal and average cost pricing to prevent excessive profits in a natural monopoly.
- To understand the difference between monopoly and perfect competition.
- To know that in perfect competition the demand curve for the firm is horizontal while in monopolistic competition it is downward sloping.
- To appreciate game theory and the kinked demand curve.
- To be able to find consumer surplus, producer surplus and dead weight loss.
- To stimulate understanding of economic concepts and an interest in economics.
- To act as a review of lecture material and to provide continual mentoring through a digitally supported learning system.

ACKNOWLEDGEMENTS

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