University of Pacific-Economics 53
Lecture Notes #15

I. Features of Monopolistic Competition

Like the name suggests, a monopolistically competitive industry has features from both a monopoly market structure and a perfectly competitive market structure.

The features of a monopolistically competitive industry include:

(1) **Many firms.** Like a perfectly competitive structure, in monopolistic competition there are a large number of firms. Each firm is small relative to the size of the market.
(2) **Entry is easy.** Like a perfectly competitive structure, entry into an industry is not blocked. In the long run, if firms are earning an economic profit, this will attract firms into the industry. Firms will continue to enter until economic profits are zero.
(3) **Firms produce different products.** Unlike a perfectly competitive firm which produces a homogeneous product, a firm that is monopolistically competitive will produce a slightly different product than their competitors. By producing a unique product that no other firm provides, a monopolistically competitive firm can act as a monopolist and have some market power over the price it charges. In other words the firm can raise its prices and not worry about losing all the demand for their product.

II. Product Differentiation

The ability of a monopolistically competitive firm to have market power over its price depends on how well they can differentiate their product from their competitors. In this section we'll look at several issues: (1) Why does product differentiation exists? (2) How do firms achieve product differentiation and (3) What are the costs and benefits of advertising?

A. Why does Product Differentiation Exist?

In some industries, there is no variety of output produced across firms, while in other industries there is a great deal of variety. Think about when you go to the Supermarket and walk down the cereal aisle. There are dozens of varieties of cereals for you to choose from. What features explain why certain industries have variety while other industries do not. The key determinants of product differentiation are:

1. **Heterogeneity of Consumer Tastes:** If every consumer in the market had similar tastes then there would be no need for variety. For example, if everyone in Stockton only liked Mexican food then only Mexican restaurants would be successful in Stockton. As a result the entire restaurant industry would consist of only one variety. The greater the extent people's tastes are different the more variety will exist. A diverse population will probably lead to more variety and choices for consumers.
2. **Lack of Need for Coordination:** Some industries require that firms produce the same output otherwise the industry would not function as well. There are many firms that produce DVD discs. The output produced are standard in that each disc will play

on any DVD player. Imagine what would happen to the DVD industry if each firm produced a slightly different DVD that each required a special DVD player to watch. Obviously such a system would not be feasible. Thus industries in which coordination is needed will limit product choice.

3. **Scale Economies:** If in a particular industry it is cheaper to produce a single variety than to produce a bunch of different varieties then the industry will tend to produce the single variety. For monopolistically competitive firms, such scale economies do not exist. In other words there is not much difference between producing varieties over a standardized product.

B. How do Firms Differentiate their Products?

There are two broad ways in which firms differentiate their products:

(1) **Horizontal Differentiation-**Horizontal differentiation is the idea that when firms differentiate their products they make them more attractive to some consumers, but less attractive for others. For example, a popcorn maker who differentiates his product by producing kettle corn is likely to make his product popular with some customers, but others will be less likely to purchase it. In this example, horizontal differentiation has created variety to reflect the fact that some people like kettle corn popcorn while others do not.

(2) **Vertical Differentiation-**Vertical differentiation is the idea that when firms differentiate their products it is a difference that everyone agrees make the product better than a rival product. An example of vertical differentiation is a laptop that has 250GB of hard drive vs. an exact same laptop that has a 500GB hard drive. Why would anyone choose the 250GB hard drive laptop? Well the obvious answer is that the prices must be different between the two products. Again this reflects, tastes of consumers. Consumers who value the extra drive space will pay for the more expensive laptop.

All these efforts by monopolistically competitive firms to differentiate their products would be pointless if consumers didn't enjoy variety. But for most products, consumers do like having choices and are variety seeking. People don't wear the same outfit every day nor do they eat the same food every day. Thus consumers for the most part like the fact that firms in monopolistically competitive industries do produce different products.

A branch of economics called **behavioral economics** has provided some insights on how consumers react when faced with variety. Behavioral economics combines some theory from psychology with economic theory to explain how decisions are made. Two areas of study in behavioral economics are worth a quick mention.

- Some studies have shown that too much variety might overwhelm consumers. One study looked at the impact on consumers when faced with dozens of choices. The study showed that when faced with a overwhelming set of choices most consumers react by making no decision at all, or by reverting to a default option. For example, in most retirement plans, employees have to choose among hundreds of mutual funds (companies that invest in the stock market). Some people instead of making informed choices,

refrain from making any choice and their money goes to some default option (low yield government fund).

