

ECONOMICS USA

Program #17

“Perfect Competition and Inelastic Demand: Can the Farmer Make a Profit?”

Learning Objectives

PURPOSE:

To illustrate the concepts of perfect competition and the elasticity of supply and demand.

OBJECTIVES:

1. A competitive industry (or market) is one in which there are many independent buyers and sellers. No one firm or consumer affects a large percentage of the market.
2. Market pressures will force competitive firms to use the least costly method of production and force them to expand production up to the point at which the marginal cost of production equals the market price. (This results in an efficient allocation of resources.)
3. Elasticity is defined as the percentage change in one economic variable, such as sales of automobiles, divided by the percentage change in a related variable, such as the price of automobiles.
 - a) If the price elasticity of demand is very low (inelastic) there will be large changes in price when there is a sudden increase or decrease in supply.
 - b) The degree of elasticity depends on the length of the time interval over which it is measured. Elasticities will generally be greater if firms and consumers are given more time to respond.
4. The government has attempted to maintain farm incomes by trying to keep agricultural prices from falling too low. Government programs have tried to support prices by:
 - a) subsidizing foreign demand for U.S. agricultural products.
 - b) buying part of the “surplus.”
 - c) encouraging farmers not to produce (acreage restriction programs).

KEY ECONOMIC CONCEPTS:

elastic supply and demand	demand elasticity and total revenue
inelastic supply and demand	price stability and elasticity
unitary elasticity	short-and long-run elasticity
income elasticity	farm price supports
cross-price elasticity	perfect competition
price=marginal cost	efficiency

ILLUSTRATIVE EVENTS:

The poverty of numerous farmers in the 20's, the Farmers' Holiday Association in 1932, and the Eisenhower agricultural programs are used as examples.

Program Transcript
(Revised 3/4/2003)

Annenberg/CPB Project (Logo and Music)

TEASER

DAVID SCHOUMACHER: It was the 1920s. Most of the nation seemed to be experiencing an era of unprecedented prosperity. What then could force tens of thousands of farmers to abandon their land? 1932 – the depth of the “Great Depression”. While many of the poor went hungry, why were farmers dumping thousands of gallons of milk? Since 1933 we have subsidized farming in America. Is that a good idea? And who benefits? The small farmer, big agribusiness, or at the end of the chain, the consumer?

The story of the American farmer is one of the great ironies of the modern era. Incredibly productive, but frequently unprofitable. It’s a story that too often ends like this. Perfect competition and inelastic demand. Can the farmer make a profit? Economic Analyst Richard Gill and I will examine that question on this edition of Economics USA. I’m David Schoumacher.

PART I

DAVID SCHOUMACHER: You can see the forces that control a farmer’s economic well being at work here at this farmers’ market. Taken together, it demonstrates a concept that economists call “Perfect competition”. In other words, every farmer who raises say, tomatoes, is in competition with every other farmer who raises tomatoes. The market determines the price through the interplay of supply and demand. So the farmer is a “price taker”, not a “price maker”, and he tries to produce at the lowest possible cost and produce at the lowest possible cost and produce as much as he can as long as he can turn a profit. At the beginning of the 20th century, the farmers felt secure in their calling as they toiled to supply all the foods a growing nation demanded. So why, just twenty years later, were so many farmers forced to leave the land? Their problems began with the entry of the United States into World War I. President

Woodrow Wilson challenged the nation's farmers to dramatically increase food production. "Food will win the war," he told them.

ARCHIVAL FILM ANNOUNCER: "Wheat will win the war. Plant wheat. Plant wheat. Wheat for the boys over there. Wheat for the Allies. Wheat for the British. Wheat for the Belgians. Wheat for the French. Wheat at any price!"

DAVID SCHOUMACHER: As their "patriotic chore", man and machine opened new lands. Productivity and profits soared, Farmer Kenneth Litton recalls his father's wartime effort.

LITTON: "During the outbreak of WWI there was a great drive put on to increase feed supplies and food supplies to feed not only our army and civilian population but populations in Europe that had been overrun. And in so doing, he thought he was doing the patriotic right thing, and bought another nine hundred acres. He felt he was just as patriotic and just as involved in that war as the man that was toting a rifle."

