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CHAPTER 2  
**Introduction**



# Introduction

## Objectives and Scope

Concern over possible slippage in the competitiveness of U.S. industries mounted during the 1970's. Apparent symptoms included: a slowdown in economic growth; lagging rates of productivity advance; rapid inflation combined with unemployment; decreasing technological advantages in a variety of industries; mounting balance-of-payments problems, associated particularly with trade deficits in industrial sectors such as consumer electronics and automobiles; and a relative decline in U.S. military strength. Although these symptoms are not all directly related to industrial competitiveness, they have each contributed to a feeling current at the beginning of the 1980's that the United States and its industries have been reduced to muddling through, that the Nation is losing its position of leadership and preeminence in the world economy.

In fact, the United States has lost much of its preeminence, not only in specific industries such as steel, but in the relative size of its economy as a whole. Although the gross national product of the United States remains the largest in the world, on a per capita basis it was only ninth in the Organization for Economic Cooperation and Development in 1979, a little above that of France, and 17 percent greater than that of Japan.<sup>1</sup> In particular industries, the United States has often only slipped in a relative sense; in absolute terms U.S. firms often remain world leaders.

Despite the concern such symptoms have raised, it has not been clear what, if anything, the U.S. Government can or should do. While changes in long-term comparative advantage might be considered inevitable, or at least beyond the ability of any one government to influence significantly, there are nu-

<sup>1</sup>For a typical account, see the *Business Week* issue on 'The Reindustrialization of America,' June 30, 1980.

*Statistical Abstract of the United States* (Department of Commerce, Bureau of the Census, 1980), p. 910.

merous cases of apparent failures in public policy. These range from macroeconomic problems—difficulty in controlling inflation—to narrow issues such as the continuing debate over patent policies, unresolved after 30 years. The painfully slow evolution of energy policy is as good an example as any of the lack of consensus on complex problems.

Industrial competitiveness is only a subset of these general issues, but an important subset. Much of the recent discussion of reindustrialization and industrial policy has been based on a perception of slackening U.S. competitiveness—across the board or in specific industries such as automobiles. An examination of three industries—steel, electronics, and automobiles—permits only limited generalization about overall competitiveness, but is a useful starting point. Every industry is different; aggregate analysis cannot provide explanations for shifts in competitiveness adequate for guiding policy. Sector-specific policies—e.g., automobile fuel economy regulations—always require case-by-case analysis. Similarly, judgments of the net effects on competitiveness of policy changes such as tax cuts must be made on an industry-by-industry (or perhaps firm-by-firm) basis. Thus, examination and comparison of individual industrial sectors such as the three covered in this report is a necessary starting point for judgments of U.S. competitiveness and of the effectiveness of Government policies toward industry.

OTA'S work on the competitive position of U.S. industry began with a study of the steel industry, concentrating on the role of technology as a determining factor in competitiveness.<sup>2</sup> A parallel study of international com-

<sup>2</sup>In a technical sense, the notion of an across-the-board loss in competitiveness is not very meaningful. The reasons are discussed in app. A.

<sup>3</sup>*Technology and Steel Industry Competitiveness* (Washington, D. C.: Office of Technology Assessment, U.S. Congress, June 1980).

petitiveness in the electronics industry is scheduled for completion in 1981; that work-in-progress provides much of the basis for the portions of this report which deal with electronics (primarily consumer electronics, semiconductors, and computers). While OTA has not explicitly studied the competitiveness of the U.S. automobile industry, several OTA programs have undertaken a variety of work in the past which has been brought to bear on such questions.

Competitiveness is an amorphous concept (discussed in detail in app. A). Because of this, a study of competitiveness can easily spread in a variety of directions to encompass the seemingly endless array of possible influences—by governments as well as private firms—on competitive position. To keep this particular study bounded, a number of constraints were imposed from the beginning. Beyond the fundamental restriction to only three industries, these constraints were:

