Designing American Industrial Policy: General versus Sectoral Approaches

by
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Should the United States have an industrial policy? If so, what sort of industrial policy should the federal government formulate?

The advent of an activist Administration in Washington has rekindled the old debate about industrial policy. Should the United States have an industrial policy? Is an industrial policy inevitable?[1] If so, what sort of industrial policy should the federal government formulate?

What is "industrial policy?" Despite, or perhaps because of, the fact that this term has been used for over a century,[2] few agree on what an "industrial policy" involves. One leading scholar emphasizes the economy's "structure," that is, the use of resources and the patterns of world production and trade resulting from them,[3] while others view industrial policy as enhancing cooperation.[4] Since the term "industrial policy" is ambiguous, the paper will focus its discussion on two different forms of economic intervention: the general and the sectoral approaches.

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The *general* approach seeks to increase the efficiency of the four factors of production, generating more output for each unit of land, labor, capital, and management. Government initiatives on soil conservation ("land"), unemployment insurance ("labor"), small business loan guarantees ("capital"), and proxy statement rules ("management"), are prominent examples of general approaches. Because they are not intended to promote one industry over another, they are termed general approaches even when they happen to have a disproportionate impact upon a specific industry.

By contrast, *sectoral* approaches seek to improve the competitiveness of particular industries (e.g., autos) or business groupings (e.g., communications services). While sectoral approaches may also focus on productivity, and use one of the general methods noted above, the sectoral approach will target the intervention on a particular industry or company. The loan guarantee made to Chrysler in 1980 is an example of a sector–specific policy.

The distinction between general and sectoral poli-

cies will often blur at the margins. Although the notion of aid to "pre–competitive generic" technology was politically correct during the Bush Administration, it may have looked quite specific to companies in Silicon Valley *not* receiving federal largesse. Similarly, while an incremental investment tax credit may ostensibly benefit everyone, it may in practice succor emerging industries more than mature ones. Nevertheless, the general–sectoral distinction remains valuable in formulating policy.

Many economists are skeptical of both general and sectoral approaches. Typically, critics assail general approaches as ineffective. For example, some argue that unemployment insurance programs can prolong unemployment duration without concomitantly increasing post–reemployment wages. Skeptics of sectoral programs argue that they, too, lack a convincing success record. But setting aside the practical problem of successful program implementation, sectoral approaches also suffer from the more fundamental criticism that, by strengthening one industry, the government, perforce, weakens others. If successfully implemented, then, a general policy would dominate sectoral approaches because the efficiency gains and welfare benefits would accrue to all, not just those of the chosen industry.

Notwithstanding the criticism leveled at both forms of industrial policy, a variety of programs have been implemented over time, even during the last twelve years when the concept of industrial policy was supposedly taboo.[5] Because of the influence of special interest groups, the U.S. has a tendency to adopt sectoral policies which can often be undesirable from a national welfare perspective. The reluctance of the previous administrations to entertain an explicit policy debate only impeded the attainment of a consensus agenda on the better general approaches. Hence, Otis Graham Jr., in his superb study of the industrial policy debate, described the 1980s as a decade of "losing time."[6]

This article reframes the debate for the Clinton era. The first section reviews the substantial history of America's industrial policy. The second section outlines the essential and irreducible elements of any industrial policy. In section three, I describe the operation of a general policy, and, in section four, sectoral approaches, highlighting both their substantial pitfalls and potential means of mitigating those deficiencies. In brief, the article concludes that policymakers should recognize the inevitability of some government involvement in industry and channel their resources into formulating and adopting a more effective general policy. Although there may be some role for sectoral approaches in the future, we currently lack many of the prerequisites to an effective and equitable sectoral policy. Federal officials should not undertake sectoral policies with a Panglossian attitude.

A BRIEF HISTORY OF AMERICAN INDUSTRIAL POLICY

Industrial policy is about as old as the American economy itself. In 1791, Treasury Secretary Alexander Hamilton presented an elaborate plan to the U.S. House of Representatives for developing manufacturers.[7] While the report had little immediate impact on policy, it has served as an inspiration to each new generation of industrial policy activists. The U.S. House of Representatives did set up a Committee on Commerce and Manufacturers in 1795, but had to divide the committee in 1819 because of conflicts between commercial and manufacturing interests.[8] Such conflicts would prove to be a recurrent feature of American industrial policy.

General policies date back at least as far as the turn of the century. In 1903, the Congress established a Department of Commerce and Labor "to foster, promote, and develop the foreign and domestic commerce, the mining, manufacturing, shipping, and fishery industries, the labor interests, and the transportation facilities of the United States."[9] Although few have ever publicly called for the government to "pick winners," federal and state governments have regularly engaged in sector–specific practices for over two centuries.

Protectionism: The Rise of the Tariff and Other Safeguards

Although states began using tax exemptions and other inducements to attract industrial plants as early as 1643, the most widely–used mechanism for effectuating industrial policy throughout American history has been the federal protective tariff.[10] The First Congress had barely convened in 1789 when it began an initiative for both revenue and "the encouragement and protection of manufacturers."[11] Over the course of the next thirty–nine years, twenty additional tariffs were passed until the Tariff of Abominations of 1828 caused a rift between northern and southern states.[12] Consequently, when the South seceded in 1861, its new constitution prohibited the use of import duties "to promote or foster any branch of industry."[13]

During Reconstruction, the United States increasingly relied on tariffs as the economy became vulnerable to foreign competition. This trend continued into the twentieth century, prompting President Woodrow Wilson to complain that "we long ago passed beyond the modest notion of 'protecting' the industries of the country and moved boldly forward to the idea that they were entitled to

the direct patronage of the Government."[14] While tariff levels have gradually fallen since the 1930s,[15] efforts to raise them stubbornly persist. During the past few years, for example, various auto–related interests have sought tenfold increases in the tariff on minivans by increasing the applicable *ad valorem* taxes on such vehicles from 2.5 percent to 25 percent through a process called "tariff reclassification."[16]

Although a wide range of industries has historically relied on tariffs, many groups have opposed them. Even before the economic downturn partly attributable to the Tariff Act of 1930, public opinion was turning against the protectionist excesses as manifested in numerous omnibus tariff bills. One group of reformers sought a non–political, "scientific" tariff that would be set by an independent commission. The *Wall Street Journal* recognized that this was based on a faulty presumption: "There is no way of squeezing the politics out because a tariff, whether protective or for revenue only, is all politics. If you take out the politics there is nothing left."[17] Another group of reformers sought to lower tariffs by undertaking reciprocal negotiations with other countries. Their effort succeeded in 1934 when Congress passed Cordell Hull's Reciprocal Trade Agreement program.[18] In short, Hull's plan called for the United States to negotiate mutual tariff reductions with other countries. The Reciprocal Trade Agreements program was enormously successful and has been renewed sixteen times since first passed.[19]

In addition to tariffs, the U.S. government has made limited use of import quotas to manage supply levels in order to assist certain industries. The United States generally resisted quotas until the 1930s, when they were implemented by such laws as the National Industrial Recovery Act and the Agricultural Adjustment Act.[20] In some cases, the United States negotiated "voluntary" export restraints as an alternative to quotas. For example, a 1934 agreement with Japan set a limit on how much porcelain Japan would export to the United States.[21]

