

ECONOMIC GROWTH AND METALS DEMAND

By B. E. Estes
 Vice President - Marketing
 United States Steel Corporation
 Pittsburgh, Pennsylvania

It is a pleasure to have the opportunity of speaking before the members of two associations made up of companies which are such important suppliers to the steel industry of which my own company is a part. You are important suppliers in terms of the volume of lead and zinc which the steel industry buys and uses. You are also important suppliers in terms of the qualities your products add to those properties which steel, in its many forms, already has. Those added qualities help us serve our customers better, and they help steel products compete more effectively against other materials in the market place.

It is good to be meeting with you here in Chicago, in the heart of a large and growing market which your products and ours both serve. U. S. Steel has strong roots in this area, going back to the North Chicago Rolling Mill Company, second oldest of the original plants of United States Steel. Today, U. S. Steel produces more steel in the Chicago area than any other producer by a considerable margin. It has the widest product line. In the last several years, we have spent many millions of dollars in this area for new facilities, including a plate mill capable of rolling the world's widest plates (and, we believe, the world's highest quality plates); an additional galvanizing line that went into operation last March; and a bar mill designed to make top quality bars and to produce larger coils. We have announced plans to add other facilities here, including a major sheet expansion program featuring a 5-stand cold reduction mill. We believe it makes sense to place investments like these in this growing steel market made up of progressive, forward-looking steel consumers -- the kind who can make the best use of top quality materials.

Well, that's enough of "blowing my own blast furnace" and, incidentally, Chicago's "horn of plenty" -- if I may mix my metaphors a bit.

But, perhaps, you will permit one more brief commercial -- this one for the entire steel industry. Last fall, the American Iron and Steel Institute opened a new steel industry exhibit at the Chicago Museum of Science and Industry, located at 57th and South Shore Drive. It is outstanding among a group of fine exhibits, many of them sponsored by companies and industries which use your products. After all, what industries don't? The steel exhibit is of interest to men, women, and children alike; and I urge you to visit it if you can spare a few minutes. You will find it rewarding, and I think you will be impressed at what our trade association has done to promote our products and public understanding of our industry in a way which would be impractical for any single company in the steel industry.

(Presented at the Joint Session
 of the American Zinc Institute and
 Lead Industries Association
 Chicago, Ill., April 30, 1963)

Now, let's get on to the subject of my talk, "Economic Growth and Metals Demand." Sometimes, it seems to me that "economic growth" is getting to be a bit like "motherhood." Everyone is for it -- Democrats and Republicans; big business and small; business and labor. Even government officials and college professors are in favor of it. Unlike "motherhood," however, there seems to be considerable disagreement on just what "economic growth" is and, especially, on how to bring it about. I am not going to deal at length with either of these subjects today, except to the extent that is required by any discussion of metals demand. For the most part, moreover, my comments will be directed to the area of steel demand, how it has changed, and why it has changed. I believe you can best make the transition to the particular metals in which you are most directly interested.

It is customary to measure our economic growth by use of Gross National Product figures compiled by the Federal Government. For this purpose, GNP is usually expressed in constant dollars, which means that they have been adjusted, as well as they can be, for changes in the value of the dollar so that only changes in physical volume of output are measured. It is important for us to recognize several things about these numbers which are used so universally for determining the existence or lack of growth, and its extent.

In the first place, GNP is an estimate, or more properly, the sum total of many estimates; and the price indexes used to convert GNP to constant dollars are also estimates. Some of the estimates are close; some are rather approximate. Some of the estimating errors may be offsetting. Others may not be. The people in Washington who work on these figures would, I am sure, be the first to recognize this. In fact, their publications make it very clear. But, most people pay no attention to these qualifications. This doesn't mean necessarily that GNP figures are wrong or useless. It does mean that changes in a short period, particularly from quarter to quarter or year to year, may have little meaning, especially if they are small. It does mean GNP figures must be used with care.

In the second place, it should be recognized that the basic rate of growth of the economy is not always reflected in year-to-year changes in GNP. We are in the habit of saying, "Our economy grew over 5 per cent from 1961 to 1962." By this we mean that GNP (as reported) was over 5 per cent greater in 1962 than in 1961. This may have been partly because our economy was in the upward phase of the business cycle. Economic growth cannot be measured on a year-to-year basis. It must be measured in terms of an underlying trend over a period of years, with business cycle movements carrying GNP above and below this trend line. Furthermore, as GNP is constituted, short-range influences, basically unrelated to economic growth such as a sudden shift in inventories or an increase in government payments for farm surpluses, may greatly affect year-to-year GNP relationships.