DAVID SCHOUMACHER: Even the end of the war did not end the growing demand for U.S. farm products. For the threat of famine hung over a starving Europe. Responding the call of Herbert Hoover, leader of the U.S. "relief effort," the farmer raised his output even higher and fed two continents. Never before had demand been so strong. Never before had profits been so great. Even the small farmer prospered. Dr. Wayne Rasmussen, Chief Historian U.S. Department of Agriculture, comments:

RASMUSSEN: "The marginal farmer also enjoyed this prosperity. Before the war he might have been on the edge of going out of farming. Now, with demand and high prices, he was making a reasonably good living. It looked as though these demand and these high prices would continue on forever."

DAVID SCHOUMACHER: It was indeed the "best of times", but the farmer's bountiful harvest provided the seeds for his future predicament. In three short

years these “best of times” would become the “worst of times”. For in 1921, the nation lurched into a post-war recession and European agriculture had recovered more quickly than anyone expected. Demand for the farmers’ crops fell. Yet supplies remained abundant. Prices plummeted, marking the beginning of the farmers’ “season of despair and discontent”.

LITTON: “When the war was over and without direction, most everything just kind of fell apart, you know, and finally the nine hundred acre increase turned out to be a nine hundred acre blunder or mistake, and they lost it all. But the misery of the thing that I remember most vividly was my mother. You could hear her weeping nights, through old farmhouse walls.”

DAVID SCHOUMACHER: By 1922, “recession” turned to “recovery” for virtually every sector of the American economy except for the farmers. Attempting to raise their income, they produced more and more. Why didn’t their productivity pay off?

RASMUSSEN: “Well, the great demand that had built up during WWI, both on the part of Americans and on the part of our Allies, was a singular, one-time demand. But those people who had opened up some of these marginal lands, who had had little experience in big-scale farming, now found themselves in a terrific “cost-price” squeeze. They tried to produce more and more too. So as more and more was produced by all of these farmers, the surpluses piled up. As demand abroad continued to decline, more surpluses piled up. So that the surpluses piled up and piled up and eventually we were in a chronic surplus situation.”

DAVID SCHOUMACHER: The surplus drove market prices down, and now only the most efficient farmers could meet the cost of production. In less than a decade, the hard times forced nearly one and a quarter million hard-working, marginally-productive farmers to leave their homes. It was the abandonment and desolation of not only their land, but of their dreams.

ARCHIVAL FILM ANNOUNCER: “The farmer is the man... The farmer is the man who lives on credit ‘til the fall. And his pants are wearing thin. His condition is a sin. They forgot that he’s the man who feeds them all.

DAVID SCHOUMACHER: Economists often speak of the wonders of competition and the laws of supply and demand. Why then, we asked our economic analyst, Richard Gill, were farmers having such difficulty back in the 1920s?

(MUSIC PLAYS – COMMENT & ANALYSIS I)

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RICHARD GILL: The simple answer, I suppose, is that they were too productive for their own good. For the rest of society, of course, that wasn’t a problem but a great advantage. All through history, countries have faced the difficulty of getting enough production from their farms. By contrast, our problem has been one of abundance, even during crises like world wars! In that sense, competition and the laws of supply and demand have worked wonders, as most economists would have predicted. But the laws of supply and demand are very impersonal. During the 1920s, what these laws were telling our farmers was that there were too many of them. And the way this lesson was being taught was through sharp declines in farm prices and farmers’ incomes. Basically, it was a case of supply out-running demand. Suppose we have an original situation that looks like this. We have supply and demand curves for wheat and they determine the price of wheat here at, say, \$1.50 per bushel. This may be fine for the moment, but things change over time. Our farmers grow more and more productive. They are ready to supply more and more wheat each year. In 1920, say the supply curve for wheat was here. By 1930, out to here. Now demand also changes, of course. Our population grows over time. Our incomes go up generally, meaning that we will be spending more on agricultural as well as other products. So the demand curve will also shift out. But how much? If you get more income, how much more bread are you going to want to buy? Not that much more really. So demand does shift out, but only modestly. And the result is plain. Farm prices go down. Here,

and then here. And with them, farmers' incomes also plummet downward. Why did a million or more farmers abandon their farms in the 1920s? Why have millions more left farming since then? Ultimately because of this message from the market: A message of abundance for a well-fed nation; a message of despair for many farmers whose plans and hopes were shattered.