Despite its claims to the contrary, the Reagan Administration was actually quite protectionist. Indeed, James Baker, Reagan's Secretary of the Treasury, boasted in 1987 that Reagan "granted more import relief to U.S. industry than any of his predecessors in more than half a century."[22] While quotas are normally used to curtail imports, they can also be used to boost exports. For example, in 1986 the Reagan Administration obtained an agreement from Japan to endeavor to increase its purchases of foreign–made semiconductors to twenty percent of the Japanese market within five years. A more recent example emerged when the Clinton Administration agreed to restrict imports of peanut butter and refined sugar in exchange for a few House votes on the Omnibus Budget Reconciliation Act of 1993.[23]

A final instrument of U.S. trade policy which also supports domestic industry is the use of anti–dumping duties.[24] If the anti–dumping law merely applied the domestic rules regarding fair competition to imports, it would be relatively uncontroversial.[25] The law goes much further, however, and often leads to rather dubious findings that unfair competition to be remedied by offsetting duties on competitive imports.[26] For example, in her analysis of the 1991 anti–dumping case regarding flat panel displays, Laura Tyson concluded that the U.S. policy was a "kind of reverse (or perverse) industrial policy, pitting the interests of the successful American computer against the interests of the fledgling but doomed American display industry."[27]

The recognition that tariff policy can influence industrial structure is embedded in the General Agreement on Tariffs and Trade ("GATT") rules. The GATT directs nations involved in trade negotiations to take into account "the needs of . . . individual industries" and the "developmental, strategic and other needs" of the parties.[28] The GATT also "recognizes" that it may be necessary for countries to "grant the tariff protection required for the establishment of a particular industry."[29]

Aid to Technology

There is a long history of federal support for new technology, much of which has been quite successful. As early as 1843, Congress appropriated funds for "testing the capacity and usefulness" of the telegraph,[30] and in 1887, Congress established experiment stations to provide "useful and practical information" to the agricultural industry.[31]

In 1915, Congress established the Advisory Committee on Aeronautics "to supervise and direct the scientific study of the problems of flight, with a view to their practical solution. . ."[32] This committee's efforts played an important role in the early growth of the aerospace industry. Moreover, World War II forced a collaboration in technology that blossomed into many new defense–driven technologies with civilian applications.[33] The most successful example may be the digital computer which the government facilitated through procurements and research aid.[34] Other government–sponsored research spawned the development of nitrate fertilizer, steam boilers, steel plate, and fish oil.[35]

Although the federal government shifted its official focus in the 1950s from applied technology to basic science and from corporate–based research to university–

based research, on a few occasions the government attempted to sponsor commercially promising technology. For example, the Kennedy Administration proposed a Civilian Industrial Technology program, though Congress rejected it.[36] In 1988, Congress established an Advanced Technology Program ("ATP") which provides financial subsidies to help U.S. businesses "commercialize significant new scientific discoveries and technologies rapidly."[37] The ATP program marked a significant departure because it was not linked to military needs or to other public purposes such as energy or health. More recently, the Clinton Administration's new technology initiative would expand the funding for ATP from $54 million in fiscal 1993 to $680 million in fiscal 1997.[38] Specifically, the program aims to "reorient" all federal research and development programs to assure that they are "in line with the contemporary needs of industry. . . ."[39] Finally, the Clinton Administration has also announced a major new program for "re–establishing technological leadership and competitiveness of the U.S. automobile industry."[40]

Maintaining and Expanding Infrastructure

Federal programs to bolster existing infrastructure can be both general and sector–specific. On the one hand, such programs are general policy because the transportation and communication networks help all sectors of the economy. On the other hand, infrastructure is often designed with particular industrial needs in mind.

Although states provide much of the financing, the federal government has played a significant role in erecting America's infrastructure. In 1806, the Cumberland National Road inaugurated the practice of federal aid for turnpikes.[41] Federal subsidies for canal building started in 1826,[42] and in 1862, Congress began granting land and other aid to the railroads such as Union Pacific.[43] During the 1920s, federal contracts with the airlines for the carrying of mail provided profitable business at a critical time.

During the 1980s, however, the Reagan Administration allowed American infrastructure to deteriorate, questioning not only the appropriateness of the government role, but also the importance of infrastructure itself. By contrast, the Clinton Administration's emphasis on increasing public investment can be viewed as a "reform" in the original sense of the word, that is, a restoration to an earlier more ambitious approach to public works.

Production Subsidies

With the exception of steamship bounties in the 1840s and sugar bounties in the 1890s, production subsidies for particular industries did not begin until the 1930s. Currently, the federal government spends about $17 billion each year on subsidies for agribusiness and farmers. These subsidies have no special purpose such as developing new technology or facilitating adjustment; they are simply direct patronage of the government.

THE ESSENTIALS OF ANY INDUSTRIAL POLICY

Although one can cavil about whether almost any government function is absolutely necessary, there are several general tasks fundamental to any prospering economy.

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Macro Policies

In the Keynesian tradition, governments have the affirmative responsibility of maintaining a proper macroeconomic environment. Yet the federal government failed to meet this responsibility during most of the 1980s and early 1990s. First, the budget deficit grew from 2.5 percent of gross domestic product ("GDP") in 1981 to 5.8 percent in 1992.[44] A budget deficit, of course, is not always a bad thing, but since both the Reagan and the Bush Administrations, as well as Congress, have regularly railed against high budget deficits, they must be scored as policy failures. Second, the dollar was permitted to become overvalued in the mid–1980s, leading to a gargantuan merchandise trade deficit of $160 billion in 1987.[45] This resulted in an extreme economic cost to domestic industry, and the political cost of re–igniting the drive for protection. Third, the tax system was changed too frequently, leading to uncertainty for firms and investors.[46] Yet, the one clear macroeconomic success over the past twelve years has been in controlling inflation.

The federal government has also failed to stimulate the economy quickly enough during downturns. Every time the United States suffers a recession, proposals to accelerate or increase infrastructure spending are delayed by months or years, providing little help when it is needed. The time lag could be reduced by maintaining an inventory of public works projects that are ready to build. Although

the Employment Stabilization Act of 1931 actually *requires* federal agencies to prepare an advance plan for "prompt commencement and carrying out of an expanded program at any time,"[47] such plans are not formulated. The Administration should immediately begin to rectify this omission.

Effective international cooperation could also foster more productive macro policies. International agreements to harmonize economic policies can give governments the "political cover" they need to take unpopular actions at home.[48] A Group of Seven mechanism exists for this purpose, yet its use has diminished over the past several years, principally for institutional reasons. The most economically powerful member, the United States, operates with a great handicap: lacking a parliamentary system, the U.S. President and Treasury Secretary cannot make reliable commitments. Congress might solve this problem by granting a "fiscal fast track" similar to what is provided for trade negotiators. For example, the President could be authorized to commit the United States to lower its budget deficit if Japan agreed to stimulate its economy. Congress could then vote on the joint resolution needed to implement the Group of Seven commitment under fast track procedures.

Procuring Adequate Data for Effective Policy Making

"Before any plan of guiding industrial policies can be put into successful operation," declared economist Theodore Kreps, "vastly more information is necessary. . . . "[49] Though Kreps wrote in 1941, the lack of timely and accurate data required for the formulation of an industrial policy remains a pressing problem today.[50] To its credit, the Bush Administration made efforts to begin addressing these problems, but appropriations have been inadequate. The continuing deficiency in the federal statistical programs is especially troubling because the widespread availability of personal computers has greatly expanded the number of individuals who could benefit from more accurate data. American data is so deficient, in fact, that the Japanese government has updated some data series on the American economy which the U.S. government lacks.

