Research Department
Federal Reserve
Bank of
San Francisco

March 22, 1974

Aluminum Hits the Ceiling

The metals, being cyclically sensitive, have benefitted substantially from the strong expansion of the 1971-73 period, and nowhere has the improvement been more dramatic than in aluminum. Yet aluminum, along with other basic materials industries, will be facing a severe "capacity crunch" during the next several years. The origins of this tight supply situation can be traced not only to the industry's declining profitability during the sluggish period at the beginning of the 1970's, but also to its inability during the recent boom to attain a return on investment large enough to justify the new facilities required to meet the projected demands of the mid-decade.

During the 1969-71 period, the industry had to contend with a slowdown in consumption, plus a coincident buildup in new capacity which threatened to glut the market for years to come. But these conditions were completely reversed within a relatively short timespan. Today, despite the weakening of the boom, aluminum producers are still straining capacity to meet demand, and are also supplementing their supplies with heavy purchases from the government stockpile of metals.

Producers complain, however, that price controls have held aluminum prices at artificially low levels, thereby preventing the industry from benefitting fully from the economic recovery. In fact, list prices have reached pre-recession levels only quite recently. As a result, combined profits of the industry's Big Three still lag behind the 1969 peak, although they more than doubled over the 1971-73 period. The industry's return on sales amounted to only 4 percent last year—less than the all-manufacturing average and only about half the average earned in aluminum during the late 1960's.

Boom to bust to boom

The 1965-69 period was one of exceptional growth. Production facilities expanded rapidly, but shipments rose even faster (8 percent annually), so that full-capacity operations became the norm throughout the industry. Prices and profits rose accordingly, and producers began to make very optimistic expansion plans for the 1970's. The domestic industry planned a 7-percent annual expansion of producing facilities for the 1969-73 period, and producers overseas made plans to boost capacity at well over double the U.S. rate.

The recession created severe difficulties during the next several years as shipments fell in the face of rapidly expanding capacity. By 1971, when the slowdown in economic activity had spread overseas, the domestic industry found itself saddled with 500,000 tons of excess inventory. A shift in aluminum's trade balance, from net exports of 148,000 tons in 1970 to net imports of 388,000 tons in 1971, contributed to the buildup, as imports soared in the face of a drying-up of over-

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seas demand for U.S. metal. In this situation price discounting became widespread, and the listed price for primary ingot—29 cents a pound in 1970, later reduced to 25 cents—was all but ignored.

Domestic and foreign demand recovered sharply in 1972, and the supply situation became very tight in 1973. Total shipments rose 41 percent over the 1971-73 period, but much of that gain was possible only because of the availability of government stockpile supplies. Last year, domestic producers purchased more than 730,000 tons of stockpile metal, equivalent to 10 percent of total shipments. Production in 1973 was hindered by a weather-related shortage of hydro-power in the Pacific Northwest, which took about 7 percent of the industry's total capacity out of operation by midsummer.

Pricing problems

With supplies tightening, the selling price for ingot last spring finally reached the published price of 25 cents per pound, ending more than three years of heavy discounting. But even at that level, the price was no higher than in 1960, and was well below the 29-cent peak quotation of 1970. Continued price recovery was thwarted by the price freeze and then by the establishment of a 25-cent ceiling price under Phase IV. Under that program, further increases were to be limited only to those necessary to cover cost increases incurred during 1973.

Producers protested these regulations, arguing that controls prevented them from recovering the substantial increase in costs incurred since 1970, and from earning a return on invested capital high enough to finance necessary capital expansion. Ironically, their customers—the fabricators—supported their arguments, since the domestic shortage of the metal had been aggravated by the diversion of supplies to higher-priced overseas markets. During the last half of 1973, as the foreign price climbed to 42 cents per pound, the U.S. became a net exporter of aluminum for the first time since 1970.

In December, the Cost of Living Council permitted a 16-percent increase—from 25 to 29 cents per pound—in the base price of primary ingot. The Council acknowledged that the action was necessary to encourage the expansion of domestic capacity and to reduce the differential between foreign and domestic prices. This January, however, the Council rejected a request for a further price increase, ruling that cost-justified increases could not be added on top of the 29-cent base.

