

LECTURE 07: THE PRICE SYSTEM

At the heart of economics is a scientific mystery: How is it that the pricing system accomplishes the world's work without anyone being in charge? Like language, on one invented it. None of us could have invented it, and its operation depends in no way on anyone's comprehension or understanding of it. Somehow, it is a product of culture; yet in important ways, the pricing system is what makes culture possible. Smash it in the command economy and it rises as a Phoenix with a thousand heads, as the command system becomes shot through with bribery, favors, barter and underground exchange. Indeed, these latter elements may prevent the command system from collapsing. No law and no police force can stop it, for the police may become as large a part of the problem as of the solution. The pricing system--How is order produced from freedom of choice?--is a scientific mystery as deep, fundamental, and inspiring as that of the expanding universe or the forces that bind matter. For to understand it is to understand something about how the human species got from hunting-gathering through the agricultural and industrial revolutions to a state of affluence that allows us to ask questions about the expanding universe, the weak and strong forces that bind particles and the nature of the pricing system, itself.

—Vernon Smith, “Microeconomic Systems as an Experimental Science,” *American Economic Review*, Dec. 1982.

- I. Reading Read
- II. What is our goal?
 - a. *Efficiency*—Maximizing output with a given amount of input.
 - i. Also known as minimizing waste.
 - b. Efficiency seems like a dry, heartless concept but it isn't.
 - i. By being able to do more with less, we can use what's saved to do other things—in effect we lower our opportunity cost and do the things we would normally forgo.
 - ii. These other things are not just consumer items. Innovation, art, education, meditation, music, socializing, and traveling are all things we can do.
 - c. Markets are great at efficiency but we should go farther: they are discovery mechanisms. Markets discover prices through competition. Markets discover new methods by rewarding participants to try out different ways of doing things. Countless human experiments are put to the market test and that experimenting and testing lead to not only more efficiency, but all the things we draw meaning from.

III. Of Competition and Cooperation

- a. Most people think of economics as about competition, and competition is certainly a big part of it
- b. But economics is also about cooperation. A Snickers candy bar capture cooperative efforts in ways we can't even imagine. As does a pencil.
- c. This extended order illustrates that markets link one another. The farmer who grows peanuts for Snickers candy bars could also sell those peanuts to make other products such as peanut butter, peanut oil, and other candy bars. There is rich competition *and* cooperation.
- d. *The Great Economic Problem*—arranging our limited resources to satisfy as many of our infinite wants as possible
 - i. Recall that economics is the study of optimality/efficiency. How to get the most out of life.

IV. Central planning

- a. One solution to this problem is through a single bureaucracy that's responsible for allocating resources. But it has problems of information and of incentives.
- b. The value of a resource changes from person to person and at different points of time. Knowledge is disperse, in flux, and sometimes hard to convey.
 - i. Consider oil: it's used for making asphalt and it's used for growing vegetables. Imagine an oil refinery breaks down and we have less oil. What do we cut back on?
 - ii. It depends on how much people value each of these things, on the margin.
 - iii. It depends on how easy it would be to grow vegetables without the oil.
 - iv. It depends on how easy it would be to make the asphalt without the oil.
 - v. It depends on how easy it would be to use something besides vegetables.
 - vi. It depends on how easy it would be to use something besides asphalt.
 - vii. And maybe someone suspects they can use oil more efficiently in one of these areas, but will only bother if it's needed (as doing things a new way has switching costs). Even if you could find this person, it would be hard for them to estimate precisely how likely they could get this method to work.

- c. Similarly, there's no incentive to care about strangers, especially if it means hurting yourself. Maybe your friend paves roads for a living; even if vegetables are the best place for them to go, you are more likely to help your friend. Especially if he pays (bribes) you to help him.
- d. Central planning is not a good way to coordinate economic activity. Over and over again, centrally planned economies have resulted in the suffering of their citizens.
 - i. When in doubt, ask yourself how the traffic is moving. Are people trying to get into centrally planned economies (Venezuela, North Korea, Cuba) or out of them?

V. Emergent Order

- a. In general, economists rely on “the market” to solve the Great Economic Problem. Specifically, we rely on prices. Prices accomplish two big goals.
 - i. *Prices convey information.* If the price of something is high, then we, a whole, know that that something is scarce. If it is low, then we know it is abundant.
 - ii. *Prices induce action.* If the price of something is high, then people have an incentive to sell that something. If it is low, then they have an incentive to not produce it.
- b. Prices lead to *emergent order*—order without centralized plans. (Though markets are not the only manifestation of emergent order.)
 - i. By “order” I mean a system with predictability and stability. Emergent order means a system can have these things without someone micromanaging the system.
 - ii. In most circles people call emergent order “spontaneous order” but this is a bit of a misnomer—it is not instant, unplanned, or impulsive. It *emerges*.
- c. The recognition of this miracle dates back to Adam Smith. He called it *the invisible hand*—a metaphor describing that, when markets work well, people pursuing their self interest also pursue the social interest. The equilibrium is the optimum.