- Some studies in behavioral economics have tried to provide another explanation on why consumers prefer variety. The same firm might differentiate the same product by having different package sizes or different pricing plans. For example, Oreo cookies can come in small mini-packages consisting of a couple of cookies or huge boxes sold at Costco that has hundreds of the same cookie. An example of a firm that has different pricing plans for the same product is a typical health/fitness club. Users have an option of paying a daily use fee or they could enroll for a yearly membership. Behavioral economics explain these types of product differentiation are a result of the fact that some consumers use these products as a form of **commitment device.** That is consumers purchase a specific form of product as a way to commit to a behavior in the future. For example, by purchasing a yearly membership to the fitness club, a consumer is making a commitment to work out regularly. Likewise by buying a smaller package of Oreo Cookie the consumer is committing themselves to eating less of a tasty, yet unhealthy treat.

C. Pros and Cons of Advertising

Advertising is critical in creating product differentiation. It helps inform consumers about the differences between Good X and Good Y while at the same time creating a brand image that fosters customer loyalty. Hundreds of millions of dollars are spent annually on advertising. While some have argued that advertising is useful in creating product differentiation, others have argued that the resources spent on advertising is wasteful and could have been used for other purposes. We'll take a quick examination of the debate on advertising.

- Pro-Advertising Side

Advocates of advertising make the following points:

1. Consumers must have complete information when making choices. Advertising provides information on product availability, quality and price that allows consumers to make the best choice possible in the marketplace.
2. Advertising promotes competition. By advertising, new products are able to compete with established products.

- Critics of Advertising Side

Critics of advertising make the following counterpoints:

1. **Advertising is a waste of resources.** The millions spent on advertising is wasted since a lot of the money is used in highlighting small or even non-existent differences among products. Is there really much difference between a name brand Aspirin bottle or a generic bottle? Presumably the contents of the bottle will be composed of the same ingredients.
2. **Advertising Increases Costs to Consumers.** Firms that spend on advertising will have that cost built into their cost curves. It's the cost for them to do business. With higher cost curves, the firms have to charge a higher price than they would have otherwise charged.
3. **Advertising is a zero-sum game.** Firms that are successful in advertising will just take away market share from a competitor. They won't increase the demand or profits for the

industry as a whole. "Zero-Sum Game" refers to fact that the gains to the winners will be exactly offset by the losses from the losers. Thus the industry as a whole does not gain.

4. **Advertising creates a barrier to entry**. In order to compete with an established name brand product, a new firm will have to spend vast sums of money just to put itself on the radar for potential consumers. The fact that one must have millions to spend on advertising just to get started often makes entry into a firm difficult.
5. **Advertising is deceptive and annoying**. Proponents of advertising argued that advertising provides information that allows consumers to make informed choices. However, most ads have very little useful information to help consumers make choices. They are meant to persuade us to buying a product and some can be deceptive. Also there is a cost to society of being bombarded constantly with ads from the morning newspaper, to listening to the radio while driving to work, to seeing the billboards on the freeway, to the ads on television.

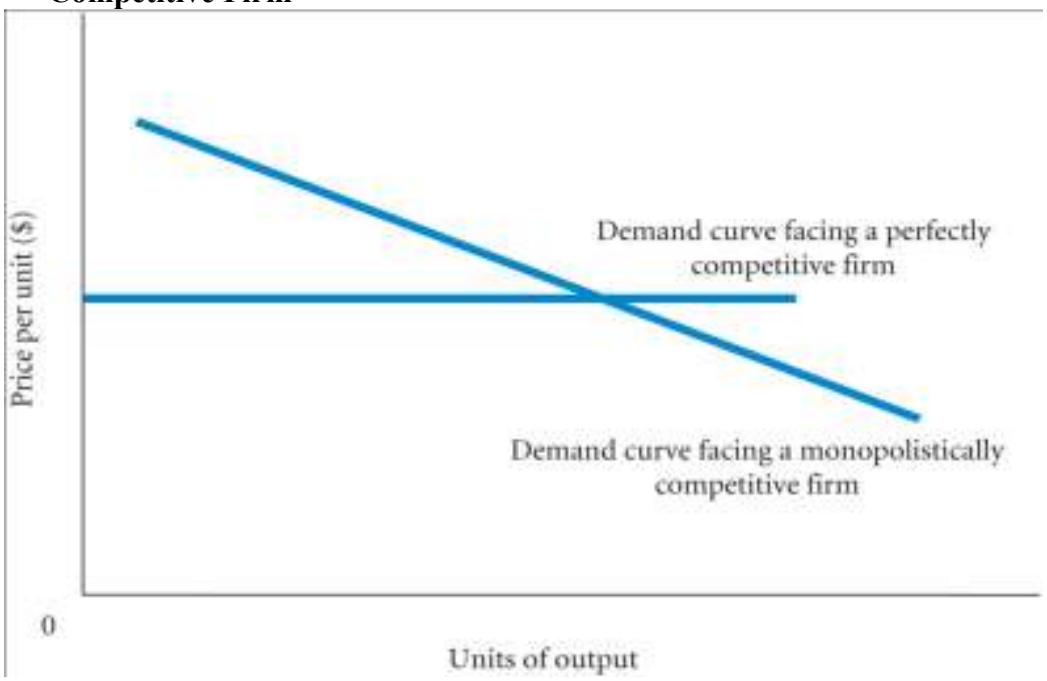
Not surprising there are economists on both side of the debate. Some economists have shown that advertising leads to an efficient market as consumers make better, informed choices. Other studies have shown that advertising creates an industry that is concentrated and results in higher prices for consumers. Work on this area is still ongoing.