Modest expansion?

The industry's relatively moderate price (and profit) performance, plus

costly environmental programs, may help explain the modest scope of its expansion plans—and may help explain why it is not likely to be faced this time with an excess-capacity problem, as it was after the last boom. For the 1973-77 period, domestic producers plan a 2-percent annual expansion in primary aluminum capacity, from 4.8 million to 5.3 million tons—only about half the expected expansion in demand. Most of the new capacity will come from the enlargement of present facilities. Only one new plant is scheduled for construction—a 187,000 ton/year facility in Oregon under American and Japanese auspices—and that plant may not be built because of opposition from environmentalists and local officials concerned with power shortages.

Total capacity in the non-Communist world is scheduled to rise 6 percent annually during the 1973-77 period, from 12.3 million to 15.3 million tons. Roughly one-half of that projected increase would come from the expansion of U.S. and (especially) Japanese facilities. But uncertainties surround the Japanese as well as the American outlook, in view of the rising power costs and environmental problems confronting Japanese producers. Because of the recent upsurge in petroleum prices, Japanese power costs per pound are now nearly equal to **total** production costs per pound for most North American producers. These cost (and other) problems are now forcing Japanese producers to search overseas for low-cost production sites.

U.S. producers expect domestic demand to increase only about 4 percent annually over the 1973-77 period—far below the 9-percent annual growth rate of the 1969-73 period—but imports would have to triple just to keep up with that moderate growth of consumption. In 1974, supplies could remain tight despite a projected 10-percent drop in demand brought about by declining activity in the two major consuming industries, autos and housing. Even at that reduced level of demand, full-capacity operations are likely, since producers may offset their reduced shipments with reduced purchases from the government stockpile, relying instead on their own production facilities for ingot.

The supply situation could become even tighter with the expected improvement in the business outlook in 1975, and the situation could become critical in 1976 when metal will no longer be available from the government stockpile. Consequently, the industry will be pressing hard on the price front, as a means of ensuring the higher level of profits which it considers necessary to finance further capacity growth.

Yvonne Levy

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 3/6/74	Change from 2/27/74	Change from year ago Dollar	Change from year ago Percent
Loan gross adjusted and investments*	78,992	+ 400	+7,764	+ 10.90
Loans gross adjusted—	60,137	+ 123	+6,737	+ 12.62
Securities loans	1,206	+ 68	− 441	− 26.78
Commercial and industrial	20,841	+ 74	+1,639	+ 8.54
Real estate	18,518	+ 4	+3,055	+ 19.76
Consumer instalment	9,150	− 17	+1,086	+ 13.47
U.S. Treasury securities	5,996	+ 104	− 237	− 3.80
Other Securities	12,859	+ 173	+1,264	+ 10.90
Deposits (less cash items)—total*	74,128	+ 172	+5,659	+ 8.27
Demand deposits adjusted	21,638	+ 570	+1,360	+ 6.71
U.S. Government deposits	424	− 207	− 898	− 67.93
Time deposits—total*	50,876	− 234	+5,241	+ 11.48
Savings	17,783	+ 63	+ 416	+ 2.29
Other time I.P.C.	23,970	+ 7	+5,345	+ 28.70
State and political subdivisions	6,586	− 239	+ 196	+ 3.07
(Large negotiable CD's)	11,122	− 39	+3,489	+ 45.71

Weekly Averages of Daily Figures	Week ended 3/6/74	Week ended 2/27/74	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves	51	24	2
Borrowings	84	292	59
Net free (+) / Net borrowed (−)	− 33	− 268	− 57
Federal Funds—Seven Large Banks			
Interbank Federal funds transactions Net purchases (+) / Net sales (−)	+1,583	+1,341	+728
Transactions: U.S. securities dealers Net loans (+) / Net borrowings (−)	+ 78	+ 388	+148

*Includes items not shown separately.

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