

Still, in one basic category, hot rolled sheet steel, the United States has been a net exporter since last June. And overall employment in the industry—now thought to be around 170,000—has begun to increase as the first few of nearly a dozen new mills scheduled to open by the end of the decade have started production. Taken together, the numbers show just how far American steelmakers have come in changing their old ways, analysts and industry executives say.

Those ways were marked by a full plate of inefficiencies: overstaffing, outmoded production processes and poor quality control. Foreign steelmakers, led by the Japanese and the Europeans, saw their chance and moved in. But there were domestic threats to the steel giants as well, from so-called mini-mills, upstart operators that turned out low-cost steel from scrap rather than from raw materials. And some foreign companies bought plants in the United States and began to revamp them.

Eventually, the big American steelmakers got serious about survival. They slashed payrolls, shuttered the most antiquated of their hulking mills and spent billions on new technology and equipment.

With costs down and quality up, the industry has been positioned of late to take advantage of currency swings that have made American products cheaper abroad. Besides making American steel itself more attractive to foreign markets, the relative weakness of the dollar has helped many domestically made products, from cars to appliances, that contain steel. And that, in turn, has given the American steelmakers a chance to retake at least some of their home ground.

Noting that the Chrysler Corporation is exporting steel to Europe to make Jeeps there and that cars containing American steel are being exported in larger numbers than they used to be, Michelle Applebaum, an analyst with Salomon Brothers, said: "The Rust Bowl in the United States has become competitive again. The steel market is the primary beneficiary of the new competitive heartland in the United States and is stronger than it has been in decades."

The evidence of the shift is striking in sheet steel, the biggest category and a major component of cars, building materials and appliances. At the beginning of 1995, Ms. Applebaum said, imports accounted for a net market share (subtracting exports) of 17 percent. But by the end of the year that figure was down to 5 percent. "That means that a full 12 percent share was given back to the U.S. market," she said, equaling twice the output of one large steelmaker, Inland Steel Industries.

One measure of efficiency is the amount of labor it takes to produce a given quantity of steel. According to Mr. Marcus, the average integrated mill in the United States requires 4.42 hours of labor to produce a metric ton, or 2,200 pounds, of steel. That compares with 4.49 hours in Japan, 4.69 in Germany and 4.71 in Britain. Twenty years ago, when far more labor was required, Japan was the leader, at 11.36 hours, followed by the United States, at 12.49.

Steel executives say exports provide a long-term opportunity, though shipments are likely to vary from year to year, depending on domestic demand. Because it costs about \$50 a ton to ship steel overseas, the profit margin is less than in a domestic sale. But because blast furnaces must be run continuously, disgorging ton after ton of molten pig iron, manufacturers like having an alternative market if demand fails at home.

"Right now, the domestic market is more attractive, so our exports will probably be less this year than in 1995," said Paul Wilhelm, president of the U.S. Steel Group of

the USX Corporation. U.S. Steel exported 1.5 million of the 11.4 million tons of steel it made last year. But the company is a permanent player in the export business, with long-term overseas accounts, Mr. Wilhelm said.

John J. Connelly, the president of U.S. Steel International Inc., added, "we see this as an ongoing 4 to 5 percent of our business through thick and thin."

And while the cheap dollar helps keep that market open, industry experts say, there are other factors.

"Currency has an effect, but in the end if you are low-cost, high-quality and meet customer expectations, you will get business," said Curtis H. Barnette, Bethlehem Steel's chairman.

This newfound efficiency and quality will have increasing importance in coming years as the new mills begin opening in this country. If products from the new mills can push out imports rather than cannibalize older mills, as has been the case in the past, jobs at places like Sparrows Point look like a better long-term bet.

All the start-ups are patterned on mini-mills, which have small, highly efficient work forces. The Nucor Corporation, the mini-mill leader, can make steel at some of its mills with less than half an hour of labor a ton.

