ECON 1000 Summer 2010 Lecture #2

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1 Economics or Catallaxy?

Recall Milton Friedman's definition:

> Economics is the science of how a particular society solves its economic problems. An economic problem exists whenever *scarce* means are used to satisfy *alternative* ends....
>
> Economics ... is a *social* science, and is therefore concerned primarily with those economic problems whose solutions involve the cooperation and interaction of different individuals.

The word "economics" derives from the classical Greek $o\iota\kappa o\nu o\mu\iota\alpha$, *i.e.* "household management" or "home economics". Von Mises and Hayek, following Richard Whately, suggested that the word "catallactics", from $\kappa\alpha\tau\alpha\lambda\lambda\alpha\sigma o\omega$, might be more appropriate. In Hayek's words[1]:

> In 1838 Archbishop Whately suggested 'catallactics' as a name for the theoretical science explaining the market order... The adjective 'catallactic' is readily derived from Whately's coinage, and has already been used fairly widely. These terms are particularly attractive because the classical Greek word from which they stem... meant not only 'to exchange' but also 'to receive into the community' and 'to turn from enemy into friend'... This led me to suggest that we form the term *catallaxy* to describe the object of the science we generally call economics, which then, following Whately, itself ought to be called catallactics....

What's the difference?

[1] Hayek, F. A. The Fatal Conceit : The Errors of Socialism. Vol. 1. The Collected Works of F. A. Hayek. University of Chicago Press, 1990, pp. 111-112.

Last time we talked about three economic questions a society must answer:

1. What shall we produce?
2. How shall we produce it?
3. For whom shall we produce it?

Different societies at different times have used different approaches to answering these questions. *E.g.*:
Tradition:

1. We hunt gazelles and gather vegetables, just like last year.
2. Men hunt and women forage, just like last year.
3. Successful hunters eat some cuts of meat at the kill site, then share others with the community at large. Just like last year.

Command:

1. We produce what the king or commissar tells us to.
2. We live where the king or commissar tells us to and work at what they tell us to.
3. The king or commissar decides what we get to consume.

Market coordination:

1. Prices tell us what society values and we use them as a guide to deciding how to employ the resources we own.
2. Prices tell us the value of resources in their alternative uses and we use them as a guide to choosing the production method that uses them best.
3. The resources we own, and our effective use of them, determine our claim on what has been produced. We consume the most satisfying combination of goods we can afford.

Of course, any particular society at any given time may use a mix of these approaches. *E.g.*:

1. I decide to make beer, but I can't sell it on Sunday or to people under 21.

2. I make the beer by managing a factory (while my wife stays home with the kids), but I can't hire labor at less than the minimum wage and OSHA proscribes certain unsafe practices.

3. I give a percentage of my profits to the IRS to redistribute as Congress sees fit. With the rest, I can buy whiskey but not marijuana.

Of these approaches, market coordination is the least obvious way to arrange production, but also the most powerful. *Homo sapiens* may have made use of rudimentary forms of division of labor and exchange for tens or hundreds of thousands of years (helping us outcompete the Neanderthals), but it's only in the past few hundred years that we've evolved the full complex of institutions (such as the widespread right to private property, even in our own labor) that make the modern market economy—and our high standard of living—possible.

Societies with institutions that support effective market coordination outperform those that don't. This insight—that institutions, not the intrinsic superiority of a people or race, explain the differential success of economies—is, ironically, what earned economics the moniker "the dismal science"[2].

Few, if any, have expressed the miraculous nature of market coordination better than Adam Smith...

