

Memorandum

Date: October 1, 1991

To: Peter House, DD, PRA

From: Myles Boylan, Policy Analyst, PRA

Subject: "Bromley Scoffs at Warnings of R&D Manpower Shortage", Science & Government Report (October 1, 1991).

This article is a condensed version of Bromley's after lunch speech at the Engineering Manpower Commission's Conference "Engineers in America's Future: Shortage or Surplus" on September 11 in which I participated. I found this synopsis to be accurate. I recommend to your attention the following points:

Editor/Publisher Greenberg needles Bromley for his "remarkable turnaround in relatively short time." (p2)

Bromley still acknowledges that demographic trends and college freshmen "intentions" data "would seem to indicate that this country faces rather severe shortages of scientists and engineers in the near future." (p2)

But Bromley believes that caution is the prudent course of action because "Labor markets in this country are remarkably flexible. Particularly in engineering..." (p2) Unfortunately he does not take the next step in recognizing that this flexibility in the production of new degrees was much easier during periods of rapid growth in bachelors degrees, a period now in our past.

Bromley's skepticism is buttressed by a December 1990 Report prepared by Larry Leslie and Ronald Oaxaca from the University of Arizona under and NSF/SRS grant titled "Scientist and Engineer Supply and Demand". Bromley's synopsis of this paper was "none of the models of interest to policymakers had much validity beyond one year. By the end of two years, the model predictions were almost worthless." This statement unfortunately was not identified by either Bromley or Greenberg as relating to a highly specialized set of predictions made by NCES (U.S. Dept. of Education) using very simple single equation models of future degree production during 1977-87. These models are not adequate representations of supply-demand models.

However, Bromley later stated that "in these cases of inaccuracy, it is the demand number that turn out to be wrong, supply numbers are relatively easy to obtain from the educational pipeline and relatively reliable". I think we should take this comment as a compliment on our analysis, since this has been exactly our approach for the last 5 years, and because we have stated in many written versions of our analysis that forecasting demand for new bachelors degrees in S&E fields is impossibly complex.

It is encouraging that Greenberg ends this article by stating: "The evidence in these matters is murky, neither fully supportive of the shortage school, nor conclusive in behalf of the new skeptics. It should be noted that Bromley is merely arguing that the warnings of shortage have proven wrong in the past. He has not dismembered the latest round of warnings." (p3).