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THE NATIONAL COMPETITIVENESS ACT (S. 4): A HIGH-TECH BOONDOGGLE

To Washington I say, please do not help us. The world of technology is complex, fast changing, unstructured, and thrives best when individuals are left alone to be different, creative and disobedient.... Anyone who thinks [raising] corporate taxes promotes employment does not understand the problem.

Don Valentine, founding venture capitalist and director of Apple Computer

Every dollar that is taxed away from individual investment or corporate R&D will weaken America's high technology companies.

Pierre Lamond, founder of National Semiconductor, a \$1.6 billion computer chip company¹

INTRODUCTION

The centerpiece of the Clinton Administration's industrial policy agenda, the National Competitiveness Act (S. 4), currently is working its way through Congress. Although industrial policy can take many forms, this legislation embodies one of its central and most dangerous tenets: that the government is better suited than the private sector to pick winners and losers in high-technology industries.

S. 4 is sponsored by Democratic Senator Ernest Hollings of South Carolina, Senate Majority Leader George Mitchell, and others, and contains part of the Senate Democratic Economic Leadership Strategy. According to the bill's stated purpose, it would "strengthen and expand the ability of Federal technology programs ...to support industry-led and State supported efforts to improve the technological capabilities, manufacturing performance, information infrastructure, and employment opportunities of the United States." The legislation even promises to ensure within ten years that the U.S. is "second to no other nation in the development, deployment, and use of advanced manufacturing technologies." To achieve these

¹ Quoted in Donald Lambro, "Keyboarding Budget Action," The Washington Times, April 12, 1993, p. E1.

² H.R. 820, which is similar to S. 4, passed the House of Representatives by a vote of 243 to 167 on May 19. S. 4 was "ordered to be reported" out of the Senate Commerce, Science, and Transportation Committee on May 25 but has yet to be officially "reported" out of the committee.

goals, taxpayers will be required to turn over more than \$2 billion over the next two years to fund a myriad of programs ranging from a manufacturing infrastructure project to wind engineering research.

At a time when the Clinton Administration and Congress are poised to enact a record-breaking tax increase on the American people and industry in the name of deficit reduction, S. 4 would almost double the size of the Commerce Department and triple the size of one of its agencies, the National Institute of Standards and Technology (NIST). The legislation would create at least six new programs, two new offices within the Commerce Department, and three new advisory boards.

Government agencies spending over \$2 billion, however, will not improve American competitiveness and create high-quality jobs. S. 4 will fail in its goals because it is based on the flawed premises of industrial policy. Specifically, the notions:

- 1) That government bureaucrats have superior knowledge to that of entrepreneurs;
- 2) That government-led programs have worked in the past;
- 3) That the numerous government programs created or expanded by industry policy legislation will use taxpayer funds more productively than the private sector would; and
- 4) That these policies will lead to a more competitive, pro-growth U.S. economy.

This legislation will not stimulate innovation in the economy. It will instead spawn new political pork projects siphoning funds from other, more productive ventures. Taxpayer funds will be steered toward projects lobbied for most successfully by interest groups, and away from better investment opportunities. Bureaucrats, not the marketplace, will decide which new technology or business should gain access to venture funding.

The bill completely ignores the real steps that need to be taken to make the U.S. economy more competitive and to create jobs. These steps include reduced government spending, across-the-board tax reductions, less regulation, and liability reform.

Government officials like to think that they can do better than the private market. The reality is that they cannot. Instead of trying to divide up limited government funds, they should concentrate instead on how to create the best environment for the market to function.

WHAT THE BILL WOULD DO

One of the principal purposes of S. 4 is to "strengthen and expand" federal technology programs ("particularly those of the Department of Commerce") to support industry-led and state-supported high-tech efforts in manufacturing, and to develop an information infrastructure for America.

To reach these goals, the legislation would:

- ✓ Create within the Department of Commerce a "21st Century Manufacturing Infrastructure Program," which would consist of:
 - (i) a new Advanced Manufacturing Technology Development Program, to support industry-led efforts to develop and test computer-controlled manufacturing systems; and
 - (ii) a new National Manufacturing Outreach Program, which would create an extension system linking state-run Manufacturing Outreach Centers, NIST Manufacturing Technology Centers, and new efforts by NIST's State Technology Extension Program.
- ✓ Require the Commerce Department to submit a long-term plan for the expansion of the Advanced Technology Program, which supports industry high-tech projects.

