Stephen Landsburg
Price Theory and Applications

The Problem of the Social Planner

Try the following experiment: Ask your friends to name the two ways to get a chicken to lay more eggs. Few will know. The two ways to get a chicken to lay more eggs are to feed it more or to provide it with more heat from blowers that are usually powered by natural gas.[6] In chicken farming natural gas and chicken feed are close substitutes.

Imagine a chicken farm next door to a steel mill. In a typical week each consumes 100 cubic feet of natural gas. The steel mill has no economical alternative production process, and it would have to curtail its operation significantly if natural gas became unavailable. The chicken farmer, at an additional cost of a few cents per day, could switch off the blowers and use more chicken feed.

One day it transpires that only 100 cubic feet of natural gas per week will be available in the future. A benevolent economic planner, seeking only to benefit society, must decide how to allocate this natural gas. Perhaps he observes that the steel mill and the chicken farmer have historically used natural gas in equal quantities, and on this basis he decides that their "needs" for natural gas are roughly equal. He assigns 50 cubic feet per week to the steel mill and 50 cubic feet to the chickens.

As a result, there is a substantial cutback in steel output, to society's detriment. If all 100 cubic feet had been assigned to the steel mill, production would have continued about as before, with the chicken farmer having slightly higher costs and perhaps cutting egg production by a small amount.

Why does this benevolent planner not recognize his mistake? Because he—like the friends you were invited to poll on this question, and almost everybody else except for chicken farmers and the readers of this book—has never remotely suspected that chicken feed can be substituted for natural gas.

[5]From *Science*, letter to editor by R. Dorfman, 1976.

[6]Chickens use calories from feed to produce both eggs and body warmth. A chicken in a heated henhouse can divert more calories to egg production.

Why doesn't the chicken farmer tell him? If he did, he would lose his natural gas allocation and his costs would go up—only slightly, to be sure, but the incentive is still to keep mum.

An alternative social arrangement is to abolish the planner and to allocate the gas via the price system. Now when natural gas becomes more scarce, the price gets bid up. This has two effects on the chicken farmer: He acquires the information that the available natural gas is more valuable to someone else than it is to him, and he acquires an incentive to react accordingly. He puts in an order for some chicken feed.[7]

The Use of Knowledge in Society

In 1945, Friedrich A. Hayek (later a Nobel Prize winner) addressed the American Economic Association on the occasion of his retirement as its president. The title of his address was "The Use of Knowledge in Society." In it he called attention to the social role of prices as carriers of information, allowing the specialized knowledge of each individual to be fully incorporated in decisions concerning resource allocation. He contrasted this knowledge with so-called scientific knowledge and found it unjustly underrated by comparison:

> A little reflection will show that there is beyond question a body of very important but unorganized knowledge which cannot possibly be called scientific in the sense of knowledge of general rules: *the knowledge of the particular circumstances of time and place.* It is with respect to this that practically every individual has some advantage over all others in that he possesses unique information of which beneficial use might be made, but of which use can be made only if the decisions depending on it are left to him or are made with his active cooperation. We need to remember only how much we have to learn in any occupation after our theoretical training, how big a part of our working life we spend learning particular jobs, and how valuable an asset in all walks of life is knowledge of people, of local conditions, and special circumstances. To know of and put to use a machine not fully employed, or somebody's skill which could be better utilized, or to be aware of a surplus stock which can be drawn upon during an interruption of supplies, is socially quite as useful as the knowledge of better alternative techniques. [Emphasis added.][8]

[7]Economist, financial planner, and chicken expert Dan Gressel reports that when natural gas prices were controlled in the 1970s, chicken farmers routinely consumed large and socially inefficient quantities of natural gas. When the controls were lifted and prices rose, farmers switched to chicken feed.

[8]F. A. Hayek, "The Use of Knowledge in Society," *American Economic Review* 35 (September 1945): 519–530.

The special knowledge of the chicken farmer is a sort of knowledge of the particular circumstances of time and place. But Hayek is referring here to knowledge even much more specialized (and inaccessible to the planner) than that: the knowledge of the foreman that a leak in a certain machine can be plugged with chewing gum; the knowledge of a manager that one of the file clerks has a knack for plumbing repairs; the knowledge of a shipper that a particular tramp steamer is half-full. No planner can have access to this knowledge:

> The sort of knowledge with which I have been concerned is knowledge of the kind which by its nature cannot enter into statistics and therefore cannot be conveyed to any central authority in statistical form. The statistics which such a central authority would have to use would have to be arrived at precisely by abstracting from minor differences between the things, by lumping together, as resources of one kind, items which differ as regards location, quality, and other particulars, in a way which may be very significant for the specific decision.[9]

Suppose that you and your friends discover a new science fiction writer whose works you all rush out to buy. It may not occur to you that this requires more linseed plants to be grown in Asia, but it does, because the oil from those plants is used to make the ink to print the books that the stores now want to restock. The Asian linseed farmer is no more aware of the change in your reading habits than you are of your need for his services, but he nevertheless responds by increasing his output. Your increased demand for books causes a rise in the price of linseed and informs the farmer that someone, somewhere, wants more linseed for some reason.

A competing economics textbook begins its first chapter by observing that "the rest of us people" (together with nature) "dominate your life and prevent you from having all you want."[10] However, the authors warn:

> Do not suppose that if we were less greedy, more would be within your grasp. For greed impels us to produce more, not only for ourselves, but, miraculously, more for you too . . .

What the authors have in mind is that other people's greed enables you to offer them incentives to act as you want. It is because the carpenter is "greedy" that you can hire him to build your house.[11] In fact, we can say more.

---

[9]Ibid.

[10]A. Alchian and W. Allen, *Exchange and Production: Theory in Use* (Belmont, CA: Wadsworth, 1969).

[11]Adam Smith put this very well. In *The Wealth of Nations*, he said, "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."

While greedy neighbors are more likely than apathetic neighbors to respond to your desires, you might imagine that the best possibility is a third one that the authors did not consider: What if the rest of the world were neither greedy nor apathetic, but actively altruistic, attempting to cater to all of your wishes?

While such a world would have obvious advantages, it would also have a less obvious disadvantage: In the absence of a price system, you would be severely limited in your ability to communicate your desires. The farmer in Asia, wanting only to make your life more pleasant, has no criterion by which to choose between producing more linseed or more of some other crop. You have no way of informing him, because you don't realize that a yen for science fiction creates a need for more linseed oil—or, if you do realize this, then you don't realize that you also need more glycerin, to make the glue with which the books are bound.

Your need for the selfishness of others stems not just from the fact that it motivates them to respond to your desires—altruism on their part would serve that purpose even better. It also stems from your need to *communicate* those desires. Students—and others who have not previously encountered the idea—generally find it quite surprising that a major role of prices in society is to fulfill this need.