As former officials who have been on the front lines of sectoral policies can attest, these data gaps handicap efforts to fashion effective sectoral policies. Currently, the federal government lacks the necessary information even to evaluate the *accuracy* of any pleas for help, quite apart from analyzing the potential *efficacy* of the suggested aid.[51] These deficiencies have led the Competitiveness Policy Council to call for the development of "baselines" for key industries that would project growth, international market share, and related variables,[52] an assignment currently pursued by the U.S. International Trade Commission ("ITC"). Including information about foreign practices and conditions in these baseline assessments of domestic industries would further enhance their usefulness; the federal government regularly collected and published this information eighty years ago[53] and has only recently and partially resumed these important efforts.[54]

> A number of general approaches available to policy makers offer more promising gains: overall productivity enhancement throughout the economy.

Accommodating the Special Impact of Government Intervention

The government should account for the impact of its policies on industries for which it is the primary customer. Although most of the attention focused on the defense industry during the 1980s concerned rip–offs by contractors, the more important issue is how Pentagon spending policies affect the competitiveness of the defense industry. The Pentagon's "millispecs," burdensome procurement rules, and lenient reimbursement policies weakened both innovation and cost discipline among defense contractors.[55] Proponents of more aggressive sectoral policies should heed the lessons of this experience.

Maintaining Policy Coherence

As Governor Bill Clinton pointed out a decade ago, "Government involvement cannot be successful if the right hand does not know what the left hand is doing, or, worse, knows and does not care."[56] Yet the government still quite frequently undertakes inconsistent, conflicting and contradictory policies.[57] The right hand attempts to create jobs while the left hand imposes high payroll taxes and other costly employer mandates; the left hand tries to promote exports while the right hand blocks billions of dollars of trade with export controls and other indirect barriers.

Despite the obvious links between trade, tax, antitrust, and technology policies, they are all too often

formulated independently of each other.[58] The federal government is understandably worried about the financial plight of the airline industry, but who considered the industry's health when airplane tickets were taxed at ten percent in 1990 to reduce the deficit? The White House is proposing a major redesign of health care, but who is considering how this initiative will affect the health care *industry* that employs over nine percent of American workers?

Although there are myriad proposals for "industrial policy," one common thread is that government policymaking should be better coordinated. One method of achieving greater coherence would involve annually formulating a federal "Industry Assistance Budget."[59] Having an actual budget would enable the public to monitor the efficacy of such programs. Another way to improve coherence might be to require that sectoral programs be reported to an international institution. The GATT has a questionnaire about import restrictions used to establish industries that could be adapted for this purpose.[60] Alternatively, the Organization for Economic Cooperation and Development ("OECD") could expand its current level of monitoring.

THE SUPERIORITY OF GENERAL APPROACHES

As this previous discussion makes clear, the government currently lacks the capacity and information necessary to formulate truly effective sectoral policies. Fortunately, general approaches do not require specificity of information. More importantly, a number of general approaches available to policy makers offer more promising gains: overall productivity enhancement throughout the economy. Thus, rather than confronting the dilemma of choosing the beneficiary of a sectoral policy, government can "lift all boats" by raising the economic and productive tide. Not only are general policies more equitable than sectoral policies, but they also offer the potential of greater economic effects because of their pervasive benefits.

> Even under an economically conservative administration, sectoral policies continued.

The remainder of this section describes the mechanism and potential benefits of general approaches in greater detail by focusing on one form: a labor policy. Though space constraints prevent a similar expansion of the other factors of production, general approaches aimed at enhancing the efficiency of their use would involve many of the same issues discussed below. For instance, will the intervention improve the functioning of the market? Is that intervention required because the benefits are too diffuse to provide any private actor with the incentive to undertake them? Will the intervention result in a better balance between competition and cooperation?

Enhancing Labor Productivity

Firms have traditionally raised the productivity of labor by automating with "labor–saving" devices. By replacing workers with machines that can produce the same or more output, the productivity of each worker (total firm output divided by the now lower number of laborers) increases. Although anyone being replaced by a machine is likely to resist automation, most people now accept the process of automation and innovation as welfare–enhancing. Recent trends in management theories, such as the "lean" production of the 1980s and the "job re–engineering" of the 1990s, manifest this usual inverse relationship between changes in productivity and employment levels.[61]

Clearly, the government's perspective on labor productivity must diverge from that of the firm. The firm tries to raise its labor productivity by decreasing its workforce. Yet labor cannot be treated as an inanimate commodity; unemployment has serious ramifications for its victims. An important governmental function, therefore, involves ensuring enough jobs for "redundant" workers. In other words, reducing employment, while a solution to the employer, is a problem for the government. While some governments have responded to this dilemma by restricting private sector layoffs or creating large numbers of public sector jobs, those approaches have often proven counterproductive.[62] So formulating an appropriate policy becomes rather complicated: the policy should protect freedom for the employer and the employee, but also assure that the economy as a whole generates enough good jobs.[63]

The federal government has several means of facilitating the achievement of these goals. First, productivity could also be augmented by increasing the skills of the workforce. Thus, the government should support training both on the job and in the classroom, perhaps by providing vouchers. This is especially important for workers unemployed because of structural changes in the economy. Unfortunately, even after years of effort in this area,[64] the U.S. Department of Labor has made little progress in training workers displaced by foreign competition.[65] A recent study by the Congressional Budget Office reached the troubling conclusion that "despite widespread support for retraining displaced workers, very little

is known about the effectiveness of the current national programs in increasing the earnings of their participants."[66] Thus, other policy options for increasing productivity while maintaining employment levels should be examined.

A second such approach would be more proactive: the government should help workers adapt to new technology.[67] As early as 1966, the National Commission on Technology, Automation, and Economic Progress recommended a package of employment and training initiatives to achieve the goal of "lifelong learning."[68] In spite of that recommendation over twenty–seven years ago, the government has largely failed in this mission.

The government has also failed to take even the most obvious steps to prepare our children for the technological work place: the computer education in schools is sorely deficient.[69] This failure creates a ripe policy opportunity. The federal government could purchase sufficient computers so that *every third grader*, rather than just one in every eighteen as is currently the case,[70] would have one.[71] Then the government could sponsor a national competition to design the best educational software for that age group. The same process could be replicated for other grades as budgetary and administrative capacities allowed.

A third approach for augmenting productivity while minimizing labor displacement would call upon the government to maintain proper macro policies in order to promote growth. The economy can reabsorb many more unemployed workers when it is growing than when it is stagnant. For this reason, policy makers should avoid restrictions on international trade. Economists have long recognized[72] that protectionism defeats the operation of comparative advantage and thus suppresses rather than stimulates output and employment growth.

