

VIII AN OVERVIEW

In the 1950s and 1960s, the world aluminium industry experienced a rapid growth at the rate of about 10 per cent per annum. The Indian aluminium industry also experienced a rapid growth in this period. The installed capacity of aluminium production in India increased from 5 thousand tonnes in 1950 to 167.5 thousand tonnes in 1970. The growth rate in production was about 20 per cent per annum. There was a marked slowdown in the growth rate of world aluminium production after 1970. Between 1970 and 1980, the growth rate of production was 4.6 per cent per annum. And, after 1980, the growth rate of world aluminium production has been still lower. There was a similar slowdown in the growth of aluminium production in India. Between 1970-71 and 1987-88 the growth rate was about 3 per cent per annum (as against 20 per cent per annum achieved in the two previous decades).

Six multinational companies (ALCOA, ALCAN, Kaiser, Reynolds, Pechiney and Alluisse) dominate the world production of aluminium and thus have a strong influence on the world price of aluminium. Till the end of 1960s, these six companies together controlled over 70 per cent of the world aluminium production. Their share has declined significantly since then. In 1980, the share of the six multinational companies in the world capacity of aluminium smelting was 41 per cent, and in 1985 it was 35 per cent.

The world price of aluminium ingot has remained relatively stable over time. In part, this is due to the big producers' strategy to discourage new entrants by keeping aluminium price low and increasing it only in line with cost. Between 1960 and 1973, the price of aluminium in London market increased at the rate of only 2 per cent per annum. Between 1973 and 1978 there was a marked increase in the world price of aluminium (due in part to hikes in energy prices). But, the rate of increase was again

low in the period 1978 to 1986 which was marked by wide fluctuations in aluminium price from year to year. There have been sharp increases in the international price of aluminium in 1987 and 1988. The price of aluminium ingot in London market was \$1312 in 1986. It increased to \$1780 in 1987, and to over \$2500 in 1988. There has been a substantial fall in the world price of aluminium during 1989. The price of high grade aluminium ingot in London Metal Exchange fell from \$2505 in December 1988 to \$1634 in December 1989, and further to \$1455 in February 1990.

There was, on the other hand, a more or less steady increase in the price of aluminium in India. From a comparison of aluminium prices, it is found that during the last three decades the price of aluminium ingot in India was almost always higher than the price prevailing in London market. The gap between the two prices has been fluctuating considerably, however. It is only in 1988 that the price of aluminium ingot in India was substantially lower than the price prevailing in international markets.

In the 1960s and early 1970s, there were four producers of primary aluminium metal in India - INDAL, HINDALCO, MALCO and ALUCOIN - all in the private sector. A public sector unit, namely, BALCO, entered the industry from the mid-1970s. Subsequently, ALUCOIN was merged with BALCO. Thus in the 1980s, till 1987, there were four primary aluminium producers in India - HINDALCO, INDAL and MALCO in the private sector, and BALCO in the public sector. Another major aluminium unit in the public sector, namely, NALCO, has come on stream recently, and the share of public sector in the production of aluminium ingot in the country is expected to go up sharply in the near future.

In 1950-51, the share of imports in the apparent consumption of aluminium ingot in India was 72.5 per cent. The industry made substantial progress in import substitution in the next two decades (thanks to various policies of the government) and the import availability ratio was reduced to 2.1 per cent by 1969-70. In the period 1972-73 to 1976-77, the country was almost self-sufficient in primary aluminium metal. However, in

years after 1977-78, the domestic production of aluminium did not grow fast enough to meet the increasing requirement of aluminium metal in India and as a result the import-availability ratio went up. In 1987-88, about one fifth of the consumption of aluminium metal in India was met through imports. Thus, in the period from 1977-78 to 1987-88 there was a growing dependence on imports. With a sharp rise in the international price of aluminium and substantial increase in domestic production, there was a drastic reduction in import dependence in 1988 when the import-availability ratio came down to 2.1 per cent. But, in 1989, the dependence on imports increased again, and the import-availability went up to about 8 per cent.

The Indian aluminium industry has been under government regulation since 1970 (under Aluminium Control Order of 1970). There was control on pricing and also on the distribution of aluminium. Prior to 1975, the government exercised informal control over the distribution of aluminium. From 1975, the distribution was brought under the purview of the Aluminium Control Order. It was made necessary for each producer to produce 50 per cent of his metal production as EC grade in the shape of ingots and wire rods, for supply to units against allotments made by the Aluminium Controller. In imposing this control, the main objective of the government was to ensure adequate availability of EC grade metal for the manufacture of cables and conductors needed for the rural electrification programme. However, in later years, this control on distribution caused serious problems for aluminium producers, since the State Electricity Boards slowed down investment in transmission and distribution and consequently the off-take of EC grade metal fell short of the stipulated 50 per cent level of metal production.