[2] Levy, David M., and Sandra J. Peart. "The Secret History of the Dismal Science. Part I. Economics, Religion and Race in the 19th Century." Library of Economics and Liberty, January 22, 2001

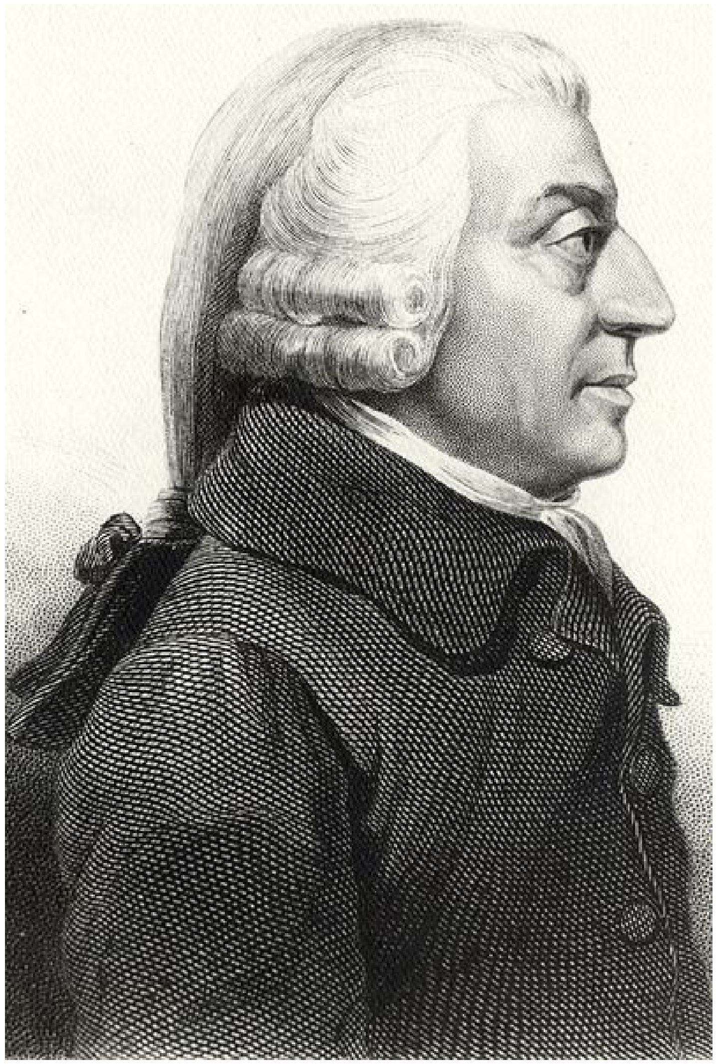

Figure 1: Our Master, 1723-1790

2 The Invisible Hand

As Smith wrote in Book IV, Chapter 2 of *Wealth of Nations*:

> As every individual, therefore, endeavours as much as he can, both to employ his capital in the support of domestic industry, and so to direct that industry that its produce maybe of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain; and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest, he frequently promotes that of the society more effectually than when he really intends to promote it.

and, as Smith wrote in Book I, Chapter 2:

> It is not from the benevolence of the butcher the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity, but to their self-love, and never talk to them of our own necessities, but of their advantages.

The idea that we can make society better off by pursuing our own self-interest is often, but mistakenly, summed up by the phrase "Greed is good." But this phrase originated with the character Gordon Gekko in the 1987 movie *Wall Street*[3], not with Adam Smith. As Smith, a professor of moral philosophy at the University of Glasgow (and, later in life, commissioner of customs in Scotland—yes, a tax collector!), wrote in this earlier work *The Theory of Moral Sentiments*:

[3] "Greed is right, greed works. Greed clarifies, cuts through, and captures the essence of the evolutionary spirit. Greed, in all of its forms; greed for life, for money, for love, knowledge has marked the upward surge of mankind." http://www.imdb.com/title/tt0094291/

> He is certainly not a good citizen who does not wish to promote, by every means in his power, the welfare of the whole society of his fellow citizens.

How are we to reconcile Smith the economist with Smith the moral philosopher? Jerry Muller explains[4]:

> . . . His claim is that an economic system cannot be based on benevolence, which is a limited sentiment not easily extended to those with whom one is not familiar. An economic system with an extensive division of labor, in which millions of individuals depend upon the production of others to meet their needs, cannot be founded upon sentiments which are morally admirable but necessarily limited.
>
> For Smith, it was morally degrading not to *be* benevolent, but to choose to depend on the benevolence of other people with whom one has no close emotional connection. Without the possibility of appealing to the self-interest of others, one is forced to elicit their good will in morally demeaning ways. . .
>
> To the extent that every man becomes a merchant rather than a slave, retainer, serf, or servant, the relations of direct dependence upon a master which foster servile behavior are replaced by relations of greater personal freedom. The ability of legally free individuals to appeal to the self-interest of others through exchange creates greater social interdependence along with personal independence from the will of an individual master. The fact that commercial society provides a greater degree of personal freedom than earlier social systems was for Smith an important moral argument on its behalf.