Indeed, international economic cooperation (as opposed to autarky) may actually assist the attainment of economic growth and employment gains. After all, as the U.N. Conference on Trade and Employment noted, "the avoidance of unemployment or underemployment... is not of domestic concern alone, but is also a necessary condition for the achievement of . . . the expansion of international trade, and thus for the well–being of all other countries."[73] As recent experience illustrates, a world recession can further depress output in member countries because of the adverse effects on international trade. It thus might be useful to add the objective of full employment to GATT's post–Uruguay Round agenda and to have nations commit themselves to carry out adjustment assistance programs.[74]

A fourth approach would involve adapting ideas from the successful productivity programs of other countries. Both the International Labour Organization ("ILO") and the OECD regularly publish excellent recommendations,[75] but these have little or no impact on U.S. policymaking. One recent incident illustrates the inefficiency of this policy isolationism. Although the ILO suggested making unemployment benefits "conditional upon attendance at a course of vocational or other instruction" in 1934,[76] Labor Secretary Robert Reich characterized a similar proposal as "a unique new twist" in February 1993.[77] Efficiency could be improved and dislocation reduced if the government were willing to adopt the best policies irrespective of whether they originated domestically or abroad.

Fifth, the government could extract greater benefits from existing policies if it better coordinated the departments of Labor, Commerce, and Education. Without a unifying strategy, these departments pursue duplicative and even contradictory policies and can leave large areas completely unaddressed. The Carter Administration recognized this need in 1977 and established a Commerce–Labor Adjustment Action Committee to link training and economic development programs.[78] But the Reagan Administration abolished this successful program in early 1981, disparaging it as a form of industrial policy. The program should be reinstated: not only does it offer significant benefits, but it also involves little incremental cost or interference since it only optimizes existing programs.

In summary, the federal government clearly has many available methods of improving the macro environment and enhancing productivity which do not involve the disadvantages of choosing among sectors. The government should pursue these general approaches before turning to problematic sectoral programs.

SECTORAL APPROACHES

Although American history demonstrates that the federal government has pursued sector–specific policies, this does not necessarily mean that it should continue to do so. Indeed, if there is no agreement on whether the government should even be involved in the development of industry, then one could call for it to discontinue all of its meddling with sectoral policies. But how realistic an option is that? Even President Reagan, despite his enormous early popularity and his "government is the problem" rhetoric, either could not or was unwilling to forgo the use of traditional sectoral policies such as import relief, subsidies, and aid to technology commercialization.[79] Even under an economically conservative administration, sectoral policies continued. Having made the observation that government will adopt an industrial policy regardless of rhetoric,

the question becomes what type of policies should be adopted?

As Charles L. Schultze explains, "industrial policy typically has two aspects—*picking the winners* and *protecting the losers*."[80] By the phrase "picking the winners" Schultze refers to selecting industries deemed essential to the U.S. economy and then boosting or incubating those industries so they can compete internationally and thus benefit the domestic economy. The fundamental problem with this approach, however, lies in "picking" the winners. Aerospace would probably appear on most lists of acceptable industries. But how about semiconductors? Or autos? Or textiles? Or honey? The Clinton Administration drew the line between textiles and honey. Is there any way to avoid this arbitrary, ad hoc decision–making process which ranks industries according to their (rather malleable) social returns?[81]

Some have proposed a neutral decision–making process which selects industries that demonstrate increasing returns to scale.[82] Another proposal selects industries which enjoy high growth rates.[83] Others suggest looking for "linkage" or "key" industries whose efficiencies spill over as inputs into other industries. Last year, Congress directed the Secretary of Commerce to "identify those civilian industries in the United States that are necessary to support a robust manufacturing infrastructure and critical to the economic security of the United States."[84] Despite these attempts to choose "winner" industries, however, it is hard to be certain whether the right industries are chosen. As John Hobson noted seventy–five years ago in his prescient study of *The New Protectionism*, "the so–called *key–industry* of today will not be the *key–industry* of tomorrow."[85]

Testing for Success

If the government insists on selecting certain industries to support, it must develop some standards which can be uniformly applied to evaluate these decisions. A simple test could check whether a policy boosts an industry's *private* rate of return; however, this test is not nearly tough enough. The government can boost any industry's private rate of return if it pours in enough resources. What needs to be determined is whether targeting an industry ensures the success of that industry in a way that is *welfare–enhancing* for the entire economy. In other words, a sectoral policy must be validated by looking at the *net* impact of the intervention on output, profit, and job creation. In addition, the decision–maker should consider the opportunity cost of using federal dollars for this purpose rather than another. Only after making this net–impact analysis should the government target an industry for direct assistance. Sectoral policies need to be chosen wisely because beneficiary industries may gain at the expense of others.

Another difficulty with developing a "test for success" is that good sector–specific initiatives in one country might be imitated by other countries. Such imitation can sometimes lead to over–subsidy, and, in turn, a dissipation of the policy's net benefits. While all nations can benefit from well–designed general policies, well–designed sectoral policies are likely to help some nations and hurt others. In theory, perfectly specialized sectoral policies could be positive for all nations. But given the potential for "sunrise–industry envy," one must anticipate that widespread use of a sectoral policy will degenerate into a negative–sum exercise.[86]

In sum, the use of targeting policies as a practical economic tool has proven unsuccessful when used by industrialized nations.[87] What has not been proven is whether all targeting policies are doomed to fail or whether their failure is instead attributable to their ineffective implementation.

Fairness

As noted above, governments justify the use of sectoral policies with the utilitarian premise that favoring one industry can be good for the economy as a whole. Yet even if sectoral policy can pass this economic test, it may still fail the test of equity. As Daniel Webster explained during an 1824 debate on tariffs: agriculture, commerce, and manufactures will prosper together, or languish together; and . . . all legislation is dangerous which proposes to benefit one of these without looking to the consequences which may fall on the others.[88] Simply put, some may believe that it is immoral for government to use taxpayer dollars to aid some industries if others suffer. In principle, however, the immorality can be avoided by taxing back some of the gain from successful sectoral policy and use it to compensate those whose situation worsened as a result of the government's targeting.

> To the extent that aggressive measures to dismantle foreign barriers are justifiable, they are far less defensible when carried out as a component of a sectoral policy.

In reality, this approach is not likely to be used as part of a government's sectoral policy. This observation reflects the probability that such policies do not generate the promised benefits which justify the use of government led industrial policy. Although sectoral policies will always be suboptimal, they could be improved if more effectively implemented. One need not look further than the use of managed trade to witness such deficiencies.

Instruments of a Sectoral Policy

Managing Trade

Placing a tariff on foreign competition has been the traditional method of aiding domestic industry. The tariff was not designed, however, to aid the consumer; as Ambrose Bierce so insightfully recognized, the tariff is "designed to protect the domestic producer against the greed of his consumer."[89] This type of protectionism has always been a bad idea in search of a new rationale. Since international trade rules and domestic political norms now dissuade the use of simple protective tariffs, a new theory of "managed trade" has been developed.[90]

Managed trade encompasses the idea that, since countries can now *create* their comparative advantage, trade opportunities are no longer determined by "natural" differences.[91] However, such arguments evince a misunderstanding of the theorist David Ricardo who suggested that "each country produc[es] those commodities for which by its situation, its climate, and its natural *or artificial* advantages, it is adapted . . . ."[92] Even if Ricardo had neglected the possibility of a country *creating* a comparative advantage, his doctrine would still stand. Specialization and exchange, which Ricardo believed were superior to state–led protection, are always good for participating individuals and hence for society in general.

The seeming paradox remains that, if protection has never been economically rational, why do governments still rely on it as an important part of industrial policy? The answer lies in the political realm; it is convenient to blame external causes for the nation's economic woes. Still, instead of looking for ways to reduce imports via "strategic" trade policies or to manage trade with "result–oriented" measures, we should seek ways to manage protectionism.[93] There are several possibilities.