III. Price and Output Determination Under Monopolistic Competition

A. Demand Curve Under Monopolistic Competition

Figure 1 shows two demand curves that differ based on the market structure of the industry. As we have seen the demand curve facing an individual firm in a perfectly competitive industry is horizontal (**perfectly elastic).** The demand curve is perfectly elastic because consumer demand will drop to 0 if the firm raises the price by even the tiniest amount. This has to hold under perfect competition because every firm in the industry is producing the same product, and if one firm tries to raise its price, all consumers will go to other firms. A monopolistically competitive firm doesn't have this problem. Since they produce slightly different versions of products, their products are unique and thus they will not lose demand if they raise their price somewhat. For example, if Pepsi raises its price by a couple of cents, it will not suddenly see all of its customers go drink Coca-Cola. Some people would be willing to pay the higher price for Pepsi rather than switch to Coke. Thus the demand curve for a monopolistically competitive firm will be downward sloping like a monopolist demand curve. However, the demand curve for a monopolistically competitive firm **will be relatively flat.** The product produced by a monopolistically competitive firm will have many close substitutes. Recall from Chapter 5, then the presence of close substitutes will make consumers very responsive to any change in price. Thus the demand curve for a firm under monopolistic competition will be elastic and the slope will be flat. Figure 1 illustrates these two demand curves.

Figure 1: Demand Curves Facing a Perfectly Competitive Firm and a Monopolistically Competitive Firm



B. Price and Output Determination Under Monopolistic Competition

Where will a monopolistically competitive firm produce in the short run? We've seen that because of product differentiation, the firm will face a downward sloping (yet flat) demand curve. Because the monopolistically competitive firm has some degree of market power, it must lower its price on all units, just like a monopolist, if it wants to sell more output. Thus the marginal revenue curve will be below the demand curve. If we add our cost curves, we'll find that a price and output are determined in the same manner as a monopolist.