[4] Muller, Jerry Z. Adam Smith in His Time and Ours: Designing the Decent Society. Free Press, 1992, pp. 71-72. http://amzn.to/dvsmCf

3 Specialization

So, how does the invisible hand work its magic? Smith tells us on page one of *The Wealth of Nations*:

> The greatest improvements in the productive powers of labour, and the greater part of the skill, dexterity, and judgment, with which it is anywhere directed, or applied, seem to have been the effects of the division of labour.. . .
>
> This great increase in the quantity of work, which, in consequence of the division of labour, the same number of people are capable of performing, is owing to three different circumstances; first, to the increase of dexterity in every particular workman; secondly, to the saving of the time which is commonly lost in passing from one species of work to another; and, lastly, to the invention of a great number of machines which facilitate and abridge labour, and enable one man to do the work of many.. . .
>
> It is the great multiplication of the productions of all the different arts, in consequence of the division of labour, which occasions, in a well-governed society, that universal opulence which extends itself to the lowest ranks of the people. Every workman has a great quantity of his own work to dispose of beyond what he himself has occasion for; and every other workman being exactly in the same situation, he is enabled to exchange a great quantity of his own goods for a great quantity or, what comes to the same thing, for the price of a great quantity of theirs. He supplies them abundantly with what they have occasion for, and they accommodate him as amply with what he has occasion for, and a general plenty diffuses itself through all the different ranks of the society.

The division of labor—that is, *specialization*—means that, in Matt Ridley's words, "everybody is working for everybody else". This allows each person (and, by extension, each country) to focus on what they can do best, employ their resources in their most highly-valued uses, and produces more together than the sum of what they could produce if they were "self-sufficient".

Specialization and exchange, in effect, create something out of nothing! This may be the most difficult lesson of economics for most people to grasp and to believe. It goes against the "folk economics" that we instinctively rely on. In fact, even Adam Smith didn't quite get one subtlety of the way this process works. and it was left to English economist David Ricardo to state precisely...

Figure 2: David Ricardo, 1772-1823

4 Comparative Advantage

As Ricardo writes in Chapter VII of *Principles of political economy and taxation*:

> The same rule which regulates the relative value of commodities in one country, does not regulate the relative value of the commodities exchanged between two or more countries.
>
> Under a system of perfectly free commerce, each country naturally devotes its capital and labour to such employments as are most beneficial to each. . . .
>
> If Portugal had no commercial connection with other countries, instead of employing a great part of her capital and industry in the production of wines, with which she purchases for her own use the cloth and hardware of other countries, she would he obliged to devote a part of that capital to the manufacture of those commodities, which she would thus obtain probably inferior in quality as well as quantity.
>
> The quantity of wine which she shall give in exchange for the cloth of England, is not determined by the respective quantities of labour devoted to the production of each, as it would be, if both commodities were manufactured in England, or both in Portugal.
>
> England may be so circumstanced, that to produce the cloth may require the labour of 100 men for one year; and if she attempted to make the wine, it might require the labour of 120 men for the same time. England would therefore find it her interest to import wine, and to purchase it by the exportation of cloth.
>
> To produce the wine in Portugal, might require only the labour of 80 men for one year, and to produce the cloth in the same country, might require the labour of 90 men for the same time. It would therefore be advantageous for her to export wine in exchange for cloth. This exchange might even take place, notwithstanding that the commodity imported by Portugal could be produced there with less labour than in England. Though she could make the cloth with the labour of 90 men, she would import it from a country where it required the labour of 100 men to produce it, because it would be advantageous to her rather to employ her capital in the production of wine, for which

> she would obtain more cloth from England, than she could produce by diverting a portion of her capital from the cultivation of vines to the manufacture of cloth.