PART II

DAVID SCHOUMACHER: By 1932, President Herbert Hoover declared the nation to be in a "Great Depression". Fully one-quarter of the American labor force was out of work. But farmers were worse off than most.

FARMER: "I lived here twenty-five years on this land. Up to four years ago we always made a living and had plenty".

FARMER: This hog used to be ten cents a hundred. Now they're two and a half. Four years ago we could get twenty dollars for her and all she went for today was two and a half a hundred."

DAVID SCHOUMACHER: No group of farmers suffered more than the dairymen of the mid-western states. Dairy production was at its highest level ever. Milk prices fell, but lower prices failed to increase consumption. So the dairy farmers' income dropped to its lowest level ever. Was there anything he could do to improve his own lot? And why was the dairy farmer caught in this desperate situation in the first place? Herbert Forest, Former Director – Dairy Division of the U.S. Department of Agriculture comments:

FOREST: "Well, there are very few people who buy their milk from farmers. And there are a lot of dairy farmers, particularly during the 30s, we had up to two to three million dairy farmers selling milk to milk dealers. So that the milk dealer could pick and choose from dairy farmers, and if a dairy farmer didn't particularly want to sell his milk at the price the milk dealer was offering, then the milk dealer would tell the farmer to keep his milk at home."

DAVID SCHOUMACHER: As his income continued to fall, the shadow of foreclosure loomed over the dairy farmer. The old agrarian tradition crumbling, the mid-western dairymen, that solid bedrock of the American work ethic found themselves poised on the brink of open rebellion. Milo Reno, a fiery activist and Former President of the Iowa Farmers Union, called for a strike, a “holiday” from production. The first strike target was set – Sioux City, Iowa. Here the Milk Producers’ Association joined forces with Reno’s newly formed Farm Holiday Association. What did the dairymen hope to accomplish?

FOREST: “Each individual dairy farmer thought that if he could just deprive the milk dealer of his milk supply for a while, that the milk dealer would come, be easy to deal with, in fact, come to terms at a higher price for the dairy farmer.”

DAVID SCHOUMACHER: The line was drawn. The strikers formed their gauntlet through which the truckers had to pass. And violence ruled. George Mills, an Iowa journalist who covered the milk strike, comments:

MILLS: “The pickets were out on the road to prevent that load of milk being delivered to the distributors to Sioux City. The pickets were armed. So was the milk hauler and his sons. The pickets had placed telephone poles and railroad ties and things of that sort on the road. Obstructions of one sort or another. And the milk hauler was a fellow by the name of R.D. Markell, got out. He was a 67 year old milk hauler. He got out of his car, out of his truck, and went out on the road to remove the obstructions. And someplace along the line somebody fired a shot. Nobody knows which side. And Markell was struck in the stomach. He went ahead and removed the obstructions anyway, but then he died within a few hours.”

DAVID SCHOUMACHER: Sioux City was isolated. On the road trucks by the hundreds were turned back and rivers of milk ran down roadway ditches. While in the city, strikers distributed gallons of confiscated milk free to the inhabitants. Although the Iowa strikers were few in number, their actions were merely the first ripple in the ever-widening sea of protest. Roads were picketed in South

Dakota and Nebraska. Strikers were beaten and tear-gassed, but they held firm. North Dakota organized and the Georgia dairymen dumped their milk. Six weeks after the Sioux City strike began, it was all over. Although scattered protests continued throughout the nation, they were faint echoes of the anger that spilled over at Sioux City. Why was the strike unsuccessful?

FOREST: “The milk dealers could find enough milk supply somewhere to thwart the desires of the dairy farmer.”

DAVID SCHOUMACHER: So there didn’t seem to be much that farmers could do to improve their general lot. Not individual action, not institutional activity, not even group protests and violence. Economic analyst Richard Gill explains why the farmers couldn’t find their way out of this terrible economic predicament.

