

## LECTURE 07: THE PRICE SYSTEM II

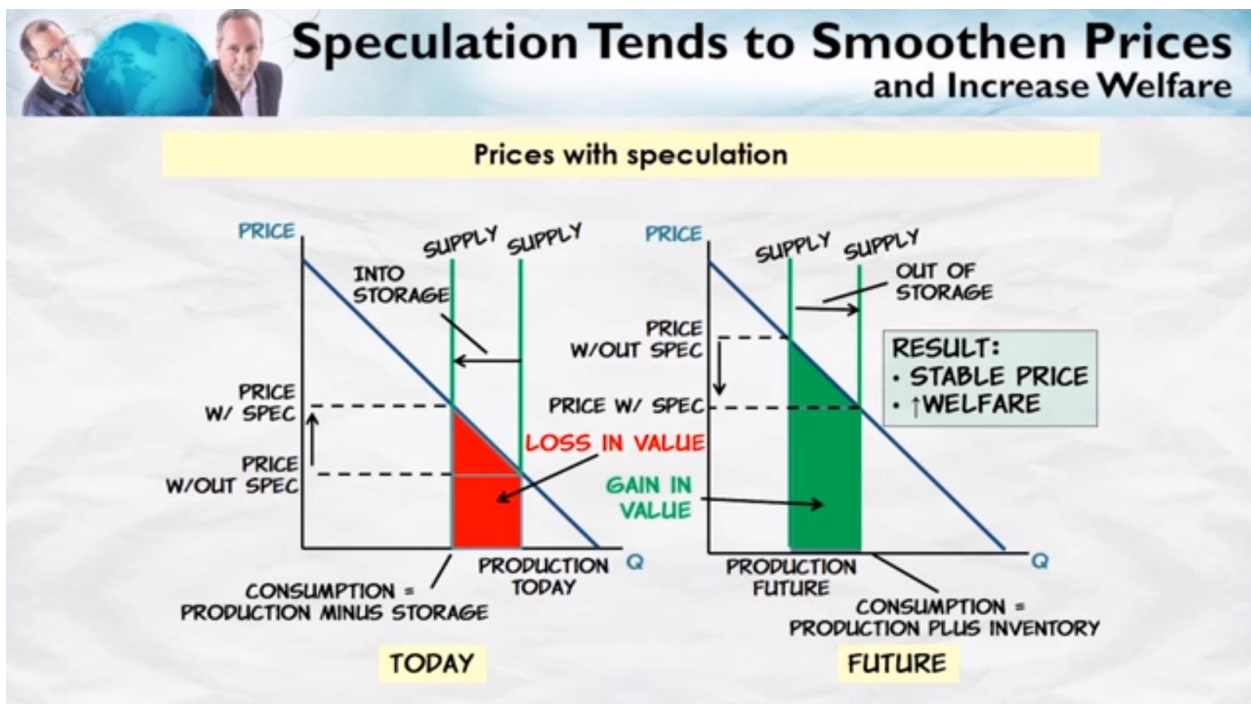
- I. Emergent Order
  - a. In general, economists rely on “the market” to solve the Great Economic Problem. Specifically, we rely on prices. Prices accomplish two big goals.
    - i. *Prices convey information.* If the price of something is high, then we, a whole, know that that something is scarce. 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.
- II. 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. It’s hard to appreciate how complex without an example so let’s dive in:
  - c. Imagine there’s a disease wiping out potato crops. The price of potatoes falls.
    - i. Thus the cost to make French fries increases.
      1. French fries become less popular so the demand for complements like ketchup falls, thus fewer farmers grow tomatoes.

2. Substitutes for fries, such as onion rings, become more popular, thus more people produce the relevant inputs.
  3. Since tomatoes and onions have very different growing requirements, farmers are not going to simply start planting onions instead of tomatoes. Farmers in certain climates will swap out tomatoes for a crop that can easily grow there (thus affecting a different market). Farmers in a different crop will grow more onions and grow less of something else (thus affecting yet another market).
- ii. A higher potato price means the cost to make potato chips increases.
    1. Potato chip dip ingredients—like sour cream—experience a lower demand. Milk, which is used to make sour cream, gets cheaper as does other uses for it, including cheese and yogurt.
    2. Corn chips become more popular as would complements like guacamole. Avocado prices rise.
    3. Unlike milk, avocados are grown in only a few places. The shipping and trucking industry gets a bump in demand.
  - iii. As the price of potatoes increases, more people will grow potatoes themselves.
    1. As many of these new potato farmers will be small scale amateurs, many will grow potatoes in containers. Wood and plastic prices increase.
    2. The price of gardening tools also increases. The price of metal to make those tools also increases, thus increasing the price of other objects that use metal, such as hammers, cans, and cars.
  - iv. And we can go on and on and on...
  - v. I've cherry-picked these effects for illustrative purposes but no one really knows what will happen when you're far away from the initial change. For example, I claim shipping will be more common but I don't know if that increased shipping from avocados will more than make up for the decreased shipping in potatoes and milk.
- d. 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.

- e. 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 high value places to low value places. An order emerges.

### III. Speculation

- This complexity isn't limited to space; it crosses time as well.
- Speculation* is attempting to profit from future price changes.
- 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.
- 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.
- 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).<sup>1</sup>

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