Notice that, in Ricardo's example, Portugal is better than England at making *both* wine and cloth. That is, Portugal has an *absolute advantage* in making both. But England has a *comparative advantage* at making cloth, because its *opportunity cost* of making cloth—that is, how much wine production it must forgo to produce the cloth—is lower than Portugal's.

We'll work this out with numbers and visualize it using a graph called the *production possibilities frontier*. But the important point is that *both* countries (or, ultimately, two people) can be made better off by producing the goods in which they have a comparative advantage and then exchanging than if they were forced to produce the goods themselves. This is true even for the country (or person) who is "better" at making both!

5 The Use of Knowledge

OK. So, if we know all about comparative advantage and specialization, why do we need the market to coordinate economic activity? Couldn't a king or a commissar, for example, simply hire a bunch of economists to figure out who has comparative advantage in what and order everyone to produce accordingly?

In a classic paper written during the debate over socialist planning vs. free market coordination[5], Nobel laureate Friedrich Hayek explained why not:

> The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess. The economic problem of society is thus not merely a problem of how to allocate "given" resources-if "given' is taken to mean given to a single mind which deliberately solves the problem set by these "data." It is rather a problem of how to secure the best use of resources known to any of the members of society, for ends whose relative importance only these individuals know. Or, to put it briefly, it is a problem of the utilization of knowledge not given to anyone in its totality.

In short, the price system is "a mechanism for communicating information".

Figure 3: F.A. Hayek, 1899-1992

[5]Hayek, F. A. "The Use of Knowledge in Society." The American Economic Review 35, no. 4 (September 1945): 519-530.

6 To See and To Do

6.1 Survivor Comparative Advantage

Alice and Bob are stranded on a tropical island, where they must survive on a diet of delicious nuts and succulent roast peccary. (Luckily, neither Alice nor Bob is vegetarian, Jewish, Muslim, or allergic to nuts!) Alice can gather 2 kg of nuts each day, or she can spend 5 days to produce 1 roast peccary. Bob can gather only 1 kg of nuts each day, and it takes him 6 days to produce a roasted peccary. What is Alice's opportunity cost of gathering nuts? What is Bob's opportunity cost of gathering nuts? In order to maximize food production, who should specialize in gathering nuts?

6.2 Specialization & the PPF

The 60 residents of the sleepy hamlet of Billville are all exactly alike: each resident (they are all named "Bill") supplies one unit of labor per year, with which he can make either 4 beanies or 4 whoopie hats (or fractional combinations thereof). Draw Billville's production possibilities frontier. (Let's put beanies on the vertical axis for each PPF we draw.)

The 60 residents of the bucolic burg of Bobtown come in one of two types: 30 of the Bobs can make either 3 beanies or 5 whoopie hats with their one unit of labor per year; the other 30 Bobs can make either 5 beanies or 3 whoopie hats with their unit of labor. Draw Bobtown's PPF.

The 60 residents of the pictureqe parish of Bettyford are one of three types: 20 can make either 1 beanie or 8 whoopie hats; 20 can make either 3 beanies or 3 whoopie hats; and 20 can make either 8 beanies or 1 whoopie hat. Draw Bettyford's PPF.

(You can assume, by the way, that hat-making materials fall from the sky in great abundance every night, and that none of the workers care about leisure time—their entire lives are devoted to millinery!)

How does the opportunity cost of making one more hat vary along the PPF of each town?

6.3 Billville Goes Global

One day mayor Bill decrees that the residents of Billville can freely trade their beanies and/or whoopie hats with the rest of the world. Billville is small relative to the rest of the world, so we can ignore the effect of their production on the world price of hats and take the world price as given to the Bills. Suppose that the world price of beanies this year is 3 whoopie hats (or, to put it another way, the world price of a whoopie hat is $\frac{1}{3}$ of a beanie). If you are a Bill, what should you produce? Beanies or whoopie hats? What can you say about Billville's possibilities for *consumption* this year compared to the situation with no trade?