(MUSIC PLAYS – COMMENT & ANALYSIS II)

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RICHARD GILL: There are really two points to be made here. The first is that the dairy farmers in Sioux City and North Dakota and Georgia were not being at all irrational in trying to curtail milk supplies on the market. The reason it made sense from their point of view is that the demand for milk, like the demand for most agricultural products, tends to be what economists describe as inelastic. What this means is that consumer demand for milk doesn’t change that much whether the price is high or low. It doesn’t “stretch” that much either way. An inelastic demand curve for milk would look something like this. It’s quite steep. The quantity demanded doesn’t change that much even with quite large changes in price. Now what this means in turn is that if you can find some way to hold milk production off the market, from here say, to here, you can get very large increases in prices. Because the price change is so great, dairy farmers will actually get more total income from producing less! The second point, however, is that it is very hard to make these schemes work in a competitive environment. The reason is that, from any individual dairyman’s point of view, these higher

prices, once achieved, are really a signal to increase production. The ideal for the individual farmer is for all other farmers to cut their production of milk, sending prices up, and for him to sell as much as he can at the higher price. You cut back. I'll expand. In other words, these voluntary agreements are very likely to break down. This second point also helps to explain why the government, which can organize production controls on a national basis, has been so active in American agriculture ever since the 1930s, though the government has also run into a few problems of its own.

BRIAN RIEDL on-camera:

In 2001, three quarters of all farm subsidy dollars went to the richest 10% of farms, most of whom earn over a quarter million dollars a year. This includes 15 fortune 500 companies, 14 members of Congress and such poor struggling farmers as pro-basketball star Scottie Pippin, David Rockefeller, a major league pitcher Kevin Apear and Enron CEO Kenneth Lay. These individuals received as much as 160 times what the average farmer can receive in farm subsidies. Clearly, it is the rich and famous who are at the Federal trough.

TERRY BARR on-camera:

If what you are trying to do is create an abundant safe, high quality food supply, you have to provide the subsidies to the people producing and that of course is the large-scale producer.

DS V.O. BUSH SIGNING:

On May 14, 2002 President Bush signed a farm subsidy bill estimated to cost 190 billion dollars over 10 years. This rekindled a national debate. Who benefits from farm subsidies and do farmers really need such support? But when farm subsidies began in the 1930's there was little need for debate.

DS V.O.:

Until 1933 the United States Government maintained a laissez faire attitude toward agriculture. Then as the great depression brought new desperation to

farmers, people wondered, wasn't there anything the government could do to help? The question was first answered with Franklin Roosevelt's New Deal.

DS V.O. caricature of FDR & crowds:

FDR acted quickly. Never before and never again would farmers see such a torrent of legislation passed for their benefit.

DS On-Camera:

For the first time there was a national program to raise farm income by guaranteeing minimum prices for farm goods.

BRIAN RIEDL on-camera:

President Roosevelt could not have envisioned that over the years the formulas determining who receives farm subsidies would evolve in such a manner that as corporate agri-businesses who are receiving the farm subsidies not the small struggling family farmers that President Roosevelt envisioned in the 1930's.

TERRY BARR on-camera:

At that point in time we had a significant percentage of the population that was directly engaged in agriculture so, the subsidies were focused on sustaining a very large percentage of the population. Over time we have seen that population in agriculture dwindle down but the notion that you need to protect that food supply has always been there.

Stock footage: Farming shots DS V.O:

By the mid-1990's with a booming economy and high agricultural prices, Congress decided it was time to wean farmers from Depression era subsidies and phase these programs down.

BRIAN RIEDL on-camera:

Because large corporate farms and agri-businesses receive most of the subsidies specifically growers of wheat, cotton, corn, soybeans and rice. It has been shown that those who are not large corporate farms and those who grow crops other

then those five crops have been able to survive and thrive without government subsidies. Clearly these subsidies are not required to stay in the business of farming.

DS V.O:

On April 4, 1996 President Bill Clinton signed the Freedom to Farm Bill which provided guaranteed but gradually declining payments over seven years.