S. 4's New Government Creations

(Programs, Offices, Advisory Committees)

New Programs (all created in the Department of Commerce)

21st Century Manufacturing Infrastructure Program

Advanced Manufacturing Technology Development Program

Manufacturing Extension Partnership

State Technology Extension Program

Technology Financing Pilot Program

Wind Engineering Research Program

Technology Training Clearinghouse

Information Technology Applications Research Program

New Offices (within the Department of Commerce)

Office of Technology Monitoring and Competitiveness Assessment National Quality Laboratory

New Advisory Committees

Manufacturing Advisory Committee ("Led by industry officials" but of sixteen members, six are government officials, including the chairman, two are from small business, and the other eight are supposed to be appointed from industry, worker organizations, technical and professional societies, state technology agencies, and academia)

Commerce Technology Advisory Board (at least seventeen members who are "exceptionally qualified to analyze and formulate policy that would improve the global competitiveness of industries in the United States")

High-Performance Computing and Applications Advisory Committee (to provide the National Institute of Standards and Technology with advice and information)

- Create a new Commerce Department Office of Technology Monitoring and Competitiveness Assessment, to provide better information on the technological capabilities and industrial targeting practices of America's major trading partners.
- ✓ Establish a coordinated interagency program, including a five-year plan, to promote the development of computing applications in education, manufacturing, health care, and libraries.
- ✓ Set up a pilot program to assist venture capital firms.

In addition, the legislation contains an assortment of provisions to set up projects or address particular issues related to trade and industry. These include:

- ✓ a Wind Engineering Research Program intended to result "in new technologies for wind-resistant construction, broader application of such technologies to construction, and ultimately decreased loss of life and property due to extreme winds."
- ✓ an authorization of \$167 million for the renovation of National Institute of Standards and Technology (NIST) research facilities.
- ✓ a prohibition against fraudulent use of "Made in America" labels to any non-domestic product sold in or shipped to the U.S.

DOES THE GOVERNMENT KNOW BETTER THAN THE PRIVATE SECTOR?

The bill declares that it is based on the assumption that if a nation leads in high-technology development it will lead in economic growth and high living standards. It also alleges that the U.S. "has not done as well as it should in commercializing and manufacturing new inventions." Therefore, according to the legislation, the government needs to step in and help industry speed the development of new technology.

Of course, this assumes that the government is well-suited to assist industry in undertaking such tasks as developing high-performance work organizations and finding better manufacturing and computer-controlled technologies. If history is any guide, however, lawmakers should be very skeptical about government's abilities. Several recent examples illustrate the government's poor track record in predicting and encouraging new industries.

EXAMPLE #1: Sematech

In 1987, the Pentagon's Defense Science Board predicted that U.S. semiconductor firms soon would no longer be able to compete individually "against world-class combinations" of foreign governments and academia. To address this sup-

Deborah Walker, "The Government's Poor Record in Picking Winners and Losers," in Stuart M. Butler, ed., *The Folly of Industrial Policy* (Washington, D.C.: The Heritage Foundation, 1993), forthcoming.

posed problem U.S. semiconductor producers convinced the government to help subsidize a research and development consortium they formed in March 1987, known as Sematech, to help U.S. producers develop state-of-the-art technology in semiconductor manufacturing. But after spending over \$500 million in taxpayer money, Sematech now is losing member firms and has been left behind by small, entrepreneurial firms which have concentrated on innovative chip design instead of manufacturing technology.⁴

In this case, Washington bureaucrats claimed to know that the key to long-term success was for the U.S. to channel financial resources into improving the manufacturing process for semiconductors. Meanwhile, small U.S. entrepreneurs argued that this was not the direction to go. And while the U.S. government was ignoring these entrepreneurs and throwing taxpayer money into manufacturing technologies, these small, entrepreneurial ventures found and developed a new niche for U.S. firms: innovative designs for semiconductors or chips. The small U.S. companies moved ahead with remarkable success. As T. J. Rodgers, president and CEO of San Diego, California-based Cypress Semiconductor Corporation, explains:

America once again leads the world in semiconductors. In each of the last three years, the United States has won back market share from Japan. In 1992 our worldwide share actually exceeded Japan's share for the first time in a decade.⁵

EXAMPLE #2: The Synthetic Fuels Corporation

The Synthetic Fuels Corporation (SFC) was created by the Energy Security Act of 1980 in order to reduce U.S. dependence on the Organization of Petroleum Exporting Countries (OPEC) for crude oil. The SFC was tasked to purchase commitments and price guarantees to companies that developed synthetic fuels. This would induce firms to make the large capital outlays required to build the plants and equipment necessary to produce synthetic fuels. 6

The Energy Security Act laid out precise targets for the SFC: 500,000 barrels of synthetic fuels—or "synfuels"—per day by 1987, and 2 million per day by 1992. However, these goals were based on faulty forecasts. As Heritage Foundation analyst Milton Copulos later pointed out, "A major factor in this sense of urgency was the assumption that world oil supplies were in imminent danger of exhaustion. The failure of these assumptions to materialize has been a severe blow to the infant synthetic fuels industry." By 1985 it became clear that there was not

⁴ See Brink Lindsey, "Dram Scam: How the United States Built an Industrial Policy on Sand," *Reason*, February 1992, and Walker, *op. cit*.

T. J. Rodgers, "The Road to High-Performance Computing: An Entrepreneur Endorses the Invisible Hand," *Cato Policy Report*, May/June 1993, p. 11.

⁶ Walker, op. cit.

⁷ Linda R. Cohen and Roger Noll, *The Technology Pork Barrel* (Washington, D.C.: The Brookings Institution, 1991), p. 289.

⁸ Milton R. Copulos, "Salvaging the Synthetic Fuels Corporation," Heritage Foundation Backgrounder No. 423,

an oil crisis and that synfuels were not the answer. The SFC was abolished in 1986.

The SFC is just a recent example of the government's general inability to predict future trends when it tries to encourage new industries that the private sector has "failed" to develop. The case of the SFC is quite typical. It began with the government's faulty diagnosis of why no synthetic fuels industry existed. According to a 1974 memorandum by former Commerce Secretary Frederick B. Dent, "private industries had not developed synthetic fuels based on oil shale and on coal liquefaction or gasifaction because of 'high initial cost and market uncertainty." One hundred million taxpayer dollars later, the government learned that there was no market failure. There just was no market.

EXAMPLE #3: Clinch River Breeder Reactor

The Clinch River Breeder Reactor project, authorized by Congress in 1970, was located on the Clinch River near Oak Ridge, Tennessee. It was hailed by some at the time as the solution to the nation's energy problems. The hope of the joint venture between government and the electric power industry was that the demonstration project would show that so-called fast-breeder nuclear power plants could produce cheap electricity at a time when the United States was being squeezed by the OPEC oil cartel. But because of long delays (no work was begun at the site until the fall of 1982), cost overruns, and changing demands for power, the program was killed by Congress in 1983 after \$1.5 billion had been spent on the project.

In a 1991 Brookings Institution study, *The Technology Pork Barrel*, by Linda Cohen and Roger Noll, the authors referred to the Clinch River project as "the quintessential example of a technological turkey by the time it was mercifully put to rest in 1983." The project represented yet another case of the government failing to forecast properly the potential commercial benefits of a new technology, underestimating its costs, and resisting attempts to cut the taxpayers' losses because of local political considerations. In the process, the government's huge cost overruns drew money away from other research and development projects.

The Clinch River fiasco ended up costing taxpayers \$1.5 billion—without ever achieving its goal of producing cheaper electricity ¹¹. The project's sorry history suggested to Cohen and Noll that the program "should have been abandoned no later than 1977, and probably a year or more earlier."

The Brookings study cited three warnings that should have led to cancellation, but were ignored by government. First, the factors which suggested the need for

April 12, 1985, p. 3.

⁹ Congressional Quarterly Almanac, Vol. XXXIX, 1983 (Washington, D.C.: Congressional Quarterly Inc., 1984), pp. 362-364.

¹⁰ Cohen and Noll, *op. cit.*, p. 255.