But the mini-mills may no longer enjoy the big advantage over traditional mills that they had in the past, some experts say. In part, that is because the traditional mills have become so much more efficient.

Another reason has to do with the production process of most mini-mills: They have to live with the impurities in the recycled materials they use, and the price of high-quality scrap has been rising. Integrated mills, because they work from raw materials, can better tune the chemistry of their products.

Because the price of scrap is likely to keep rising as new mini-mills add to demand, many companies are investing in ways to separate iron from ore that do not involve blast furnaces, which are costly to build and operate. Nucor, for example, is converting ore into iron carbide, a form of the metal that can be added to scrap.

As the mini-mills lose some of their edge, the slimmed-down integrated mills should be able to hold their own better on the domestic front, analysts predict.

At Sparrows Point, the changes have been profound. In the 1950's and 60's, it was more like an independent empire than a factory. The mill employed about 30,000 people and there was a company town, complete with company-owned housing, stores and schools. There was even a police force and a semi-professional football team.

In the late 60's, the company decided to end this paternalistic system and to gradually close down the town. New mill buildings swallowed the remains of the town, and the workers who stayed on the payroll moved to Baltimore and the surrounding area.

"There was a high school where the blast furnace is now," said Duane Dunham, the president of Bethlehem's Sparrows Point division.

Over the last decade, Bethlehem poured in \$1.6 billion for improvements. Everything in the mill is automated and run by computer, allowing only a few people to control the movement of vast amounts of material by watching wall-sized displays. Today the plant employs just 3,250 people and can make 3.5 million tons of steel a year, about one-third of its capacity in the old days.

The attitude of the employees and their union, the United Steelworkers of America, has changed as well. At the tin plate plant to which Mr. Moore is assigned, for instance,

the rigid union work rules of the past have become flexible.

"We are all cross-trained, so we can fill in for people who are not here," said Brenda Matthews, one of the new workers, adding that little distinction was made between men and women. "Women do the same jobs as men," she said, with one exception: Only the men load the heavy bars of tin needed in the electroplating process.

Even some of the veterans are whistling a new tune. James Henson has been at Sparrows Point for 25 years, mostly as an operator of a tractor that moves coils of sheet steel prior to shipment.

"In the old days, we had people chasing coils all over the place," he said, waving at a warehouse that is easily as long as three football fields. "Now it is all on computer and we are shipping to our customers on a just-in-time basis. Every tractor operator has a computer and every coil is logged in. It's better this way."●

NATIONAL PARK WEEK

● Mr. BURNS. Mr. President I rise today to recognize National Park Week from April 22-28.

Mr. President, Montana is known for its wonderful landscapes, abundant game, and a Big Sky. Montana is also known as a tourist's haven because of the State's access to two of the Nation's most beautiful treasures, Glacier National Park and Yellowstone National Park.

Our complex National Park System includes the likes of the crown jewel itself, Yellowstone National Park, but also includes the more urban historical treasures in Washington, DC.

The caliber and diversity of our National Park System is uncontested throughout the world. However, so is the cost of maintaining such a vast ecological system. We in Congress have worked to preserve our national parks and ensure the public's access to these native gems.

In an effort to meet the costs of preservation without limiting public access, the 104th Congress has passed legislation that increases entrance fees. The fees are our guarantee that national parks can maintain quality services and preservation practices that make each visitor's experience a memorable one.

Our National Park System provides a popular retreat for families. I believe the parks should be accessible to all people of all ages regardless of physical abilities. The parks do not belong singularly to the hearty wilderness explorer, they belong to all Americans.

So whether your view is of Glacier's majestic snow covered peaks overshadowing the Going-To-The-Sun road, or Yellowstone's Lamar Valley boasting its elk, waterfowl, buffalo, and the occasional grizzly, the preservation of the national park system will be secured.

COMMEMORATION OF THE WARSAW GHETTO UPRISING

● Mr. MOYNIHAN. Mr. President, I rise to commend to the Senate three remarkable public addresses delivered