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Econ 304—Bethany College

**Lecture 02: General Equilibrium**

1. Understanding the Importance of Walras
	1. Thanks to the work of Cournet (which we will explore later), we know that there exists a price where the market clears (and that price is where supply equals demand).
	2. But markets are inter-related. It is possible for the whole economy to reach a point of equilibrium?
	3. French economist and mathematician Léon Walras (1834-1910) mathematically demonstrated just that. He is known as the father of general equilibrium theory.
2. Of different equilibria
	1. Most of the time, we talk in terms of *partial equilibrium*—finding equilibrium price and quantity for one part of the market independent of the other parts.
	2. But as we’ve discussed, long run equilibrium includes feedback effects. If a firm is making excess profits then that will attract entry. Prices will fall and profits will shrink.
	3. To account for this we explore *general equilibrium*—determining the equilibrium prices and quantities in all relevant markets, including feedback effects.
	4. The formal way we explore GE is through a *pure exchange economy*—a list of consumption goods, list of consumers, and the utility functions and starting goods (endowments) for each consumer.
	5. Every consumer gets a bundle of different goods. They sell some of these goods (consuming what they don’t sell) and use the proceeds to buy what they want.
		1. For a real world example, imagine each consumer is a POW. POWs get a bundle of weekly rations (such as spam, three cans of peaches, cigarettes, etc). POWs then swap what they don’t want to get what they do want.
		2. In *The Economic Organization of a POW Camp* (Radford 1945), a documentation of the economics in a WWII POW camp, this is what happened. They used cigarettes for currency.
	6. In a pure exchange economy, a *Walrasian equilibrium* has a price for each good such that:
		1. Each consumer is maximizing his/her utility subject to price and endowment constraints
		2. *And* total consumption does not exceed total endowment.
3. Assumptions of Walras
	1. To make this happen, Walras makes a series of assumptions. If you remember your perfect competition assumptions, these should seem familiar. Indeed, the only assumption from PC that is explicitly missing from Walras is homogenous goods, which makes sense because the whole point of this analysis is to consider multiple types of goods!
		1. *Each consumer can buy as much as they want at a constant price*. Not only does this mean that anyone can buy as much as they wish (up to the total endowment of the population), but no one person can move the price. Prices, in fact, are static in Walras’ analysis.
		2. *Each consumer must be aware of the price of each good.* There are no price discrepancies between locations. There is no uncertainty about future prices. Prices are stable and common knowledge.
		3. *There is no production*. Walras assumes the total amount of stuff is fixed. He just focuses on endowments and allocation. This, notably, is not an assumption adopted by perfect competition. But production isn’t needed here—you start with endowments and an equilibrium appears. The “production” is choosing to consume less, putting more of the good on the market.
4. Applications
	1. Yes, a lot of these assumptions are strange (no production?!) but they are starting points. By being aware of these assumptions, we can identify when they aren’t there and thus have an idea how to change our result when the assumption doesn’t hold.
	2. These assumptions are then tinkered with to make computerized models. GE theory forms the basis of actual computer models of the economy. Governments and non-profits use them to help predict the effects of changes in policy or determine the best way to achieve a particular goal, such as reducing greenhouse gases.
	3. At the heart of general equilibrium theory is just that: a general equilibrium. It’s the idea that everything in the market can eventually settle to a stable point. You don’t need an outside force to tinker it. This is controversial, as equilibrium may be difficult to achieve (if it can happen at all). Just because the economy wants to go a certain direction doesn’t mean most people want that.
		1. Consider price controls during disasters. Every economist will tell you that they create more problems than they solve, yet people are for them. And it’s not that they are somewhat in favor of these anti-gouging laws but passionately, deeply in favor of them.
		2. Is it right to be in favor of equilibrium when people seem to prefer the glut or shortage?
	4. At the same time, there is a very important practical lesson that comes out of GE. When you get your first job, resist the temptation to change things. You will probably cause more trouble than you realize.
		1. Why? Because GE teaches us that things tend toward equilibrium, thus rules (which might seem strange) are there for a reason. Or, at least, there was once a reason for them to exist. And if that reason is gone but the rule remains, there’s probably a reason why no one’s changed it.
		2. “Don’t change things” is one of the first lessons I was told when I first graduated from grad school. Running around wanting to disturb everyone annoys everyone. They are used to how things are—they’ve reached equilibrium. Everyone has. If you mess with one area, even if what you change makes sense, it could have unintended consequences elsewhere.
		3. If you are going to change something, make it small (to minimize spillover). When I first came to Bethany, I redesigned the departmental website (a change restricted to the department). I didn’t try to change the liberal arts requirements (which would just upset people I hadn’t even met yet).