

Research Department
Federal Reserve
Bank of
San Francisco

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Aluminum Rebounding

After the dismal performance of the past few years, the U.S. aluminum industry is finally staging a solid recovery. The course the industry has followed since the 1970s is a classic illustration of the interaction of supply and demand, in which U.S. producers' hopes for higher aluminum prices were thwarted by a worldwide excess inventory of the metal. Not until the early part of this year when curtailed production and improved demand reduced the world oversupply of aluminum did selling prices begin to improve. Because most forecasters expect further growth in U.S. economic activity and hence in the demand for aluminum, the industry should benefit from still higher prices as 1983 unfolds.

The recent recession

Because the aluminum industry relies heavily on the construction and transportation equipment markets—its second and third largest outlets, it has always been subject to wide cyclical swings in demand. The recent recessions were no exception. Between 1979 and 1982, the domestic industry experienced a 17 percent decline in shipments of primary ingot and fabricated mill products including such semi-finished items as sheet and plate, foil, wire, and tube. Shipments to the key construction and transportation equipment industries registered the sharpest declines, falling by 27 and 41 percent respectively. Shipments to the consumer durable, electrical equipment, machinery and export markets also declined, although by smaller percentages.

Only aluminum's largest outlet, the container and packaging market, moved against the recessionary tide. Shipments to that market rose by 12 percent over the 1979-82 period, thereby growing from 22 to 29 percent of the total end-market.

In previous downturns, notably the 1973-75 recession, major U.S. producers had been

quite successful in stabilizing market prices by cutting production at the primary (ingot) stage of production. They renewed these efforts late in 1980. Between 1980 and 1982, U.S. producers cut their primary output by nearly 30 percent, reducing their average annual rate of capacity utilization from 95 to 65 percent, but they were unable to maintain market prices even though the overall decline in U.S. aluminum shipments during the 1979-82 period was less than during the 1973-75 recession. The bottom had fallen out of the worldwide aluminum pricing structure.

Overseas expansion

Major changes had taken place in the worldwide structure of the aluminum industry during the decade of the 1970s. That decade witnessed the proliferation of primary aluminum production plants outside the United States, as new smelting facilities shifted to areas where low-cost energy sources, especially hydroelectric power, and raw material bauxite supplies were available. Significant new production capacity was constructed in Spain, Venezuela, Brazil and Australia.

Because some of these nations were not fully integrated producers and did not own fabricating facilities for marketing their output, they turned to the London Metal Exchange (LME) to sell their primary production. Aluminum sales on the LME began in 1978, and, although the market has captured only a small share of the world aluminum trade, the LME price became the reference price for non-integrated foreign producers and traders. The result was the development of an international market structure that, together with the increased recycling of scrap, has reduced the ability of major U.S. integrated producers to influence prices by changing their own output.

Unstable prices

Although consumption elsewhere through-

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out the non-Communist world also fell during the period from 1979 to 1982, primary production outside the United States actually increased slightly. Certain foreign producers, in their desire to earn foreign exchange, continued to expand production. Only Japanese firms cut their output back sharply, and they did so because of exceptionally high energy costs.

Between 1973 and 1979, U.S. producers watched their share of total non-Communist world production decline from 41 percent to 38 percent. By 1982, their share had dropped to 31 percent as they bore the major burden of cutting production in the face of declining worldwide demand. Despite these cutbacks, producer inventories throughout the non-Communist world rose another 30 percent between the end of 1980 and early 1982, rising from 4.4 million tons to 5.7 million tons.

Market prices plunge

U.S. producers boosted their list price for primary ingot to a record high of 76 cents per pound in late 1980, even though producer inventories were rising throughout the non-Communist world. From 1980 to 1982, they continued to maintain the *list* price at 76 cents/pound.

Meanwhile, foreign prices plunged downward under the impact of rising worldwide inventories, as demonstrated in the chart. The combination of declining worldwide aluminum prices and a strengthening of the exchange rate value of the dollar caused the *dollar* price of ingot on the London Metal Exchange to drop dramatically on a monthly basis between February 1980 and June 1982; it fell from a high of nearly 97 cents/pound to just under 42 cents/pound. By February 1983, the LME quotation had recovered somewhat, reaching 45 cents/pound, but it still remained far below the U.S. producer list price of 76 cents/pound.

Confronted with the wide disparity between its published list price and the price being

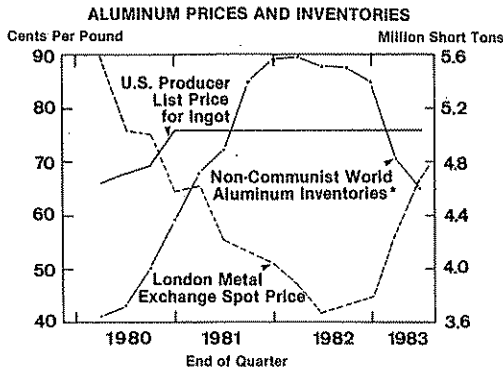
realized for foreign-produced metal, the nation's third largest producer—Kaiser Aluminum and Chemical Corporation—announced an historical change in its traditional pricing policy. Instead of posting a list price which the company changed infrequently, the firm announced that it would adopt a "transactions" price that would be more responsive to market conditions. The transactions price would fluctuate in close correspondence with the LME price, and include transportation costs.