First, a new position of "consumers' counsel" could be established to represent the often–unheard consumer and user interest in trade policymaking. Congress created such a consumer advocate in the Trade Act of 1932,[94] but President Hoover vetoed the bill. A consumers' counsel could point out the hidden costs of import controls in domestic prices, such as sugar quotas which cost American consumers about $1.4 billion a year.[95] Second, the anti–dumping laws could be narrowed to apply only to cases of true predation. For other relief, petitioners would have to rely upon the "positive adjustment" rules of the Omnibus Trade and Competitiveness Act of 1988.[96] This provision provides for temporary import restraints only when they will either enable an industry to compete successfully with imports or give it time to make an orderly transfer of resources to other pursuits.[97]

Subsidizing Technology

The U.S. government has a potentially broad scope of opportunities for creative intervention in industrial policy. Research subsidies, for example, may be appropriate when positive externalities exist which individual producers cannot capture. Such a subsidy can be open to everyone, such as a research tax credit, or awarded selectively; the subsidy's benefits can be widely disseminated, as with agriculture experiment stations, or concentrated.

If a subsidy is either open to everyone *or* its benefits are widely distributed, few would complain about fairness. But when a subsidy is awarded selectively *and* its benefits are reserved to participants, the subsidy, in effect the sectoral policy, becomes vulnerable to criticism on fairness grounds. Rather surprisingly, however, this fairness problem is rarely discussed. The main debate about technology subsidies has not been waged over their "fairness," but rather over the decision–making process, that is, whether the subsidies are based on "merit" or politics. To assuage these concerns about a "technology pork barrel," Congress amended the Advanced Technology Program ("ATP") in 1992 to require that research ventures be "industry–led."[98] The Clinton Administration avoids the term "subsidy" in its new technology program, and instead directs the Commerce Department "to act as *partners* with industry wherever possible."[99] The effect of the amendments, however, is still to subsidize technology.

The most significant policy change announced by the Clinton Administration may be the new policy for national laboratories, such as Los Alamos, to do more industry–led work and, hence, less government–led work. This misallocates resources; being industry–led may be more fault than virtue for those not enamored with corpocracy. The national labs should focus on *governmental* needs, such as environmental research or improved infrastructure planning.[100] Whether the labs will get such new missions, or simply be used as "job shops," remains to be seen.[101]

Reducing Foreign Barriers

Unlike many other trade policies, the use of trade restrictions to pressure foreign governments to open their markets is not protectionism.[102] As Adam Smith explained, "There may be good policy in retaliations of this kind, when there is a probability that they will procure the repeal of the high duties or prohibitions complained of."[103] The 1992 Republican Party platform evidences the growing consensus for such measures in the United States: "We are tough free traders, battling to sweep away barriers to our exports."[104]

Nevertheless, there are several reasons to battle carefully. First, trade restrictions of this type (on products) are illegal under the GATT.[105] Second, almost any trade restriction has a protective effect. Third, overemphasizing "comparable access" detracts from the more serious problem of the feeble export mentality of many American producers. As the U.S. embassy in Japan pointed out in a 1886 cable that could have been retransmitted a century later: the cause of all this want of reciprocity of trade has been found at the doors of our own people, who have never, until recently, scarcely made an endeavor to create an export trade to the East, and especially to Japan.[106] It should be noted that American producers are making progress. Ships that used to return empty after unloading Hondas in America at least now return to Japan filled with compressed hay.[107]

The orthodox economist might object that a negative industrial policy suffers the same flaws of a positive industrial policy.

The problem with any form of retaliation, of course, is counter–retaliation. As the *Wall Street Journal* notes, "there are no smart bombs in a trade war."[108] Given the dangers of trade retaliation, the United States may want to adopt a "first stone" rule. In other words, the U.S. Trade Representative should not be able to retaliate against another government for doing something that the American government also does.[109] Finally, there is a big difference between telling Japan that it should reduce its *global* trade surplus and telling it that it should reduce its *bilateral* trade surplus with the United States. The former may be market opening. The latter is mercantilist if not protectionist.

To the extent that aggressive measures to dismantle foreign barriers are justifiable, they are far less defensible when carried out as a component of a sectoral policy.[110] It is one thing to urge Japan to allow more imports.[111] It is quite another for U.S. officials to subsidize the domestic semiconductor industry and then to pressure the Japanese to buy more American–made semiconductors.[112] Many of those advocating "strategic trade policy" for high technology exploit the rationale of openness as a cover for protection.

Deprotecting Losers

The two components of sectoral policy noted above were "picking the winners" and "protecting the losers." Many advocates of sectoral policy would object to this simplistic characterization. Instead of protecting the losers, some would rather describe sectoral policy as restoring basic industries to self–sufficiency. But such a notion violates the principle of specialization at the core of comparative advantage. In order to avail the full economic benefits of comparative advantage, a government must be willing to deprotect industries. In other words, government officials must *redline* certain industries to make them ineligible for any future import relief or subsidies.

The orthodox economist might object to this proposal on the grounds that a negative industrial policy suffers the same flaws of a positive industrial policy. They would argue instead that the government should withhold assistance for *all* industries and leave the selection to the market. In reality, however, this is unlikely to happen. Selective deprotection programs used in the past have been unimpressive.[113] An international agreement by major industrial countries to reduce surplus capacity might ameliorate the political difficulty of withdrawing subsidies from mature industries by offering domestic leaders the cover of international policy.[114]

What is needed is an international agreement on "sunset" industries to coordinate the phase–out of capacity in industrial countries over a limited time period.[115] In this way, industrial countries could work together to achieve the politically unpopular goal of abandoning industries whose support depresses economic growth. Recently, the European Community ("EC") agreed to undertake such a program on steel.[116] The results of this effort may provide a blueprint for similar multinational programs in the future.

CONCLUSION

As the Competitiveness Policy Council reported in 1993, "the United States continues to face major competitiveness problems."[117] And the Maastricht Treaty threatens to increase the European challenge to American economic primacy: one EC Task Force on Planning de-

clared that the Treaty "has for the first time opened the door to connect research and development with an industrial policy for Europe."[118] The U.S. government must respond to this international challenge by addressing its homegrown problems.

The first step involves the government's recognition of its essential responsibility to correct wayward macro policies. Formulating and implementing the appropriate general policies constitutes the next step. Not only are the general approaches more likely to succeed because they do not require the same detail of data or lead to the special interest ties that sectoral policies do, but they also offer greater aggregate benefits. A rising tide is more important than catching the right wave of technological virtuosity. The development of sectoral policies should only come after the achievement of these objectives, and the realization of the necessary policy environment. Even then, sectoral policies should be limited to research subsidies and fostering international cooperation; trade policy should play no role.

General policies offer greater chances of success and a more equitable distribution of the gains, but they will require an explicit recognition of a governmental role in industry. A new administration with the goal of "reinventing government" has an enormous task to accomplish. Many policies can significantly improve the commonweal. But they should be chosen with the strength to recognize our weakness and admit failures, and with the modesty to learn from other countries.

NOTES

[1] While some analysts have suggested that the absence of sector policies is itself an industrial policy, that view is not taken here. Thus, only a truly hands-off, laissez-faire government lacks an industrial policy.

