Chilean Copper Policy: International and Internal Aspects

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Introduction

In June 1984 the United States International Trade Commission (ITC) passed judgement on a petition by 11 large US copper producers which argued that imports of the metal, notably from Chile, were unfairly damaging the domestic mining industry, and asked for restrictive measures to be applied.[1] The Commission accepted the argument and recommended to President Reagan the introduction of either import quotas or of additional tariffs on copper for a period of five years.[2] The petition had originally been called 'an attack on the free market' by Chilean spokesmen, and the ITC recommendation in turn was followed by threats of retaliation from the Chilean government in the form of a possible suspension of payments on the country's external debt.[3]

In the event President Reagan did not accept the ITC recommendation. But the fact that the incident took place, and that the possibility arose of a major split between governments that are staunch political allies and are committed to the same economic philosophy is an indication of the extent to which the Chilean government's copper policy is perceived as creating grave problems for the world industry, and as being, in some sense, less than rational. The issues, however, are considerably more complex, and any attempt at evaluation requires a discussion of the background of the policy and of its more specific components and rationale. The aim of this article is briefly to provide some elements towards such an evaluation.

Chile and World Copper Demand and Supply

A central aim of the copper policy of the Chilean military government is the expansion of output and of exports. This has become particularly marked since 1981, when over a period of four years Chilean copper production grew by nearly 30 per cent with respect to the average of the preceding six years. As this period coincided with one of slack demand and low prices, this gave rise to the accusation — echoed by the spokesman of the 11 US companies that petitioned the ITC — that the Chilean government was subsidising the country's copper industry while at the same time receiving subsidies from the International Monetary Fund on account of the low prices of its primary exports.[4]

Undoubtedly the expansion of Chilean copper output had a significant impact on the balance of supply and demand in the world market. Table 1 shows the annual mine output of copper of the main market economy producer countries for the period 1976-85, as well as the overall refined copper balance and the annual average international price.

Between 1976 and 1981 refined copper consumption in the market economies exceeded refined copper production by a small margin (refined output in turn exceeds mine output because of the recovery of scrap). In 1982 there was a seven per cent fall in refined consumption as compared with the average for 1979-81, while refined output expanded. A slight recovery of consumption in 1983 was more than offset by a further growth of output. A more substantial recovery of consumption in 1984 was followed by a fall in 1985, when again refined output exceeded consumption. The price plunged in 1982 and reached a historic low in 1984.

[1] See the report on the press conference given by the eleven companies on the 26th January 1984 in 'US imports aimed at Chile', *Metal Bulletin*, No. 6858, 31st January 1984, p9. See also the statement by Richard de J. Osborne, President of ASARCO, to a Subcommittee of the US Senate (US Senate. Committee on Foreign Relations. Subcommittee on International Economic Policy, *Use of IMF Resources by Major Copper-Producing Countries*, Hearing on S.2524, a Bill Entitled 'The Copper and Extractive Industries Fair Competition Act of 1984', 2 August, 1984, Washington D.C., US Government Printing Office, 1984, pp40-45).

[2] 'ITC split on copper relief', *Metal Bulletin*, No. 6899, 29th June 1984, p9.

[3] 'Chile reacts to US demands', *Latin America Commodities Report*, CR-84-04, 24th February 1984, p2; 'Second warning on debt payment', *ibid.*, CR-84-13, 6th July 1984, p2.

[4] US Senate, *op.cit.* note 1 above.

IDS Bulletin, 1986, vol 17 no 4, Institute of Development Studies, Sussex

Table 1

Market economies*: Annual copper production (mine), refined consumption and output, and prices, 1976-85
(thousand metric tonnes and US¢ per lb)

	1976-8 (aver)	*1979-81* (aver)	*1982*	*1983*	*1984*	*1985*
Mine production						
Chile	1,032	1,071	1,242	1,258	1,291	1,356
USA	1,393	1,388	1,140	1,038	1,091	1,092
Canada	716	681	613	653	722	724
Zambia	668	590	530	591	576	520
Zaire	450	455	503	502	501	513
Peru	308	364	356	322	364	387
Other	1,612	1,791	1,851	1,919	1,844	1,858
Total market economies	6,179	6,340	6,235	6,283	6,389	6,450
Refined consumption	6,860	7,289	6,771	6,821	7,551	7,184
Refined production	6,800	7,134	7,155	7,323	7,207	7,232
Prices						
current US¢/lb	61.7	89.6	67.2	72.2	62.6	64.3
1983 US¢/lb	77.5	84.4	65.2	72.2	64.8	65.8

* includes Yugoslavia

Sources: production and consumption, *World Metal Statistics Yearbook 1986* (London: World Bureau of Metal Statistics, 1986); prices are London Metal Exchange wirebar settlement averages until 1981 and higher grade averages thereafter, as reported in *Metal Statistics 1974-84* (Frankfurt am Main: Metallgesellschaft AG, 1985), converted into US¢ per lb on the basis of exchange rates reported in *ibid.* Price for 1985 taken from Corporación Nacional del Cobre de Chile, *Memoria Anual 1985* (Santiago, 1986). Prices in 1983 currency deflated by the FOB Manufacturing Unit Value Index of the World Bank, in World Bank, *Commodity Trade and Price Trends 1984-85* (Washington D.C., 1985), p38, except for 1984-85 deflated by the unit value index for manufactured exports from developed market economies reported in *United Nations Monthly Bulletin of Statistics*, March 1986, pxx.