The move from a producer-administered to a market-responsive price reflected the realities of the marketplace. Confronted with competition from abundant lower-priced foreign metal, all U.S. producers had been forced to discount sharply from the list price throughout the 1980-82 period, rendering that price meaningless.

Indeed, the poor financial performance of the major domestic producers over the 1979-82 period reflected not only the decline in their sales volume but the drop in their selling prices. Between 1979 and 1981, the three largest U.S. producers suffered a 44 percent decline in net income, and in 1982, a substantial combined loss. Throughout this period, the industry was subject to severe energy cost pressures. Heavily dependent upon natural gas for their electrolytic reduction process, producers faced a near-doubling of the average level of natural gas prices. Facilities in the Pacific Northwest faced an even greater eight-fold increase in hydroelectric power prices as the Bonneville Power Administration averaged in the cost of three nuclear plants then under construction.

Recovery in 1983

Only in the past several months have selling prices for the U.S. aluminum industry really begun to rebound. Shipments during the first five months of 1983 rose 6.4 percent compared to a year earlier, but the fact that orders during the first six months were up 27 percent suggests that the year-to-year gain in



shipments will increase as 1983 progresses. Meanwhile, domestic producers have further reduced inventories, as is evident in a drop in product stocks throughout the non-Communist world from 5.3 million tons in December to 4.5 million tons by May.

This improvement in the supply-demand balance has resulted in higher market prices: the price of ingot on the London Metal Exchange has rebounded from a low of 42 cents/pound in June 1982 to the current level of 70 cents/pound. Major U.S. producers also have reported an increase in their actual selling price to 76 cents/pound. Prices realized for fabricated mill products have increased accordingly as well. The fact that these higher prices have continued even after the May 31 peaceful labor settlement in the industry confirms that actual consumption has risen strongly from a year ago.

The cyclical recovery in homebuilding activity, automobile and other consumer durable goods manufacturing has already benefited the aluminum industry. Because the rebound in these key aluminum consuming industries is likely to be especially strong and because these customers are likely to rebuild their exceptionally low inventories, the growth of aluminum shipments for 1983 as a whole will probably outpace the growth of industrial production generally, which most forecasters expect to increase 5 to 6 percent for the year.

Aluminum shipments to the construction and transportation industries are likely to show the most rapid growth. The auto market will grow both because of increased production and greater aluminum usage per car. Shipments to the container and packaging market should also increase, but at a slower pace since aluminum's displacement of other materials in this market has slowed for the time being and deliveries probably will be limited to the growth in packaged products volume. Demand from capital-goods-producing industries also should begin to pick up late in the year, once excess capacity in the manufacturing sector is

reduced and businesses begin to invest in new plant and equipment. Exports may decline, however, because of the strong foreign exchange value of the U.S. dollar and weakness in overseas economies.

The overall growth in aluminum demand should push transactions prices still higher by year-end, unless the growth of production outpaces the growth of shipments. Already, U.S. producers have sharply increased their primary capacity utilization rate, from 60 percent in December to 67 percent in July, both in response to rising demand, and they plan to boost the operating rate to 70 percent by September.

Increased demand and prices should translate into an improved financial performance as 1983 progresses. The nation's three largest producers suffered a substantial combined loss during the first half as the year-to-year increase in shipments and prices was not enough to counter continuing cost pressures. But producers should begin to experience profits by the second half and at least break even for the year. The recent three-year labor settlement involving aluminum workers will help to hold down overall cost increases because the unions agreed to limit their increase in pay to a partial cost-of-living adjustment.

Conclusion

Looking further ahead, the prospects for the industry are even brighter. Assuming that the U.S. economy will continue to grow through 1985 and that the overseas economies will also recover, the U.S. aluminum industry should benefit from a further increase in prices and operating rates from the exceedingly low levels reached during the recession. Domestic firms are developing several new products and technologies, especially in the container and transportation fields, and these should begin to displace other materials by the mid-1980s. Meanwhile, recent cutbacks in planned additions to aluminum production facilities mean that worldwide capacity is scheduled to increase only moderately.

Yvonne Levy and Jennifer L. Eccles

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount Outstanding 7/27/83	Change from 7/20/83	Change from year ago	
			Dollar	Percent
Large Commercial Banks				
Loans (gross, adjusted) and investments*	162,477	377	1,500	0.9
Loans (gross, adjusted) — total#	141,145	245	490	0.3
Commercial and industrial	43,526	- 321	- 754	- 1.7
Real estate	56,206	27	- 1,233	- 2.1
Loans to individuals	24,101	100	708	3.0
Securities loans	2,685	275	- 78	- 2.8
U.S. Treasury securities*	8,176	- 16	1,819	28.6
Other securities*	13,155	148	- 809	- 5.8
Demand deposits — total#	40,212	- 769	2,138	5.6
Demand deposits — adjusted	28,878	252	1,550	5.7
Savings deposits — total†	66,170	- 342	35,739	117.4
Time deposits — total#	65,764	191	- 33,961	- 34.1
Individuals, part. & corp.	60,136	226	- 29,942	- 33.2
(Large negotiable CD's)	18,425	- 157	- 19,267	- 51.1
Weekly Averages of Daily Figures	Week ended 7/27/83	Week ended 7/20/83	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	72	97	68	
Borrowings	98	114	25	
Net free reserves (+)/Net borrowed(-)	- 26	- 17	43	

* Excludes trading account securities.

Includes items not shown separately.

† Includes Money Market Deposit Accounts, Super-NOW accounts, and NOW accounts.

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