From 1970 to September 1978, a dual price system for aluminium ingot was followed. The price of EC grade metal was controlled by the government, while the price of CG aluminium ingot was fixed by the producing companies. From October 1978, prices of both CG and EC grade metal were brought under government control. There was a system

of firm specific retention prices based on cost of production plus a post standard tax return on shareholders' funds. From October 1979, the government bought imported aluminium (canalised through MMTC) under the ambit of price control and introduced a formula for calculation of 'aluminium price equalisation amount' to form a part of the Aluminium Regulation Account (associated with the retention price system).

It should be mentioned here that, after being under government regulation for about 18 years, the Indian aluminium industry was deregulated recently, in March 1989. However, most of the empirical analysis presented in the study relates to the period upto 1988, i.e., before the deregulation. The findings of the analysis for this period are discussed below. Some brief comments on the experience of the industry in the post- deregulation period are made later in the Chapter.

Radhakrishna and Kalra (1987) have analysed increases in cost of production and retention prices for aluminium producers for the period 1978 to 1983. Based on their analysis, they conclude that the increases in retention prices has not always kept pace with increases in costs. Similar analysis carried out for recent years brings out that in 1987 cost exceeded retention price for one firm and in 1988 this was so for three firms out of the four.

Although retention prices for aluminium ingot were supposed to give the producers a rate of return ranging from 7 per cent at 55 per cent capacity utilisation to 12 per cent at 90 per cent capacity utilisation, the revisions made to retention prices over time, it seems, did not keep pace with increasing costs and in consequence the producers often found the retention prices unremunerative. This had two effects : (1) increased use of ingots by the primary producers for their own consumption in semi-fabrication departments, and (2) a disproportionate increase in the prices of semi-fabricated products by the primary producers to make up for unremunerative returns on the sale of ingot (and EC wire rods) at controlled prices.

Analysis of trends in profitability of aluminium companies in the private sector reveals that the rates of profitability were relatively lower in the period of government regulation, which perhaps indicates that the firms could not fully avoid the adverse effects of government control on profitability by increasing self-use of the metal and raising prices of semi-fabricated products (because the firms had to operate under certain constraint, e.g., being required to produce 50 per cent metal as EC grade, and even faced competition from secondary producers in markets for semi-fabricated products). The average profitability rates during 1965-69 were 18.3 per cent for HINDALCO, 13.9 per cent for INDAL and 9.8 per cent for MALCO. During 1978-87, when both pricing and distribution controls were prevalent, the average profitability rate were 4.9 per cent for HINDALCO, 8.9 per cent for INDAL and -13.6 per cent for MALCO.

INDAL's profitability seems to have suffered relatively less on account of government control on pricing and distribution of aluminium. The explanation for this probably lies in INDAL's production structure. In relation to the production of primary metal, the production of semi-fabricated products has been much higher in INDAL.

For analysing effective incentives to the Indian aluminium industry, the methodologies of effective protection and effective subsidy rates, which have found wide application in empirical studies on trade policy, have been used in this study. ERP to primary aluminium metal has been estimated separately for the four primary producers and for the industry, for the year 1980, 1983 and 1986 to 1988. Effective subsidy coefficient (ESC), taking into account subsidy on power used in aluminium production, has been estimated for three firms, for 1986 and 1987. Effective protection rates have been estimated also for the two processes, alumina refining and aluminium smelting, separately and for the production of semi-fabricated products. These estimates relate to 1986 and 1987.

Estimates of ERP to aluminium production presented in this study show considerable variation across firms and over time. Inter-firm differences in ERP is attributable primarily to the system of retention

prices. Inter-temporal variations in ERP are attributable mainly to fluctuations in international price of aluminium ingot and the domestic administered prices not being sufficiently linked to the international prices.

ERP estimates for aluminium are found to be negative for all the four primary producers for 1980, 1983 and 1988. ERP estimates are found to be negative for two firms for 1986 and three firms for 1987, out of the four. For the industry as a whole, a near-zero ERP estimate of -0.9 per cent is found for 1986, while for the other four years the estimates of ERP are found to be significantly negative. The estimated ERP for the aggregate industry is found to be -44.5 per cent for 1988 and -50.8 per cent for 1980. These results indicate that in most years of the 1980s, the aluminium production activity in the country was significantly disprotected. It may be mentioned here that negative estimates of ERP to aluminium production has been reported earlier in the studies of Panchamukhi (1978) for 1970 and Gupta (1987) for 1977. It would appear therefore that the industry has been experiencing disprotection for a fairly long period in the past. Another point to be noted in this connection is that among other manufacturing industries for which ERP estimates are available for a recent year, the estimated ERP is positive in most cases. Thus, aluminium production belongs to that minority group of industries which was disprotected.