This brings me to my third point. An increase in certain items included in GNP is not economic growth in the sense of being greater production of things that people want and are willing to pay for. For example, government activities, such as increased expenditures for defense, the space program, or national parks, would appear in the figure as an increase in GNP. However, desirable, or necessary, any of these things might be, to you or me they are not economic growth as we normally think of it.

In the fourth place, even after we have made due allowance for all these things, the same rate of growth in the economy in two different periods could involve wide differences in growth of various sectors of the economy and might involve widely varying actions to stimulate growth. These differences would have a profound effect on the relationship of economic growth to demand for steel and other metals.

B. E. ESTES

- 3 -

It is obvious that we are going to hear a great deal more about growth rates in the months ahead. The reasons for this are clear -- our economy is not performing as its resources, productivity, and potentialities would permit. As a consequence, under-utilization of men, machines, and materials is commonplace in today's industrial scene.

This affects all of us profoundly -- not only because of the economic and social waste of men unable to find jobs, but also because all of us represent companies that produce metals; and recent years have seen few output records in our industries.

Let's look more closely at the area of metals demand I know best -- the postwar record of steel production. Some of the special circumstances and problems faced by steel producers are common to all of us here today, so that this analysis may prove helpful in reviewing your own industry or company problems.

Steel production reached an all-time high of 117 million ingot tons in 1955, and averaged 115 million for the years 1955-57. Since then, output has not touched the 100 million ton level for any year; although annual totals of 99, 98, and again 98 million tons during the past three years approached it. (I think we'll break through that lid in 1963 but the penetration will probably not be great.)

One fundamental reason for the relatively low level of recent years lies in the movement of finished steel inventories in the hands of steel consumers in the manufacturing, transportation, and construction industries. Each year since 1956, these consumers have drawn down their steel inventories. We estimate this inventory reduction has averaged over 2 million product tons per year -- compared to average annual inventory building of 2.4 million tons in the 1955-57 period.

In terms of ingots, steel requirements in the mid-fifties were overstated (compared with consumption) by 3-1/2 million tons a year; and in the years from 1958 through 1962, they have been understated by more than 3 million tons a year. In total, steel ingot production has been reduced by more than six million tons annually, not because our economy is using less steel, but because of a change in steel consumers' inventory practices.

The reason for this cutback in stocks lies in the rapid and comprehensive expansion of steel availability in the postwar period. Efficient and rapid deliveries by the steel mills make large customer inventories less necessary, and modern inventory controls have helped to make low inventories of purchased material economically feasible. We believe the recent inventory liquidation cycle brought industrial stocks of steel down to a minimum at the end of 1962. While there will be temporary swings up and down in inventories keyed to labor negotiations and the business cycle, steel production in the future should more closely parallel the growth in steel consumption.

A second important factor that has held down domestic steel output in recent years has been the shift in the nation's export-import balance of steel mill products. The rise in steel imports and decline in exports between 1955-57 and 1962 has meant a loss to domestic steel producers of some six million tons annually of shipments of steel mill products, or in terms of ingot production, a loss of about eight million tons.

It is important to remember that these two major factors depressing steel output in recent years have not involved any lessening of steel's key role in this

I. 3. ESTES

nation's industrial framework, but rather a shift in source of supply for a part of our needs to steel from abroad and steel moving out of inventory.

However, these factors alone are not enough to explain why production of steel has declined relative to earlier periods. Even when the twin effects of negative trade balance and inventory swing have been taken into account, the fact remains that there has been no increase in the tons of steel used by our economy over the past decade. We have been barely holding even.

Some of the reasons for this lack of forward thrust are obvious. In the early postwar period, there were sharp increases in the steel requirements of the railroads, of agriculture, and for oil and gas drilling. During much of the recent past these areas of steel were declining, reaching extremely low levels in 1960. However, we have already seen some improvement in both farm and railroad markets, though they remain far from record levels.

Similarly, military requirements for steel reached a postwar high during the Korean War in the early fifties, falling sharply thereafter as our defense budget shifted from the conventional weaponry of a small war to the highly complex research-oriented weapons systems that characterize our defense today. The net decline in steel requirements between the Korean-stimulated 1953 peak and present military usage amounts to several million tons, while total defense dollars being spent are actually higher than they were 10 years ago. This flow of national income has shifted to areas using relatively less metal per dollar spent.

