

COMMENTS ON “JAFFE, TRAJTENBERG, AND FOGARTY” AND “BORENSTEIN AND FARRELL”

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General Thoughts

I am a big fan of plant visits. As I see it, the payoff is from what Susan Helper calls “the vividness of field interactions.” As economists, we get used to thinking in terms of theoretical abstractions, such as production functions. It is a refreshing change to instead think about something actually being produced. Theory then helps us to focus on what is common among the different production processes we see.

From this perspective, it seems possible to avoid dangerous biases arising from visiting only a small number of plants. The insights one gets often can be verified later (or not) using conventional data. Two examples may help to illustrate this point: Martin Feldstein reports being struck by the small share of production labor in the total costs of the plants we visited. I was surprised to see so many non-production workers engaged in the fixed-cost activity of redesigning products at a plant that produced small electrical components for automobiles. These two observations may have implications for pricing or for the costs of product variety. But, the basic fact — the small cost share of production labor — is easily checked using the Longitudinal Research Database at the Census Bureau.

On a number of visits I noticed that when a plant reported exporting, the exports were a small share of production, sent to just a few foreign locations. We did not hear about a plant supplying a product to the world. This observation suggests that plants are not reaping important scale economies by tapping into foreign markets. The basic fact — that most plants export no more than a modest fraction of their production — turns out to be well documented by Andrew Bernard and J. Bradford Jensen, again using Census data.

As these examples demonstrate, we may often be learning things from plant visits that are buried (perhaps not very deeply) somewhere in standard economic data. The plant visits still have value, however, because they get us to stop and take note. We are bombarded with facts; the problem is knowing which ones to keep in memory. I now turn to the specific papers that have been written for this session.

Jaffe, Trajtenberg, and Fogarty

Patent citations appear to be an incredibly rich source of data for tracking the elusive concept of knowledge spillovers. But, with a few exceptions, citations have been studied in a way that involves no outside validation. Although patent citations sound good on paper, how do we know that they are measuring what we think they are?

Jaffe, Trajtenberg, and Fogarty take a very direct approach to answering this question: ask the people involved. (In this sense, the

paper reminds me of the important work of Edwin Mansfield.) To give crispness to what otherwise might have been mushy Likert-scale results, the authors apply a clever idea: Ask inventors not only what they learned from the patents they cited but also what they learned from a placebo patent (in the same technological area) that they did not cite (the inventors were not told about the placebo). The bottom line is a new stylized fact: roughly 50 percent of patent citations indicate some knowledge flow (with little knowledge flow reported for the placebo). I'd say this number is big enough to be good news for those using patent citations to study knowledge spillovers.

Borenstein and Farrell

It is a provocative hypothesis that many corporations could substantially cut costs if they really needed to. Why wait until it is absolutely necessary if your objective is always to make money? To answer such a question, it seems natural to ask the participants.

I applaud Borenstein and Farrell for investigating this hypothesis of X-inefficiency. Such an investigation needs to be carried out by neo-classical skeptics. A fuzzy type will see X-inefficiency everywhere and as a consequence won't succeed in changing the mind of any economist. I think the authors are up to the task. Their skepticism yet open-mindedness comes through in the paper.

Unfortunately, the paper does not live up to its promise. Here is what passes for field interaction: "Our interviews ... supported the hypothesis that fat trimming occurs in response to wealth and profit declines." Vivid? I was hoping for vivid accounts of the types of costs that are cut, how the cost cutting initiatives are carried out, and how onerous it is for everyone involved. I would like to hear answers from executives and managers of how much was saved and why they did not cut costs earlier.

Somewhat related work by James Schmitz, on iron-ore extraction, delivers more. He documents big gains in labor productivity within individual Minnesota mines faced with the threat of closure. From visits, interviews, and bits of data he makes the case that these gains resulted from changes in work rules and job classifications that the union agreed to only when the future looked grim.