on) under the Jackson-Vanik amendment to the Trade Act of 1974 and other restrictions on lending to most Eastern European countries imposed by Congress. This is what holds the trade turnover figures down.

But the $52.9 million trade registered in 1977 conceals the *real* interface between the U.S. and GDR economies.

In fact, as Department of Commerce representative Mishell George reported to the New York gathering, U.S. companies did $1,120 million in business with East Germany last year (including a high portion of grain exports). Most of the deals were "transshipments" through European subsidiaries of the U.S.-based corporations.

Thus, according to a businessman with years of experience in East-West trade, at the spring 1978 Leipzig Fair in the GDR new deals amounting to $360 million were consummated by U.S. firms. Every dollar's worth was routed through a European subsidiary.

A second aspect of bilateral "normalization" is the structure of U.S.-GDR trade, which Foreign Trade Bank President Werner Polze emphasized in his presentation. "In addition to a relatively low sales volume," he noted, "the structure of commodity exchange between the GDR and the USA still does not conform to that of the other developed industrialized nations."

The basis for Polze's complaint is well documented in a recent survey prepared by the U.S. Department of Commerce. The United States accounts for 1 percent of exports from the industrialized West to the GDR, and for 0.3 percent of manufactured goods exports. Of imports to the industrialized Western countries from the GDR, the U.S. is on the receiving end of just over one-half of 1 percent both of the total and of manufactured goods. (All of these figures ignore the "transshipment" factor.)

The trade balance likewise reflects the underdevelopment of the U.S. market for Eastern European industrial goods, such as the industrial processes featured during the GDR delegation's tour. U.S. imports were 32 percent of the total bilateral trade in 1977.

Financing Trade

The question period following Dr. Polze's lecture in New York evidenced a lively interest in the need for innovative ways of financing East-west trade.

Polze was asked to comment on the prospects for the socialist sector's transferable ruble to play a role in clearing international trade transactions, a procedure allowed by the Eastern European regional banks. (It is not a form of currency convertibility.) "From the practical point of view this is a little bit difficult," answered Polze. "There are some business deals in transferable rubles, but only when other problems have been solved. Given this, it will take some time for the transferable ruble to be widely used in international trade."

Unfortunately, many of the questions also bore the mark of the bogus explanations for East-West trade's supposedly dim prospects being promulgated by some International Monetary Fund, New York, and London banking circles. They included: Why doesn't the GDR float its currency? How can competitive trade proceed if prices are government-controlled? Why should we have clearing agreements when your currency doesn't float?

Polze, who had presented a detailed account of how the GDR foreign trade system functions at present through the combined offices of the Foreign Trade Ministry and the country's national trade banks, promised that the nonconvertibility of the East German mark is not likely to change. But the GDR has payments agreements, he said, functioning with every major Western industrial country—except the United States.

—Rachel Berthoff

GDR Offers A New Steel-Making Process

The GDR's Economic-Technological Congress offered not only trading opportunities to the U.S., but a range of very advanced industrial processes. Here, a report from the Congress meeting in New York of one of the technologies presented there:

The second day of the Economic-Technological Congress in New York centered on seminars on advanced machine-tool,
technology being developed in the GDR. One of the most important presentations described the unique plasma beam steel-smelting furnaces now being developed in the GDR through joint research and development with Soviet scientists.

Dr. Franz Mueller, department chief at the GDR's Ministry of Ore Mining, Metallurgy, and Potash presented the plasma smelting process in what proved to be the meeting's most exciting seminar, with over 30 U.S. and international steel specialists participating.

The process, which will be offered to U.S. firms later this year, has been developed for application to steel scrap for the production of high-alloy steel. Krupp of West Germany has already inspected the two operational plasma furnaces in the GDR, and Nippon Steel and others have requested invitations. U.S. companies at the seminar, particularly Bethlehem Steel, expressed a keen interest in the new process, but were uncertain about the U.S. economy's demand for steel in the future.

In the conventional production of high-alloy steel from scrap, the energy source is either a fossil fuel or electricity. The plasma process provides heat through a set of (relatively) low-temperature argon plasma torches which are inserted into the vessel at an angle. This direct current arc plasma torch can produce temperatures up to 15,000 degrees Centigrade, as compared to maximum temperatures of 3,600 degrees for conventional furnaces. This higher temperature allows the recovery of almost 100 percent of the alloying materials from the scrap, decreased iron loss, high melting efficiency, and low heat and dust exposure for the operators.

According to GDR specialists, these benefits have led to a reduction of up to $400 per ton in cost of production over high-temperature electric arc furnaces. An important economic factor is the fact that the plasma furnace runs at about 40 decibels, whereas a comparable

Krupp furnace reaches about 140 decibels. There is, therefore, a 30 percent savings in environmental expenditures for noise reduction.

Finding the Solutions

The first experimental plasma furnace was developed in the GDR in 1969 and had a three-ton capacity. A five-ton experimental plasma furnace, equipped with a vertical torch, has been in operation in the Soviet Union since 1972. In 1973 a 10-ton plasma furnace was built in the GDR in Henningsdorf and has produced more than 120,000 tons of steel ingots. From the experience with the 10-ton furnace, the currently operating 30-ton plasma furnace was planned and designed by specialists from the GDR and the Soviet institute at Novosibirsk and put into operation in 1977. Currently under joint GDR-USSR design is a 100-ton plasma furnace.

According to a steel specialist from Bethlehem Steel, U.S. Steel Corporation did attempt experimental work in this technology in the early 1970s, but failed to complete the solutions of the technological problems involved and bring the process to commercialization. The six young inventors of the GDR process faced the same problems, but were able to obtain government backing to carry the programs through.

Because the operation of the plasma furnace does not require special skills, the new technology is especially well-suited for developing countries. The GDR representatives also emphasized that the GDR itself does not produce enough scrap steel for a self-feeding high-volume plasma steel industry. It is clear that the lack of natural deposits of iron ore and coking coal and lack of scrap makes the GDR an ideal place for reprocessing scrap from various advanced sector countries. The high-alloy steel products could then be available for export to both the advanced and developing sector countries.

Although a number of U.S. steel experts approached the new plasma technology with varying degrees of suspicion and hesitation, more forward-looking foreign steel producers are seriously considering purchasing licenses for plasma steel smelting technology. The U.S. companies will have to seriously examine this advancement and weigh the consequenes of being left behind as the GDR and other countries lead the way into a range of plasma processes, eventually including the near-limitless energy source of thermonuclear fusion.

—Marsha Freeman