The net effect of these several declines in steel-using markets has been to conceal the basic growth in several major consuming industries. It is important to note that these losses are all behind us, and will not subtract further from steel demand. These markets may, in fact, add to future requirements now that the post-war shakeout has been accomplished.

There are three other important influences on steel use, the first one, well publicized and the second two perhaps less well known.

First, there is increasing competition from other materials, including cement, aluminum, plastics, glass. You are all familiar with aluminum orange juice cans, non-returnable beer bottles, aluminum in some parts of some automobiles, prestressed concrete in construction. Although hundreds of other such examples might be listed, the total tonnage of steel involved to date is not tremendous. Yet, this challenge is significant -- particularly when added to all the others.

Secondly, there is "technological unemployment of steel," as someone has called it. Steel users are becoming more cost minded. They are adopting steel processing and fabricating methods which reduce scrap, so they use smaller tonnages of steel to produce the same quantity of a particular part. Along the same line, two seemingly opposite trends are taking place -- miniaturization and magnification -- both reducing the amount of steel needed to do a specific job. For example, the development of transistors has made it possible to make radios, television sets, and electronic devices of many kinds, smaller than in the past. This has reduced the amount of steel used to enclose them.

At the opposite pole, we have higher capacity machines of many kinds being produced, with one doing the work formerly done by two or more. For example, the

B. E. KOTHE

- 3 -

generators and transformers now being built are capable of producing and handling more current than units built ten years ago. They are more efficient, more economical, and use less steel than the several earlier models required to do the same job.

Closely allied to these shifts in consumer technology are the changes and advances in steel themselves. Steel producers are making and selling improved steels which do more work per ton. Stronger steels are carrying greater loads per ton; thinner steels are covering more surface per pound; corrosion- and abrasion-resistant steels are lasting longer. These steels are serving customers better. They are helping steel compete in the market. But, they do mean less tonnage for a given job.

Many of these factors affecting steel demand may have run their course. Others may continue though, perhaps, at a reduced rate. But the competitive challenge is there, and steel is responding to this challenge.

One of the most important answers to be found by any steel company in meeting these problems lies in cost reduction and product improvement. Recognizing these needs, we at U. S. Steel have poured millions of dollars into facilities and research. Our developments in continuous casting have received widespread attention in recent weeks, and they will bring notable advances in both product quality and production efficiency.

The list of new and improved steel products is long and still growing. Some examples are lightweight tin plate; higher strength structural shapes; special steels for low temperature applications; and steel products with improved machining properties. Such products as these help steel producers and their customers take greater advantage of growth and change.

It is against this background of technological advance that we have designed our marketing programs to take advantage of the many diverse and outstanding qualities of both new and old steels. Marketing steel, or any product, is a continuous process in which planning for expanded and more profitable sales, and timing are key elements. It includes a variety of functions extending from marketing research to the stimulation of market and sales building activities by distributors and retailers of products made of steel.

To achieve a specific marketing objective may mean starting with the development and the promotion of the processes necessary to fabricate a particular grade of steel economically. . . or the development of applications for a particular grade of steel. . . or encouragement of approval and specification of some grade of steel in a specific application by showing materials engineers on the staffs of code authorities and government agencies how it is used. . . or the stimulation of steel consumers to buy a new grade of steel. . . or maybe all of these things must be done at one and the same time.

To be successful, a marketing program must trigger a complex decision-making process over a considerable time period. There are many decisions by many people to be influenced against the opposition of many competing factors. These decisions eventually will involve some or all of the steel consumer's activities in styling, engineering, designing, distribution, advertising, merchandising, and selling.

Steel companies, as well as the American Iron and Steel Institute, are becoming more and more active in various types of application development and research. They are working to bring about improved designs of end products to take full advantage of the new steel products.

tage of the characteristics of steel. In most cases, the inroads of another material into a steel market involve redesign of the end product. Equal attention to redesign, using steels to full advantage, frequently leads to even greater economies, or end product improvements.

Several years ago, the companies in the steel industry working through the Institute initiated a campaign aimed at increasing the public's awareness of the versatility and advantages of steel. The objective was to make sure that the public placed a proper value on steel in end products, that they did not prefer products made of other materials is the belief that because some of these materials were newer, they were, therefore also better. Surveys indicate that this continuing program is producing significant results.

Numerous efforts have been made by steel companies to expand various markets for steel such as cans for soft drinks, galvanized steel farm structures, stainless steel tanks for bulk milk handling, and steel curtain walls for office buildings. The use of cans for soft drinks has grown at a rate of nearly 50 per cent a year for several years.