1. **To treat the industries primarily in their domestic context.**—A major reason is that competitive strength in the home market is a prerequisite for international competitiveness, at least in the absence of significant government subsidies. Furthermore, many of the policy issues relate to domestic employment levels. Nonetheless, competitive success in some industries depends on marketing on a world scale; international competitiveness remains the focus of the report. (Geographic bounds of U.S. industry are discussed in ch. 3.)
- z. **To compare the industries using an essentially economic framework.**—While other perspectives can be useful, this one best unifies a comparison of dissimilar industries. The treatment of the three industries is comparative at the expense of detailed individual exploration.
3. **To focus on the role of government policies, even though these often have only secondary influences on competitiveness.**—Corporate decisions and strategies normally exert the most immediate

effects on competitive performance. However, many of these decisions and strategies are shaped in important ways by governments. Public policies are, finally, the primary concerns of Congress, and hence of OTA. The more important policy influences on the three industries are discussed, along with the general framework of industrial policy in the United States. However, an exhaustive treatment of Government policies—either past or prospective—is beyond the scope of this study. Export promotion policies, for instance, are not examined in depths

4. **To draw on foreign experience only selectively and narrowly.**—Because the objective is to provide policy guidance for the United States, extensive discussions of industrial structure and performance in other countries, as well as the policies of foreign governments, have been avoided.<sup>b</sup>

OTA'S objectives have thus been twofold: to examine and compare the competitiveness of the U.S. steel, electronics, and automobile industries within an economic framework, and to broadly discuss the policy avenues available to Government for dealing with shifts in competitiveness and their consequences. A basic question is: To what extent have government policies, here and in other countries, influenced shifts in international competitiveness? What role does technology play in such shifts? How have these effects differed between industries? If public policies in the United States, or those of its trading partners and competitors, place American industry at a disadvantage, what can and/or should the United States do?

<sup>b</sup>In the long term, government export policies probably have only marginal effects—certainly compared to import policies. Put simply, uncompetitive industries cannot export profitably. See C. P. Kindleberger, "Government Policies and Changing Shares in World Trade," *American Economic Review*, vol. 70, May 1980, p. 293.

<sup>c</sup>See app. D on foreign industrial policies.

## What Is Competitiveness?

Competitiveness is a term used in different ways by different people, as discussed at some length in appendix A. To economists, it has a precise though abstract meaning. This meaning, rooted in comparative advantage and ultimately based on relative costs, is used in most places in this report. In many cases, however, the comparative advantage framework, in which low production costs give competitive advantage, is an oversimplification—e.g., when governments subsidize industry. Nonetheless, comparative advantage remains a useful organizing device, one which can help sort out the likely effects of policy alternatives.

More broadly, competitiveness can refer to the strength of a particular industry as indicated by its international trade position. In a still more general way, competitiveness is sometimes used to convey a sense of economic health and vitality. This is a vague and imprecise use of the term; within a comparative advantage framework, individual firms or industries may become noncompetitive, but an entire country cannot. Given flexible exchange rates, a country can always export; the particular goods that it can export, and the prices they bring, depend on the relative competitive strengths of the various sectors of its economy. So does its standard of living.

The competitiveness of any one country in a particular industry such as computers or

steel then hinges on its ability, relative to industries in other countries, to successfully develop, manufacture, and market the products of that industry. These activities are subject to a wide variety of influences, some of which are primarily under the control of individual firms, some not. One potential source of competitiveness is superior technology—e.g., a firm or a country might gain competitive advantage if it were able to market a more powerful computer at an attractive price. Otherwise, for commodities and products that are technologically similar, cost and price are primary determinants of competitiveness. Superior manufacturing or process technology—as opposed to product technology—is one way of achieving low costs. At the same time, public policies can confound simple cost/price measures of competitiveness. For example, governments can subsidize high-cost producers, or protect markets with trade barriers so that domestic producers can charge higher prices.

In the end, however, it is the capability of individual firms in development, manufacturing, and marketing (including sales, servicing, and customer support) which determines a nation's competitiveness. The notion of competitiveness remains comparative, and competitiveness a dynamic concept, the indicators of which vary over time,

## The Problem as Perceived

A number of generalized symptoms of what is commonly interpreted as slackening U.S. competitiveness were listed above—e. g., increasing trade deficits, and slow rates of productivity growth. When individual industries are examined, the symptoms become more specific: low profits, plant closings, and unemployment in steel; import penetration accompanied by foreign investment in consumer electronics; an increasing presence by

Japanese firms in semiconductor markets; a narrowing of the technological edge that the United States has held in computer systems; falling sales and low profits—or losses—by U.S. automakers, again accompanied by plant closings and layoffs,

Products in all three industries have been targets of foreign competition, past or present, especially from firms based in Japan:

structural steel, color televisions, random access memory circuits for computers, and subcompact cars. Questions such as the following are asked: Are there generic problems with U.S. industry? Are the experiences of the steel, consumer electronics, and automobile industries harbingers of the future for all manufacturers? Does the United States need to increase its rate of capital investment in industry? If so, how should we proceed?