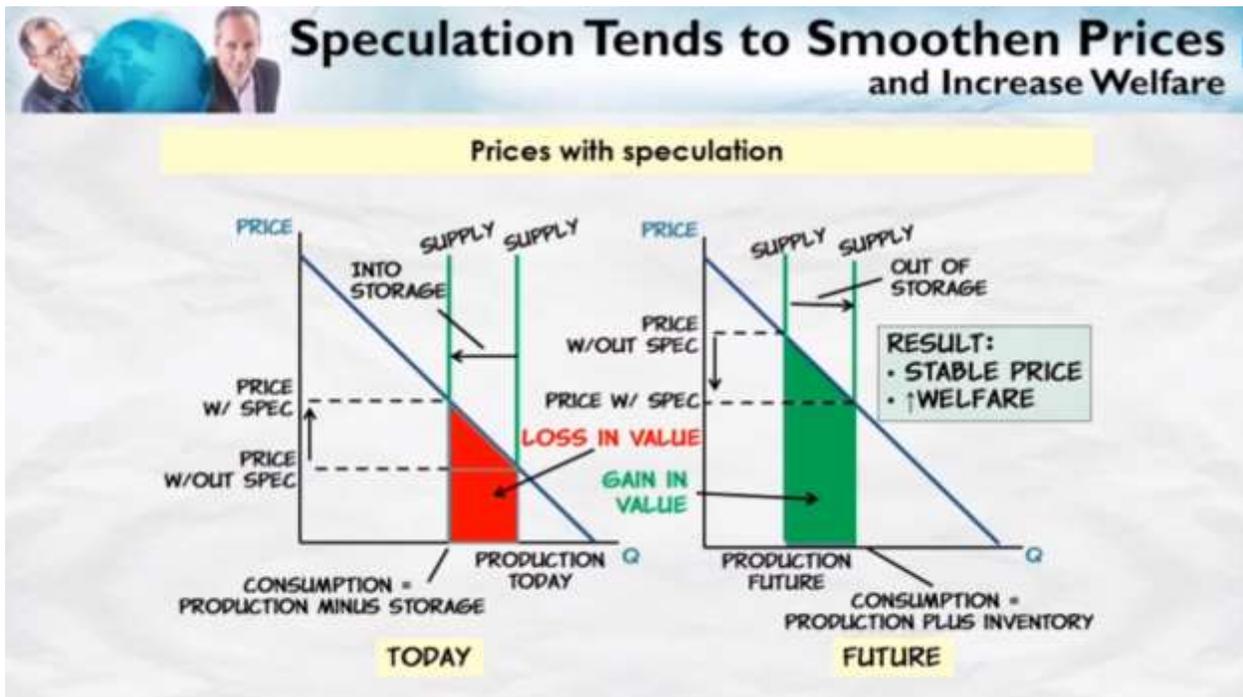
VI. Complexity

- a. For any given resource, there are many uses of that resource and many alternative resources that could be used.
- b. Thus the emergent order of an economy—especially an advanced one—is incredibly complex. For every input, there are substitutes, and substitutes for those substitutes, and there are complements and substitutes for those complements.

- c. While we know how obvious connections will be affected (e.g. direct complements and substitutes), it's harder to know the size of the effect and even harder to predict the indirect consequences.
- d. But, crucially, we don't need to know. At every step, market participants follow the changing prices without knowing why prices changed in that way. People move resources from low value places to high value places. An order emerges.

VII. Speculation

- a. This complexity isn't limited to space; it crosses time as well.
- b. *Speculation* is attempting to profit from future price changes.
- c. If people think the price of oil will increase in the future, they will buy oil now and sell that inventory when prices are high.
- d. This results in price smoothing. If speculators buy when prices are low and sell when prices are high, then lower prices induce increasing inventories and higher price induce reducing inventories. The former increases low prices and the latter reduces high prices.
- e. This is efficient, or welfare-enhancing. Low-value consumers don't use oil now but that allows high-value consumers to use oil later.



- f. Here's a screenshot from a video at Marginal Revolution University to help illustrate the point. Full video available [here](https://www.mruniversity.com/courses/principles-economics-microeconomics/speculation-oil-futures-market).¹

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