Figure 2

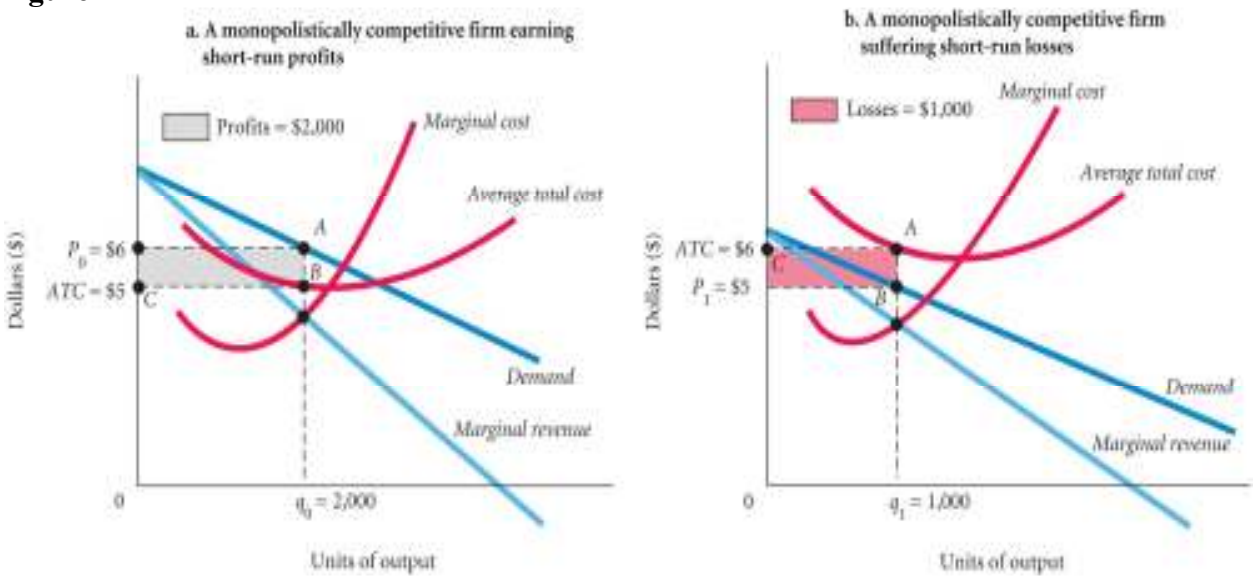


Figure 2 shows two price/output decisions for a firm in a monopolistically competitive industry. Figure 2(a) shows that the firm will produce where MR=MC. At that point, the quantity produced will be 2,000 units and the price charged will be $6. Thus total revenue will be $12,000. At 2,000 units the ATC will be $5. Thus total costs will be $10,000. Total profits will therefore be $12,000-$10,000 = $2,000. Thus in this case the firm is producing a positive economic profit.

Figure 2(b) shows a different firm with a different demand and marginal revenue curve. At the point where MR=MC the firm will produce at an output of 1,000 units and will charge a price of $5. Thus total revenue will be $5,000. At 1,000 units, the ATC will be $6. T he resulting total costs will be $6,000. This firm will thus be losing $1,000.

As with a perfectly competitive firm, a monopolistically competitive firm will still continue to operate in the short run, even if it suffering losses as long as the price is above the average variable cost. In the long-run situation however profits and losses will not be maintained.

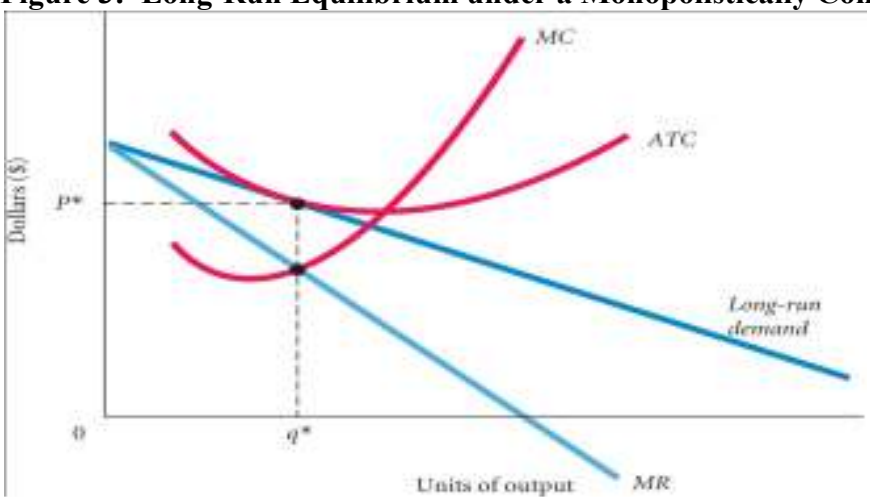
C. Price and Output Determination Under Monopolistic Competition in the Long-Run

One of the assumptions we made about a monopolistically competitive industry was that entry and exit in the industry is easy. The presence of economic profits will attract new firms into the industry, while the existence of losses will cause firms to leave the industry. There is a slight difference between perfect competition and monopolistic competition. The difference is that each firm under monopolistic competition produces a different, unique product. A new firm that enters an industry will not produce the exact same good but a close substitute. The result will be that the **demand curve facing the existing firms will shift to the left.** As consumers have more options, they will demand less of any particular good. The entry of new firms will continue until there is no more economic profit. This will occur where the demand curve is tangent to the ATC curve

*****The long-run profit-maximizing equilibrium for a monopolistically competitive firm is the point where the demand curve is tangent to the ATC curve*****

This will be the long-run equilibrium as well even if the firm was initially suffering losses. If firms in the industry was initially suffering losses, then firms will be leaving the industry. That would result in less choice in the market, and the demand curve facing the remaining firms will shift to the right. This will continue until the demand curve is tangent to the ATC curve. Figure 3 illustrates this long-run equilibrium.

Figure 3: Long-Run Equilibrium under a Monopolistically Competitive Structure



D. Economic Efficiency of a Monopolistically Competitive Industry

There is a social cost to a monopolistically competitive industry. Firms act as mini-monopolist for their own unique product and as a result the price will be higher than what is socially optimal (Price will be greater than marginal cost), and the resulting output will also be lower than what is optimal. A second cost is that scale economies are not achieved. Notice in Figure 3, where the firm is producing at its LRAC curve. It's producing at a point above the minimum point of the LRAC. This means if the firm could produce more it will see lower costs. Economists, however, balanced these costs with the fact that monopolistically competitive firms result in new products being introduced, old products being improved, and lots of variety being created for consumers. For the most part these gains seem to offset any social costs that might have arisen.