TERRY BARR on-camera:

If you were a, a corn producer for example, you are going to be given a payment for that land based on this historical corn acreage but you could plant soybeans if you wanted to, if the market was telling you that it needed more soybeans you could shift to soybeans and not be penalized. Prior to freedom to farm you had to plant corn in order to get the payment and so forth. So, the notion was let's give the farmer more flexibility in terms of his planting decisions to move to whatever the market will signal that they need more of.

Stock footage farms, crop damage: DS V.O.:

By 1998 an Asian economic crisis hurt food exports and natural disasters ruined crops. American farmers were in trouble . . .

PRESIDENT CLINTON speech in 1998:

"...if we have a family farm structure in America, with widely varying prices because of market developments around the world and the inevitable march of nature and disease, that sooner or later there would come a time when we would see that if you really wanted a strong market you had to do more for the family farmers. Well that time has arrived.

DS V.O.:

Six years after the Freedom to Farm Bill had gone into effect, this noble experiment in market-driven policy had become a casualty of powerful economic and political forces. The Farm Security and Rural Investment Act of 2002 sealed its fate and the debate continued: are farm subsidies really needed?

BRIAN RIEDL on-camera:

There are some struggling family farmers and farming can be a risky profession. One hurricane can wipe out your entire years crop however, a better approach to farm subsidies would be crop insurance where farmers could pool their resources together and buy insurance in case there is a natural disaster. Among farmers who are very, very poor the Federal government could bring every farmer into the middle class for just 4 billion dollars a year. Keep in mind the Federal government spent 30 billion dollars a year in farm subsidies in 2000. However, a real targeted program for just the poor farmers having them with crop insurance and getting them into the middle class would just cost a fraction of that 30 billion dollar tab.

TERRY BARR on-camera:

One of the things I think you have to look at when you look at farm programs and farm subsidies is that the objective of those subsidies is really not necessarily just to shore up agriculture it's designed to shore up the consumer. What we're after with these subsidies, the goal of these subsidies is really an abundant, safe, high quality, food supply for the American consumer at low. Historically when you look at what, what's going on in agriculture and what's going on with food supply what you find is a remarkable achievement.

DS O.C.:

Today, the United States has 2 million farms, which are home to two percent of the population. Large commercial operations now dominate. Eight percent of the farms account for 72 percent of the sales. The best approach to the farm problem is still an open question. We put that question to economic analyst Nariman Behravesesh.

Nariman Behravesesh Analysis:

NARIMAN BEHRAVESH.:

Farm policy often has more to do with politics than economics. Traditionally, farmers have had a disproportionately large amount of political clout. It is no

surprise that the farm programs introduced by both Clinton and Bush administrations were timed to have maximum impact on elections. By the way, the politics of agriculture is also big in Europe and Japan, where some of the agricultural programs are even more wasteful and counterproductive than in the U.S.

The political power of farmers derives from two fundamental fears. The first is the security of the food supply. Few countries want to depend too much on foreign suppliers of food or be ill prepared in the face of the whims of Mother Nature. Second, many countries, including the U.S., would like to preserve the way of life of small family-owned farms – which we should add has been highly romanticized.

Well intentioned as such programs may be, they often are hugely expensive and inefficient. Often, the price paid for saving a farm, either in higher food prices or in higher taxes to support farmers, is many many times the cost of farmers' incomes. Also, programs intended to save small farms often end up subsidizing much large farms that don't need to be saved.

The U.S. is blessed with such a productive agricultural sector that food security is not a serious problem. This leaves the protection of small farmers – especially the poor ones.

Fortunately, the history of farm programs in the U.S. shows that there are cost-effective ways of helping poor farmers during the lean years. Whether these meet the political objectives of successive administrations and Congresses is an entirely different matter.

DS CLOSING ON-CAMERA:

For the past 100 years or so, farmers have become more and more productive. That's meant more food at relatively lower prices. It's also meant that fewer and fewer farmers were needed to feed the nation. And even with all the government programs only the most efficient farmers could manage to turn a reasonable profit. So, millions of farm families have been forced to leave the land and those who remain must still contend with the combined forces of perfect competition and inelastic demand. This is David Schoumacher.