Bob Davis, "Clinton's Team Still Vows to Help Commercialize New Technologies but Worries More About Pork," *The Wall Street Journal*, December 15, 1992, p. A20.

the technology had all changed—the key one being the recognition that the government had wrongly forecast power demand. Second, the government should have understood that regulatory requirements made commercial licensing very difficult because of the uncertain environmental and safety questions surrounding the facility. And third, the government had grossly underestimated the costs of the program, which skyrocketed in the early 1970s. The private sector understood these factors, and had lost interest early in the program, leading to the Clinch River project coming completely under the control of the government in 1975. 12

The government should have taken its cue from the private sector, realized the program was a mistake and terminated it by 1977. But, typical of government-funded technology, the project took on a life of its own, due to pork barrel politics. Cohen and Noll underscored this by examining the congressional voting pattern supporting the program, and concluded that support—not surprisingly—was strongest among those whose districts benefitted from large contracts, representatives of states with a strong nuclear industry, and among committee members overseeing the project. ¹³

S. 4: HIGH-TECH PORK

Besides the lesson from the examples above that government systematically misreads the "failure" of the market to develop an industry, there is another clear message from these cases: these ventures quickly become political pork projects, drawing funds from more worthwhile endeavors.

By subsidizing particular industry projects, S. 4, if enacted, will continue the pattern. Government support for projects no doubt will generate praise for law-makers who "won" funds for their district, but the result will be misleading investment signals in high-technology industries. Public and private financial resources will move to where government bureaucrats decide, not where market signals indicate. Private money will be diverted because S. 4 proposes to "provide financial support to large scale joint ventures requesting \$20 million or more a year in Department funds"—subject to matching funds requirements. When the government tells firms or educational institutions that it will provide funds for certain projects if they generate matching funds, these projects become more attractive, not because they suddenly appear more profitable from a consumer demand point of view, but because government subsidies make them more attractive. This means valuable private resources are drained from projects that ordinarily would be considered attractive (that is, potentially more profitable) and into government-subsidized projects that otherwise would not be undertaken.

Moreover, explains Linda Cohen, "pork takes on a life of its own," in that once public funds are committed, pressure develops for more tangential uses of government money. For example, in last year's appropriation for Sematech, Congress

¹² Cohen and Noll, op. cit., pp. 238-240.

¹³ *Ibid.*, pp. 241-254.

SUMMARY OF AUTHORIZATIONS IN S. 4* (millions of current dollars)

	FY93 (approp	FY94	FY95
Department of Commerce			
Technology Policy	5	15	22
NIST Research Service	193	250	320.7
NIST Facility Renovation	105	62	105
NIST Manufacturing Extension	18	120	220
NIST Advanced Technology Progr	am 68	200	468
NIST "Quality" Programs	—	2	2
NIST Wind Engineering	-	1	3
Technology Training Clearinghous	se —	2	3
Intelligent Manufacturing Experime		10	
Technology Financing Pilot	_	2	50
Information Infrastructure		14	36
Total	389	678	1,229.7
National Science Found.			
Manufacturing		50	75
Information Infrastructure	-	64	120
Total	0	114	195
National Library of Medicine Information Infrastructure	_	30	50
NASA			
Information Infrastructure		28	38
GRAND TOTAL	389	850	1512.7

^{*} As "ordered to be reported" out of the Senate Commerce, Science and Transportation Committee

mandated that ten percent of the consortium's \$100 million 1993 budget be used for environmental research—hardly part of Sematech's original mission. ¹⁴

When public funds are available as a carrot, the boundaries of congressional districts seem to play an important role in decisions over which community, company, or university is picked for a project. To give a recent example, a small company, Optical Imaging Systems, Inc., located in Flint, Michigan, this April was awarded up to \$50 million to lead the U.S. effort in building advanced flat-panel

John Markoff, "Environment Is a Mission At Sematech," *The New York Times*, October 5, 1992, p. D1.

video screens. The Pentagon's Advanced Research Projects agency, which is supposed to promote high technology, wants to help the U.S. flat-screen industry compete with Japan. Why this company? And why Flint? Some critics of the award see the decision as the result of successful lobbying by the Michigan congressional district, not a rational investment decision. They contend the company is too small to lead the U.S. effort. ¹⁵

S. 4 bulges with money for communities to obtain by mobilizing lawmakers and lobbyists. Just some examples:

The Advanced Technology Program. S. 4 increases funding for grants (made on a matching funds basis) to firms specializing in such fields as electronics, advanced manufacturing, information, and biotechnology. The bill appropriates \$200 million in FY 1994 and \$468 million in FY 1995 for this program. The program's appropriation in FY 1993 was just \$68 million.