I have taken a good bit of time so far to describe some of the problems facing the steel industry today and to indicate some of the ways in which we are taking action within United States Steel to meet these challenges, as well as some of the things being done by those in the industry and by the AISI. There is, however, one all-encompassing problem that no company can overcome itself, no matter how well conceived its efforts, and that is the economic environment in which decisions are made, and actions are taken.

All the factors I have mentioned -- inventory shifts, foreign competition, substitute materials, changing technology, and certain consuming market declines -- are facts of our current, research-oriented, cost-conscious industrial scene. Your industries have also felt the impact of most of them.

However, the single most important change has been the slowing in over-all economic growth. The metals industries, as the suppliers of most of the basic materials from which the production and construction of all kinds of equipment and structures proceed, suffer most from such a leveling off. We must have true growth at something better than the slow increases of the past eight years if our markets are to approach their earlier growth trend.

Let's take a minute here to look at the record. Between 1947 and 1955, Gross National Product recorded a real annual rate of increase around 4 per cent; industrial production increased by 5 per cent a year, and the output of durable goods -- the area with which we in the metals business are most concerned -- advanced at an annual rate of 6 per cent. Reflecting this postwar boom, the use of steel rose at a healthy 4-1/2 per cent a year.

In contrast, between 1955 and 1962, total national output increased by only 2.7 per cent a year, industrial production rose by 2.8 per cent, and the output of durables advanced by only a little over 2 per cent, and steel usage declined slightly.

It is this slowdown in growth that must be reversed if we expect to see unemployment rates fall and operating levels rise. What, then, are the prospects for more vigorous growth?

B. E. ESTES

- 7 -

There are several indications that we can reasonably hope for something better than the performance of the late fifties and early sixties.

Private capital investment has been sluggish in recent years, reflecting both the squeeze in profits and decreased availability of attractive investment opportunities. In a sense the past 5 to 10 years have been a period in which our economy has been growing up to its expanded capacity and enlarged supply of consumer durable goods like cars and home appliances.

Now, a major replacement job is before the American economy, stimulated in part by competition from modern overseas plants and, in still larger measure, by intense domestic competition. The increase in business activity in the years ahead as we replace and modernize the equipment installed in the early postwar period will, in turn, generate renewed demand for expansion of production facilities. The right tax policy, recognizing the need for a continuing climate favorable to capital investment, rather than short-range stimulation of consumer spending can do much to facilitate this whole process.

The changing composition of our population may also have contributed in part to our economic slowdown in recent years; but it will contribute to faster growth in demand for hard goods and steel in the years ahead. During the five years from 1955 to 1960, the sharpest rise in our population was among teenagers -- a relatively limited market for durable goods. Equally important was a decline in the number of people 20-29 -- the major source of new household formations.

Fortunately, this problem carries with it its own solution, as yesterday's teenager becomes today's householder. Population studies of the Census Bureau indicate that during the next ten years, the fastest growing portion of our population will be this critical 20-29 age bracket, and household formations will be on the increase again. This should give a definite boost to durable goods production.

Thus, the basic materials for a new surge in national economic growth are present. We have the industrial plant, the manpower, the markets -- but do we have the trigger -- the will to grow? Are we as a nation more concerned with securing our present standard of living than in achieving a better one? In the name of security many sins have been committed in every phase of national life, and they have cost us progress.

Until our nation recognizes that the answer to technological unemployment is not obstruction, but growth in final markets; until every company recognizes that the answer to competition from whatever source lies in doing a better job and not in government aid; until the force and creative stimulus of individual Americans are cut loose from the deadening shackles of incentive-destroying taxation; until these things happen, we will not capitalize on our national potential.

Personally, I'm hopeful that we will make progress in these vital areas.

As I close, let me emphasize the special importance of all this to us in the metals industries. Certainly, it is important to every American and every business, large or small, whether it produces and sells services; or farm products; or consumer products, durable or non-durable; or industrial products. But, it is doubly important to us; because such a large part of our output goes into capital

goods of all kinds. If our economy can enter a period of sound growth with a high level of capital investment -- aimed not at expansion of output alone, but also at new products, better products, and lower costs -- demand for the metals we make will be strong and will grow at a good rate. If you, personally, foresees this sort of growth, you can interpret it to mean a good future for your business, provided you do what is required to take advantage of the opportunities it opens to you.