At the same time, the United States has not been alone in its recent economic difficulties. The decade of the 1970's was a difficult one. In most countries, rates of growth of output, employment, and productivity failed to achieve the levels of the earlier postwar period. Policy makers often found themselves with a poor choice between stagnation and inflation, and at risk of aggravating both.

These macroeconomic difficulties were compounded by significant structural problems within Western industrial nations and between them and the rest of the world. Most important were the problems caused by higher energy prices. Worldwide overcapacity in a number of important industries—including

steel, shipbuilding, and textiles—also indicated the need for structural adjustment.

That other industrialized countries also have economic problems does little to alleviate U.S. concerns. For one thing, there is a perception that this country's difficulties may be more serious in the long term than those of West Germany or Japan. These nations, after all, still seem to be catching up to the United States. Some observers claim that declining competitiveness has already inflicted heavy costs on American society—e.g., the unemployment allegedly caused by rising imports. Such matters are easily oversimplified. Increases in productivity, which are necessary for maintaining competitiveness, also reduce employment opportunities unless markets grow rapidly. Whatever the cause, dislocations associated with shifts in competitiveness—either within the United States or internationally—are a serious concern. Regional unemployment, as in the industrial portions of the Midwest, or unemployment among particular segments of the population such as urban blacks, create particularly knotty problems.

## The Role of Government

Public policies are closely tied to questions of competitiveness. Government policies affect competitiveness in many ways; the policies of the U.S. Government influence both American and foreign firms. So do the actions of foreign governments. Some policies have direct effects—e.g., those dealing with international trade, or regulations that increase costs for domestic industries compared to competitors overseas. Others are indirect—i.e., policies dealing with education or manpower.

Macroeconomic policy has a central role. The health of individual industrial sectors is closely tied to that of the economy as a whole. A large share of the slump in sales by U.S. automobile firms during 1980 can be attrib-

uted to recession (see ch. 5). Government policies targeting individual industrial sectors often depend for their effectiveness on a strong and growing economy. At the very least, designing such policies requires an understanding of the ways in which macroeconomic phenomena affect particular sectors. Rapid economic growth makes structural adjustment easier and would alleviate symptoms of problems in many industries.

While broad macroeconomic policymaking has always been seen as a legitimate governmental function in the United States, intervention past this point has been more controversial, though continuously evolving. Today Government loans and loan guarantees

total almost \$400 billion.<sup>7</sup> It is no longer realistic to say that Government should play no role at all.

The coincidence of depressed macroeconomic conditions and structural adjustment problems that developed in the 1970's has made economic policymaking more difficult. There appears to be growing agreement that the situation in the United States requires something beyond the Keynesian economic policies characteristic of the postwar period. Indeed, many observers blame just these policies for the inflationary tendencies that are part of the problem. Increasing difficulties in such politically and economically important industries as automobiles and steel have

fanned interest in industrial policy and its relationship to macroeconomic, trade, and regulatory policies.

Much of the recent discussion of industrial policy has been concerned with the question of whether the United States should go beyond promotional measures directed at broadly accepted goals—such as support for science and technology aimed at military needs or the medical arts—to measures that support specific industrial sectors such as steel or electronics. Other governments target industries for development, promote exports, and restrict imports; should the United States do likewise? Decisions to support particular industries—whether to match the promotional measures adopted by other countries, to maintain employment, or for reasons of national security—necessarily deprive other industries, their employees, and localities. Hence the political concerns cannot be disentangled from the economic.

<sup>7</sup> B. Clark, "The Public and Private Sectors—The Old Distinctions Grow Fuzz," *National Journal*, Jan, 19, 1980, p. 99. Only a fraction of the \$400 billion total supports investment in industry.