Under this expanded program, one of the many activities the bill proposes to fund is the testing of new technologies. When allocating these "Testbed Awards," the Secretary of Commerce "shall give particular consideration to applicants that have existing computer expertise in the management of business, product, and process information...." Unlike private venture capitalists, who are prone to seek breakthroughs by new companies, the language of S. 4 indicates that the government will tend to subsidize established firms. When existing firms are being subsidized by government, and especially when a condition of subsidy is that private funds also are to be raised, it becomes much more difficult for new, innovative firms to enter the picture

The National Manufacturing Outreach Program. Under this program, "Government and private sector organizations, actively engaged in technology or manufacturing extension activities, may apply to the Secretary to be designated as Manufacturing Outreach Centers." The eligible recipients include everything from government agencies to worker organizations to universities. Each center will "disseminate its technical and information services to United States manufacturing firms."

S. 4 authorizes \$30 million in FY 1994 and \$80 million in FY 1995 for these centers (and related activities). Past history indicates that the grant process will be highly political. The experience of the Small Business Development Center program, which provides professional and technical advice free of charge to small business, indicates that these centers will grow in number as Members of Congress want them for their own districts. In the past five years, the funding for Small Business Development Centers has grown from \$45 million to \$71 million and the number of centers has increased from approximately 600 to 934. ¹⁶

¹⁵ John Carey, "Industrial Policy, or Industrial Folly?" Business Week, May 17, 1993, p. 36.

¹⁶ House Report 103-157, p. 65, and the Small Business Administration. The House Appropriations Committee recommended a \$71 million FY 1994 funding level for the SBDC program. The full House has yet to vote on the bill.

THE DUPLICATION OF EXISTING PROGRAMS

Not only does S. 4 create such pork-prone programs, but it duplicates an existing Small Business Administration (SBA) program. Of course the bill does not terminate the SBA program to free funds for a supposedly better program.

As originally introduced, S. 4 would have authorized the Secretary of Commerce to make loans to small and medium sized businesses "engaged in research, development, demonstration, or exploitation of advanced technologies and products" and to provide financial assistance to "critical technology investment companies." After objections from several quarters, the loan program was scaled back in Committee to a pilot program. However, the House version of the legislation still contains the full-scale loan program.

This duplicates the SBA's Small Business Investment Corporations (SBICs). Like the new Commerce Department program, the SBICs provide venture capital to small businesses.

Before duplicating the SBA program, lawmakers would be wise to consider whether the taxpayer investment in the SBA program has been a success. A recent review by *The Wall Street Journal* should make Congress hesitate:

The SBA's investment-company program was started 35 years ago, after the Russian Sputnik rocket was launched, to fund high technology start-up businesses. But beginning in 1986, many of the investment companies that the program sponsored ran into serious financial trouble. The SBA had to liquidate the assets of 191 of these concerns. Investigators blamed the problems on the recession and poor SBA oversight. ¹⁷

Moreover, the Department of Commerce itself does not have a good track record in the loan department. Columnist George Will noted recently that, "more than half the almost \$1.2 billion lent by Commerce in the last two decades is in default." Commerce Secretary Ron Brown disputes Will's assertion that Commerce should not be involved in promoting high technology, but did not argue with his loan figures.

WANTED: A REAL, PRO-GROWTH COMPETITIVENESS STRATEGY

The government can play a role in promoting U.S. competitiveness. But that role is not to pick and subsidize new industries. The government instead should be creating an environment for risk-taking and removing artificial barriers—usually ones it has created.

Jeanne Saddler, "SBA, Commerce Square Off on High Tech Financing," *The Wall Street Journal*, June 9, 1993.

¹⁸ George F. Will, "Government as Venture Capitalist," *The Washington Post*, June 10, 1993, p. A23.

¹⁹ Ronald H. Brown, letter to the editor, *The Washington Post*, June 22,1993, p. A18.