[2] McCraw traces the term back to 1876. *See* Thomas K. McCraw, *Mercantilism and the Market: Antecedents of American Industrial Policy, in* THE POLITICS OF INDUSTRIAL POLICY 33, (CLAUDE E. BARFIELD & WILLIAM A. SCHAMBRA eds., 1986).

[3] WILLIAM DIEBOLD, JR., INDUSTRIAL POLICY AS AN INTERNATIONAL ISSUE 5-8 (1980). Diebold is the leading scholar of the history, practice, and implications of industrial policy.

[4] *See, e.g., An Industrial Policy for America*, (NBC radio broadcast, Mar. 11, 1933). The show's host, Lewis Lorwin, a Brookings Institution economist, included labor-management relations, labor standards, and education and training under the rubric of industrial policy.

[5] The term "industrial policy" did not have a negative connotation before the mid-1970s. *See, e.g.,* ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, UNITED STATES INDUSTRIAL POLICIES (1970).

[6] *See* OTIS L. GRAHAM, JR., LOSING TIME: THE INDUSTRIAL POLICY DEBATE (1992).

[7] *See* FRANK BOURGIN, THE GREAT CHALLENGE: THE MYTH OF LAISSEZ-FAIRE IN THE EARLY REPUBLIC 103-06 (1989) (discussing Hamilton's influence in the establishment of New Jersey's Society of Useful Manufacturers).

[8] *See* GUIDE TO THE RECORDS OF THE UNITED STATES HOUSE OF REPRESNTATIVES AT THE NATIONAL ARCHIVES 95-96, House Document 100-245 (1989).

[9] 32 Stat. 825-26.

[10] *The Colonial Ancillary Tariffs*, TARIFF REFORM, May 30, 1892, at 70-71. *See also* Robert F. Wescott, *U.S. Approaches to Industrial Policy, in* INDUSTRIAL POLICIES FOR GROWTH AND COMPETITIVENESS 91 (F. GERARD ADAMS & LAWRENCE R. KLEIN eds., 1983).

[11] 1 Stat. 24. The law was signed by President Washington on July 4, 1789—a day rich in symbolism for patriotic 19th century protectionists.

[12] The Tariff of Abominations, officially known as the Tariff of 1828, raised tariffs to the highest level up to that time. By hindering Europe from selling manufactured goods to the U.S., the law made it difficult for Europe to buy Southern cotton. When reform legislation in 1832 did not lower the tariff as much as the southern states preferred, South Carolina passed an ordinance to nullify both laws.

[13] Constitution of the Confederate States of America, art. I, § 8, cl. 1, *reprinted in* HENRY STEELE COMMAGER, DOCUMENTS OF AMERICAN HISTORY 376 (1973).

[14] MESSAGES AND PAPERS OF THE PRESIDENTS, at 7872.

[15] The Smoot-Hawley Tariff, officially known as the Tariff Act of 1930, imposed the highest tariff rates in American history. Although the Depression began before the legislation was passed, the high tariff is generally credited with deepening the world economic slowdown. These high rates remain in effect for countries which have not been accorded most-favored nation treatment.

[16] For a good discussion, *see* James Bovard, *The 'Unprincipled' Approach to Trade*, ROLL CALL, Apr. 19, 1993, at 38.

[17] WALL. ST. J., Dec. 27, 1928.

[18] 19 U.S.C. § 1351. Interestingly, the statute lists "establishing and maintaining a better relationship among various branches of American agriculture, industry, mining, and commerce" as one of its purposes.

[19] For a discussion of this history, *see* U.S. TRADE POLICY SINCE 1945 (1984).

[20] *See* U.S. TARIFF COMM. QUANTITIATIVE IMPORT RESTRICTIONS OF THE UNITED STATES, TC Publication 243 (1968) at 2.

[21] U.S. DEPARTMENT OF STATE, FOREIGN RELATIONS OF THE UNITED STATES, VOL. III, 813 (1935).

[22] Hobart Rowen, *Reagan's Trade Problem*, WASH. POST, Oct. 4, 1987, at H1.

[23] John Maggs, *2 Senators Push to Curb Canadian Wheat, Barley*, J. COMM., June 17, 1993, at 1A.

[24] Although these duties are sectoral in the sense that they apply to particular foreign products, they are general in that the relief is available to any domestic industry which qualifies. There is no legislative requirement that the petitioning industry be meritorious.

[25] This was the approach taken in the first U.S. antidumping provision in the Tariff of 1894.

[26] For a witty account of this dry subject, *see* JAMES BOWARD, THE FAIR TRADE FRAUD (1991).

[27] LAURA D'ANDREA TYSON, WHO'S BASHING WHOM? TRADE CONFLICT IN HIGH TECHNOLOGY INDUSTRIES 142 (1992).

[28] GATT art. XXVIII bis:3.

[29] *Id.*, Art. XVIII bis:2 (applying only to less developed countries).

[30] 5 Stat. 618.

[31] 24 Stat. 440-41.

[32] 38 Stat. 930. In addition, the Air Commerce Act of 1926 (44 Stat. 568) gave the Commerce Department the duty of fostering air commerce.

[33] For specific examples of technologies that owe their development to WWII, *see* VANNEVAR BUSH, PIECES OF THE ACTION (1970).

[34] *See* KENNETH FLAMM, CREATING THE COMPUTER 29-79 (1988).

[35] REPORT OF THE SCIENCE COMM. TO THE NATIONAL RESOURCES COMM., RESEARCH—A NATIONAL RESOURCE 44-45 (1938).

[36] BRUCE L. R. SMITH, AMERICAN SCIENCE POLICY SINCE WORLD WAR II—ADVANCED TECHNOLOGY PROGRAM ESTABLISHMENT, PURPOSE, FOCUS 86-88 (1990).

[37] *See* 15 U.S.C. § 278n(a) (1988). The law directs the Secretary of Commerce to give preference to technology that has "great economic potential" and to avoid providing "undue advantage to specific companies."

[38] Executive Office of the President, *A Vision of Change For America*, Feb. 17, 1993, at 53.

[39] Executive Office of the President, *Technology for America's Economic Growth, A New Direction to Build Economic Strength*, Feb. 22, 1993, at 8 (hereinafter "Clinton technology policy").

[40] *Id.*, at 6, 34.

[41] 2 Stat. 357. Sales of public land were used to help pay for construction.

[42] 4 Stat. 162.

[43] 12 Stat. 489-91. As a quid pro quo, the President was empowered to appoint two directors to the Union Pacific who could not be stockholders.

[44] *See* OFFICE OF MANAGEMENT AND BUDGET, BUDGET BASELINES, HISTORICAL DATA AND ALTERNATIVES FOR THE FUTURE 280-81.

[45] *See* ANNUAL REPORT OF THE COUNCIL OF ECONOMIC ADVISORS 462 (1993).

[46] There were major changes in the income tax code in 1981, 1986, and 1990, and minor, but significant, changes in 1982, 1984, 1985, 1987, 1988, and 1989.

[47] 46 Stat. 1087, omitted from 29 U.S.C. 48(g) but not repealed.

[48] Richard Blackhurst, *The Twilight of Domestic Economic Policies*, *in* THE WORLD ECONOMY, Dec. 1981, at 357, 369.

[49] Theodore J. Kreps, *Planning Industrial Policies*, *in* PLANNING FOR AMERICA 203, 227 (George B. Galloway ed., 1941).