In a study of incentives to production activities, the question of subsidies on non-tradeable inputs is very important. Keeping this in view, subsidy on power used in aluminium production has been estimated and on that basis effective subsidy coefficient has been computed for three firms for 1986 and 1987. The estimated ESCs are found to exceed the EPCs appreciably and in one case the difference is substantial. From these results it appears that the ERP estimates overstate somewhat the extent of disprotection to the Indian aluminium industry.

Estimating ERP separately for alumina refining and aluminium smelting, it is found that the production of alumina from bauxite is

adequately protected, and it is the production of aluminium from alumina which has a negative effective rate of protection.

Estimates of ERP for semi-fabricated products are found to be positive. These are quite high for foils and rolled products other than foils. For 1987, the ERP estimates are 323.9 per cent for foils and 210.7 per cent for rolled products other than foils. ERP estimates for extruded products are relatively much lower. This is possibly explained by the existence of a large number of secondary producers of extruded products which might have made the market for extruded products very competitive.

It is important to recognise here the multiproduct character of the primary aluminium producing firms in India, who fabricate a substantial amount of the metal produced by them. To compute effective protection for the firms a weighted average of ERP estimates for aluminium, alumina (if sold outside the firm) and semi-fabricated products has to be taken, the weights being based on the pattern of sales. Evidently, although ERP estimates for aluminium are generally negative, the weighted averages may be positive.

The large difference found between ERP estimates for aluminium metal and ERP estimates for semi-fabricated products indicate that the government restrictions on trade, along with the government controls on pricing and distribution of aluminium, have seriously distorted the incentive structure in aluminium industry. These interventions have gone in favour of the production of semi-fabricated products and against the production of aluminium ingot. This may be expected to result in a relatively faster growth in production of semi-fabricated products than in the production of aluminium metal, making it necessary for the country to depend more and more on aluminium imports.

To supplement the analysis of profitability and production incentives, an analysis of investment behaviour has been undertaken for HINDALCO and INDAL covering the period 1965 to 1988. The analysis brings out that in both companies the rate of investment during 1978-88 (when the

industry was under strict government control) was much lower than that during 1965-69. This may be treated as an indication of the depressing effect of government regulation on investment activity. To draw such inference is not unjustified since the estimates of investment function show that profitability is an important determinant of investment, and the analysis of profitability brings out that the profitability of aluminium companies was relatively lower in the period of government regulation. Another interesting finding emerging from the analysis of investment behaviour is that investment became more responsive to demand and less responsive to financial variables in the period 1978-88 compared to the period 1965-77.

The scrapping of the price and distribution control on aluminium ingot and EC wire rods by the government with effect from March 1989 is a major development in the industry. Though at the time of the deregulation, a spate of price increases was feared by aluminium consumers, it did not occur. Rather, there was a downward trend in aluminium prices since March 1989. One reason why large increase in aluminium prices did not take place in the post-deregulation period is that there was a significant downward trend in the price of aluminium ingot in international markets in this period and liberal, duty-free imports of the metal was permitted by the government. Some rough estimates of the effective rates of protection made for the period March-December 1989 indicate that the production of aluminium remained disprotected even after the decontrol. Production of rolled products and foils, on the other hand, enjoyed significant protection, though there was a reduction in the rate of protection in relation to the rates prevailing in 1986 and 1987. It seems therefore the gap between the effective rates of protection to aluminium metal and to semi-fabricated products got narrowed in the post-deregulation period.

While lifting controls on the aluminium industry, the government abolished import duty on aluminium. It did not matter much at that time since the prevailing international price of aluminium was significantly

higher than the domestic price. However, with successive decline in the price of aluminium in international markets, imports of aluminium became more and more attractive. This led to a spurt in imports. To check the spurt in aluminium imports, the government reimposed customs duty on aluminium at the rate of 5% ad valorem plus Rs.2500 per tonne in October 1989. Subsequently, aluminium was shifted from Open General License to the Limited Permissible List. In the Budget for 1990-91, customs duty on aluminium has been raised to 5% ad valorem plus Rs.6000 per tonne. For aluminium waste and scrap, the duty rate has been raised from 15% to 35% ad valorem. These changes in tariff should raise the effective rate of protection to aluminium and reduce further the gap between effective protection rates for aluminium and semi-fabricated products.