What firms in the United States need in order to be competitive in world markets are fewer regulations, fewer barriers to trade, and lower taxes—especially on venture capital. Government policy should enhance the general process of competition, not become a player in it. If Congress wants to strengthen U.S. competitiveness and foster the growth of new industries and better-paying jobs, it should enact the following ten-point competitiveness plan.

- 1) Cap domestic federal spending at 2 percent annually. This will increase the amount of private savings available for job-creating private investment.
- 2) Avoid costly health care "reform." Congress should adopt health care reform legislation that addresses why insurance costs are rising. It should not simply push the cost of comprehensive health coverage onto employers through expensive new payroll taxes.
- 3) Reduce tax rates on labor income and capital formation. Enacting reductions in payroll and income tax rates, and other tax relief to reduce the cost of hiring workers and introducing new equipment, would stimulate savings, investment, and productivity. Unlike targeted subsidies, general tax relief would cause private funds to flow to their most productive uses.
- 4) Pass product liability reform and other tort reform legislation. America's current tort system drains the economy of possibly hundreds of billions of dollars annually and hinders product innovation. Reforms are needed to limit punitive damages and streamline court procedures to encourage settlement.
- 5) Enact regulatory reform. Many regulations directly increase the cost of employing workers and act like a hidden tax on job creation. The President and Congress should establish a federal regulatory budget and estimate the employment impact of regulations before they take effect. A regulatory budget means that the government would place a limit on the total estimated cost imposed on the economy each year by all federal regulations.
- 6) Adopt legislation promoting true school choice and other education reforms. American schools need to do a better job of educating children to be the productive, high-skilled workers of tomorrow. Children from all income levels need to be able to learn the basic reading and writing skills so that they can be successful in the workplace.
- 7) Overhaul antiquated U.S. antitrust laws. Outdated trade laws left over from the turn of the century make it difficult for firms to enter into joint production alliances generally permitted in other countries. Among the needed reforms is greater legal latitude to enable U.S. firms to form alliances to finance research programs or develop and market new products.
- 8) Enact NAFTA and negotiate other free trade agreements. Congress should ratify the North American Free Trade Area agreement, which will create jobs, spur economic growth, and make the U.S. more competitive with Japan and Europe. After implementing the NAFTA, the Administration should negotiate trade agreements with any country wishing bilateral open markets.

- 9) Reform U.S. financial and banking laws. Restrictions on interstate banking force many U.S. banks to remain small and uncompetitive and unable to provide both commercial and investment services. Congress should reform the McFadden Act of 1927 and the Bank Holding Company Act of 1956, which restrict interstate banking. In addition, the Glass-Steagall Act of 1933 should be repealed. This outdated law limits the services banks can offer and the types of investments they can make.
- 10) Permit the "Baby Bells" to enter the long-distance market. Congress should allow the regional Bell operating companies to enter the long-distance telephone business, to manufacture telephone equipment, and to own video programming and other businesses. They have been prohibited from doing so by the court decree that broke up the Bell system in 1982, and by the 1984 Cable Communication Policy Act. Removing these restrictions will promote competition, create jobs, and help build data highways.

CONCLUSION

The National Competitiveness Act would spend more than \$2 billion on a wide array of programs, in the hope that an infusion of government investment can assure U.S. leadership in advanced manufacturing technologies. But such past examples as the ill-fated Synfuels Corporation, Sematech, and the Clinch River Breeder Reactor program show that government bureaucrats have not succeeded in forecasting future trends, picking the technologies of the future, or estimating the costs of government-funded projects.

Government-sponsored manufacturing outreach centers, state extension networks, wind engineering research programs, and similar activities will not prepare the U.S. economy for the future. Such projects will simply become high-tech political pork projects, which will take on a life of their own. Manufacturing centers, for instance, will tend to be located in districts of the most powerful Congressmen, rather than where they are needed. And one high-tech project will be favored over another because of its political friends, not because of market needs.

Instead of adopting this legislation, Congress should work to create an environment in which high-tech industries and business can thrive. New businesses will not grow when they are overtaxed, or burdened by excess litigation and regulation, or when they face an uncertain future due to mandated employee benefits. Correcting these problems will sharpen U.S. competitiveness and spur new technologies. Outreach programs run by the Department of Commerce will not.

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