[50] For example, *see* Louis S. Richman, *Why the Economic Data Mislead Us*, FORTUNE, Mar. 8, 1993, at 108; Marilyn Lewis, *Sloppy Statistics, Poor Policies*, J. COMM., Mar. 2, 1993, at 6A.

[51] *See, e.g.*, HEARINGS BEFORE THE SUBCOMM. ON ECONOMIC STABILIZATION OF THE HOUSE COMM. ON BANKING, INDUSTRIAL POLICY, Serial No. 98-39, Part I, 94 (1993) (statement of C. Fred Bergsten).

[52] COMPETITIVENESS POLICY COUNCIL, BUILDING A COMPETITIVE AMERICA 32-33 (Mar. 1992). The need for such analyses has long been noted. For example, in 1939 the economist Mordecai Ezekiel proposed a government agency to develop "guideposts" for each industry that could be used to prepare "industrial outlook reports." *See* MORDECAI EZEKIEL, JOBS FOR ALL THROUGH INDUSTRIAL EXPANSION 182 (1939).

[53] U.S. BUREAU OF MANUFACTURERS, COMMERCIAL RELATIONS OF THE UNITED STATES WITH FOREIGN COUNTRIES (1907). The report covers foreign public investment, bounties to industry, tax policy, and labor and industrial conditions.

[54] For example, the country reports on trade practices by the U.S. Department of State are supposed to examine foreign "structural policies" and export subsidies. *See Country Reports on Economic Policy and Trade Practices*, 15 U.S.C. § 4711 (1992 cum.

supp.). The report of the National Critical Technologies panel is supposed to list the technologies targeted for capture by major trading partners. *See Biennial National Critical Technologies Report*, 42 U.S.C. § 6683 et. seq. (1992 cum. supp.).

[55] *See* CENTER FOR STRATEGIC & INTERNATIONAL STUDIES, INTEGRATING COMMERCIAL AND MILITARY TECHNOLOGIES FOR NATIONAL STRENGTH (Mar. 1991).

[56] *See* HOUSE COMM. ON BANKING, INDUSTRIAL POLICY, HEARINGS BEFORE THE SUBCOMM. ON ECONOMIC STABILIZATION, Serial No. 98-39, Part 1, at 264 (1983).

[57] For example, the Ford Administration told the Organization for Economic Cooperation and Development that the federal administrative structure was not designed to carry out an active, coordinated policy of promoting industrial growth. *See* OECD, THE AIMS AND INSTRUMENTS OF INDUSTRIAL POLICY 18-19 (1975).

[58] For a thoughtful package of institutional reforms, *see* Bruce Stokes, *Organizing to Trade*, FOREIGN POLICY, Winter 1992-93, at 36.

[59] At the end of the Carter Administration, the Office of Industry Policy of the U.S. Department of Commerce prepared "A Catalogue of Federal Programs and Measures Directly Affecting the American Industrial Sector." The Reagan Administration discontinued this effort, abolished the Office, and, just to make sure, abolished the position of the Assistant Secretary for Policy.

[60] *See* JOHN H. JACKSON, WORLD TRADE AND THE LAW OF GATT 656 (1969).

[61] Al Ehrbar, *'Re-Engineering' Gives Firms New Efficiency, Workers the Pink Slip*, WALL ST. J., Mar. 16, 1993, at A1 (some estimates call for it to wipe out as many as 25 million jobs).

[62] *See* OECD, EMPLOYMENT OUTLOOK chapters 2 and 4 (July 1993) (for a review of the recent evidence on the efficacy of manpower policies).

[63] Some have suggested that this goal might be accomplished by shortening hours for existing workers. *See* JULIET B. SCHOR, THE OVERWORKED AMERICAN 2,4,7 (1991).

[64] *See* Steve Charnovitz, *Worker Adjustment: The Missing Ingredient in U.S. Trade Policy*, CAL. MGMT. REV., Winter 1986, at 156 (describing how the Trade Adjustment Assistance Program failed).

[65] *See* ROBERT Z. LAWRENCE & ROBERT E. LITAN, SAVING FREE TRADE: A PRAGMATIC APPROACH chapters 2, 3 (1986).

[66] CONGRESSIONAL BUDGET OFFICE, DISPLACED WORKERS: TRENDS IN THE 1980S AND IMPLICATIONS FOR THE FUTURE 38 (Feb. 1993).

[67] For early proposals, see J. A. HOBSON, RATIONALIZATION AND UNEMPLOYMENT: AN ECONOMIC DILEMMA 27-28 (1930) and EUGENE STALEY, WORLD ECONOMIC DEVELOPMENT (1945). Staley explains that the "object of an adaptive policy would not be to protect industries or occupations as such, but to protect people." STALEY at 192.

[68] NATIONAL COMMISSION ON TECHNOLOGY, AUTOMATION, AND ECONOMIC PROGRESS, TECHNOLOGY AND THE AMERICAN ECONOMY 47 (1966).

[69] *See* Jerry Borrell, *America's Shame. How We've Abandoned Our Children's Future*, MACWORLD, Sept. 1992.

[70] *See* Charles Piller, *Separate Realities*, MACWORLD, Sept. 1992, at 222.

[71] Although the cost of such an initiative could be $3 billion dollars (assuming 3.5 million third graders and a computer price of $850), the initiative would not only advance technological education but would also have the economic benefits of any large procurement program.

[72] In 1930, 1028 economists advised President Hoover to veto the Smoot-Hawley Tariff Act explaining, "We cannot increase employment by restricting trade." N.Y. TIMES. May 5, 1930.

[73] International Trade Organization Charter art. 2, para. 1 (1978), U.N. Doc. E/CONF 2/78.

[74] For an interesting suggestion for an international adjustment assistance code, *see* GERARD CUFZON & VICTORIA CURZON, GLOBAL ASSAULT ON NON-TARIFF TRADE BARRIERS 32 (1972).

[75] *See, e.g.*, ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT, INDUSTRIAL POLICIES IN OECD COUNTRIES: ANNUAL REVIEW (1992).

[76] International Labor Convention, Convention Ensuring Benefit or Allowances to the Involuntarily Unemployed, art.8, no. 44 (June 23, 1934).

[77] *Extension Of Emergency Unemployment Compensation*, Serial 103-9: *Hearing Before the House Committee on Ways and Means*, 103rd Cong., 1st Sess. 13 (1993) (statement of Robert B. Reich, Secy. of Labor).

[78] *See* U.S. DEPT. OF LABOR AND COMMERCE, SHARPENING GOVERNMENT RESPONSE TO PLANT CLOSINGS, A TWO YEAR REPORT ON THE COMMERCE-LABOR ADJUSTMENT ACTION COMM. 5 (1979).

[79] In 1988, Robert Reich as a Harvard professor catalogued the Reagan Administration's sectoral interventions —e.g., superconductivity, relaxed antitrust, Sematech, high performance computing, machine tools, etc.—and concluded that an enduring legacy would be "the foundation of a national industrial policy." See Robert B. Reich, *Behold! We Have An Industrial Policy*, N.Y. TIMES, May 22, 1988, at 4-29.

[80] Charles L. Schultze, *Industrial Policy: A Dissent*, THE BROOKINGS REV., Fall 1983, at 4. This article, by a prominent Democratic economist, was widely perceived as having "killed" industrial policy among most sympathetic intellectuals. But at a talk in November 1992, Schultze lamented that the "trouble with industrial policy is that once you kill it, it doesn't stay dead."

