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High-Technology Jobs

Unemployment was a dominant issue in many states in the last election, and it could remain so for some years. The older industries such as steel and autos may eventually partially recover, but they face great international competition. Governors of states are under pressure to do something that promises to lead to more jobs. Many governors are pinning their hopes on high-technology industries, which have grown while other industries have been stagnant or decaying. The National Governors' Association has sponsored meetings and committee work on the topic. About half of the governors are fostering some kind of activity, such as the formation of an advisory council on high technology, in their own states.

Representing the National Governors' Association, Charles S. Robb of Virginia stated in testimony before a congressional subcommittee* that "the industrialized world stands on the threshold of a technological revolution that will change the American way of life and the composition of the nation's work force as much as the industrial revolution did a century ago. . . . Our ability to lead this technological revolution, as indeed the United States led the industrial revolution a century or so ago, will bear directly on our share of world markets—a share that will continue to erode unless we act promptly and wisely." Governor Robb also touched on the importance of interactions between universities and industries in fostering innovation in high technology.

At a juncture at which governors are under pressure to increase jobs, they find themselves with limited resources. At the same time, outlays for education are large. They are aware of activities around Route 128 in Massachusetts and near Palo Alto in California. They have to ask themselves whether their state universities can do what Stanford and the Massachusetts Institute of Technology have done for their regions. If the recession continues, other universities can expect increasing pressure and questions from governors and legislators.

There is a large gap between a belated recognition of the importance of high technology and achieving something in the way of jobs. The translation of research into substantive applications usually takes a decade or more. The transformation of small innovative companies into giants takes time. Governors may be well advised and have great plans, but their tenure is limited. Many were swept out of office in the last election. Their successors will wish to formulate their own programs.

For alert states there may be a partial solution for some economic problems. Many of the high-technology companies currently centered on Route 128 or in Silicon Valley are looking elsewhere for expansion as costs of labor, housing, and land have become excessive. A congressional staff study† describes responses of 671 companies to a questionnaire concerning factors that influence their decisions to locate facilities.

The high-technology companies are science-based. Research and development outputs are more important to them than to other manufacturing industries. Major determinants in their decisions to locate facilities include availability of skilled labor, labor costs, and state and local taxes. Other factors include community attitudes, costs of property and construction, transportation systems, available area for expansion, good schools, and proximity to recreational and cultural resources. The study indicates that high-technology companies plan to expand at highest rates in the Midwest, Southeast, Southwest, and Mountain and Plains states. Where they will actually locate may well depend on local initiatives. Michigan, North Carolina, and Arizona have been especially active in seeking to foster high technology and are meeting with some success. In the majority of states there has been more talk than action.—PHILIP H. ABELSON

*Testimony before the Subcommittee on Science, Research and Technology, Committee on Science and Technology, U.S. House of Representatives, 29 April 1982. †"Location of high technology firms and regional economic development," staff study prepared for the Subcommittee on Monetary and Fiscal Policy, Joint Economic Committee, 1 June 1982.