[81] The problem is even more complex because one is concerned about returns in the future too. The market discount rate may not be an appropriate social discount rate.

[82] For further discussion of strategic industries, *see* Paul Krugman, *Does the New Trade Theory Require a New Trade Policy?*, THE WORLD ECONOMY, July 1992, at 423.

[83] JULIAN GRESSER, PARTNERS IN PROSPERITY chapt. 8 (1984).

[84] 15 U.S.C. § 3716. The Clinton Administration has not filed the report, however.

[85] J. A. HOBSON, THE NEW PROTECTIONISM 85 (1916).

[86] *See* LIONAL ROBBINS, ECONOMIC PLANNING AND INTERNATIONAL ORDER 314-15 (1937).

[87] *See, e.g.*, Alfred Reifman, *The Economics of Industrial Policy* (1992); *Do not adjust your set*, THE ECONOMIST Feb. 27, 1993, at 65; Sylvia Nasar, *The Risky Allure of 'Strategic Trade,'* N.Y. TIMES, Feb. 28, 1993, at Sec. 4-1; Paul Blustein, *Asia's Mixed Results On Industrial Policy*, WASH. POST, Mar. 7, 1993, at H1; Jagdish Bhagwati, *Rough Trade*, THE NEW REPUBLIC, May 31, 1993, at 35.

[88] House of Reps., ABRIDGMENT OF THE DEBATES OF CONGRESS 713, Mar. 31, 1824.

[89] AMBROSE BIERCE, THE DEVIL'S DICTIONARY 131 (1958).

[90] *See* David B. Yoffie, *Conclusions and Implications, in* BEYOND FREE TRADE 446 (Yoffie ed. 1993) (Despite the common perception that managed trade is an unnatural act, doomed to failure, we found that in settings like semiconductors, trade policy can fundamentally alter trading patterns with potentially positive results for a nation).

[91] *See, e.g.*, Robert Reich, *Beyond Free Trade*, FOREIGN AFFAIRS, Spr. 1983, at 773, 777 (Adam Smith and David Ricardo had based their potent arguments for free trade principally on geographic differences in natural endowments, implying a quite static distribution of advantages).

[92] DAVID RICARDO, PRINCIPLES OF POLITICAL ECONOMY AND TAXATION 112 (1903) (emphasis added). Adam Smith makes a similar point about "acquired" advantage. *See* SMITH, *infra* note 103, at 284.

[93] *See Managed Foolishness*, WALL ST. J., May 25, 1993, at A14.

[94] H. R. Doc No. 319, 72nd Congress, 1st Session.

[95] Sharon LaFraniere, *U.S. Keeps Sugar Prices High, GAO Says*, WASH. POST, May 17, 1993, at A5.

[96] In 1992, the extruded rubber thread producers submitted a positive adjustment plan. For the differing evaluations of this plan by the Commissioners, *see* USITC Publication 2563, at 35-36, 69.

[97] 19 U.S.C. § 2251.

[98] P.L. 102-245 §201(c)(2).

[99] Clinton technology policy, *supra* note 39, at 8 (emphasis added).

[100] For example, only 0.25 percent of the federal government's budget for highways goes for materials research. *See* Gary Stix, *Concrete Solutions*, SCIENTIFIC AMERICAN, Apr. 1993, at 102.

[101] For further discussion *see* STEVE CHARNOVITZ, NEW MISSIONS FOR OLD LABS (1992); *See also* Jay Stowsky & Burgess Laird, *Conversion to Competitiveness. Making the Most of the National Labs*, THE AMERICAN PROSPECT, Fall 1992, at 91.

[102] Section 301 of the Trade Act of 1974 grants authority to retaliate against foreign trade practices. Contrary to the rhetoric surrounding "Super 301," the amendments since 1974 have not added any retaliatory authority. (*See* 19 U.S.C. § 2411, *et seq.*) The original law directed the President to take all "appropriate and feasible steps" including trade retaliation. (*See* 88 Stat. 2041.) In 1979, the Congress required the U.S. Trade Representative ("USTR") first to file a case at the GATT if the foreign practice is purported to violate trade rules. (*See* 93 Stat. 297.) In 1988, the Congress withdrew all retaliatory authority from the President and gave it to the USTR "subject to the specific direction, if any, of the President." (*See* 102 Stat. 1164.) But the USTR has a number of procedural hurdles that must be followed before any retaliation. A decision is required in certain cases, but retaliation is never compulsory. In addition, the 1988 amendment limits the amount of retaliation that can be applied in each case.

[103] 2 ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS, Book IV 300 (1828).

[104] Republican Platform, *reprinted in* CONG. QUARTERLY WEEKLY REPORT, Aug. 22, 1992, at 2571.

[105] Although threatening a foreign country with a trade sanction would not violate the GATT, imposing any increase in duty on a particular country would violate the most-favored nation principle in GATT Article I. Increasing a bound tariff would also violate GATT Article II.

[106] U.S. DEPT. OF STATE, FOREIGN RELATIONS OF THE UNITED STATES 564 (1886).

[107] Kathryn Graven, *Japan's Major Exporters Are Striving to Balance U.S. Trade by Filling Ships Going the Other Way*, WALL ST. J., Apr. 9, 1993, at A7.

[108] *Operation Vineyard Storm*, WALL ST. J. Nov. 9, 1992, at A10.

[109] This rule could also be extended to antidumping law. If dumping is so bad for the world economy, perhaps the U.S. government should prohibit American companies from engaging in it.

[110] Because the voluntary import expansion (VIE) by Japan is designed to reverse distorting structural impediments within Japan, it straddles the line between "managing trade" and "unmanaging trade." Use of VIEs for the latter purpose would be a general rather than a sectoral approach. But when the government chooses the sectors where it wants Japan to expand imports and the Japanese government commits to certain quantified outcomes, it is hard to view such an arrangement as anything but managed trade.

[111] *See* C. Fred Bergsten, *Good and Bad of Managed Trade*, FIN. TIMES, Aug. 18, 1993, at 10.

[112] The Clinton Administration is pursuing this approach. *See* Dan Goodgame, *Trading Punches*, TIME, June 21, 1993, at 24.

[113] For a discussion of the European experience in phasing out declining sectors, *see* George C. Eads, *The Political Experience in Allocating Investment: Lessons from the United States and Elsewhere*, *in* TOWARD A NEW U.S. INDUSTRIAL POLICY? 472-76 (MICHAEL L. & SUSAN M. WACHTER, eds. 1981).

[114] *See* LEAGUE OF NATIONS SIXTH INTERNATIONAL STUDIES CONFERENCE, THE STATE AND ECONOMIC LIFE 314-18 (1934).

[115] For a discussion of past efforts to downsize textiles, *see* WILLIAM R. CLINE, THE FUTURE OF WORLD TRADE IN TEXTILES AND APPAREL 128-33 (1987).

[116] *See EC Commissioners Outline Steps For Cutting Community Steel Capacity*, INT'L TRADE REP., May 5, 1993, at 746.

[117] COMPETITIVENESS POLICY COUNCIL, A COMPETITIVENESS STRATEGY FOR AMERICA 1 (Mar. 1993).

[118] EC TASK FORCE ON PLANNING, EUROPE 2000: REQUIREMENTS FOR THE FOURTH FRAMEWORK PROGRAMME 25 (June 1992).