The increase in the Chilean output between 1976-81 and 1985 was almost exactly matched by a fall in US production, as a number of major mines closed down because of the low prices.[5] Canadian output remained more or less stable during the period and the fall in Zambian production was again offset by increases in the output of Zaire and Peru. Total supply increased by about 4.5 per cent, with Mexico showing the most substantial growth among the other producers.

The Chilean expansion therefore must be put in the context of the operation of a more general phenomenon among Third World producers. This is akin to the 'backward-bending supply curve' well known to agricultural economists, whereby a fall in demand and prices produces an increase in output as producers attempt to maintain their total export revenue. Zambia is no exception: its drop in production has not been a result of deliberate policies but of difficulties mainly related to the scarcity of foreign exchange for raw materials and spares.[6]

The Background to Chilean Copper Policy: Comparative Costs

The Chilean government was, however, in a particularly favourable position to adopt and implement a policy of expansion of output because of two factors: on the one hand its low cost of production and on the other the fact that 80 per cent of the total output is produced by the state company, CODELCO-Chile.

[5] Shearson Lehman/American Express, *Annual Review of the World Copper Industry 1984-85*, London, October 1984, pp22-25.

[6] C. Fortin, 'Mining', in *Restructuring in the Midst of Crisis*, Report of the QEH/CFTC Mission on Public Sector Investment in Zambia, January 1984.

Cost comparisons are notoriously fraught in the international copper industry. All the data available, though, seem to suggest that Chile is among the lowest cost producers. Table 2 presents estimates of average total cost and of direct production costs for the main producer countries in mid-1984, offered by the *Mining Journal* and by the US mining company Asarco respectively.

Table 2

Main market economy copper producing countries: costs of production, 1984
(US¢/lb)

	average total cost (Mining Journal)	*direct production cost* (Asarco)
Chile	49	50
Peru	69	58
Zambia	81	80
Zaire	83	70
Canada	84	74
USA	84.5	82

Source: Shearson Lehman/American Express, *Annual Review of the World Copper Industry 1984-85*, London, October 1984, p46

The Chilean cost advantage with respect to the USA and Canada is partly due to higher ore grades[7] and the absence of environmental regulations; as compared to Zaire and Zambia Chile has more favourable geological conditions. The two most important factors, however, are firstly some specific features of the performance of the Chilean state copper sector and secondly the government's exchange rate policy.

As already indicated, the state-owned part of the Chilean copper industry accounts for about 80 per cent of total output. This is a result of the fact that the military regime that overthrew the government of President Salvador Allende in 1973 did not return to private hands the large scale copper mines nationalised by the latter. This is surprising for a government committed to privatisation, and is explained by the military perception of copper as a strategic sector, which overrode the views of the civilian economic decision makers — the 'Chicago boys'. The latter, however, insisted that the state copper company, CODELCO-Chile, should operate as a profit-maximising concern. Cost reduction became therefore a central aim, and it was greatly helped by the high degree of control over labour that the new regime introduced: trade union activities were repressed, strikes were outlawed and real wages were either kept constant or reduced in 1975-77 while productivity increased. In addition, a high cost smaller mine was closed down in 1975 and administrative costs were reduced through a restructuring of the company. Finally, income from the sale of by-products, notably molybdenum, increased five-fold between 1974 and 1980, and although it fell afterwards, it remained at about twice the 1974 level.[8]

Undoubtedly, though, the most important factor making for a fall in production costs was the massive devaluation of the Chilean peso in 1974 and 1976. The introduction in 1979 of a fixed exchange rate meant an effective revaluation as inflation in Chile was higher than international inflation, and CODELCO-Chile's exchange advantage began to be eroded, but a new series of devaluations beginning in 1982 restored it to a large extent.

The preceding, together with the increase in output that began in 1976, has meant that CODELCO-Chile has been a highly profitable operation and has contributed substantially to the fiscal budget. In effect, far from being subsidised by the government, the performance of the state copper sector was a main element in the elimination of the deficit of the consolidated public sector which occurred in Chile between 1978 and 1979. Table 3 presents data on the performance of the state copper sector for the period 1975-85.

An Aside on Investment Policies[9]

It should be noted that the level of investment expenditure of the company is rather modest when compared with its operating profits. This reflects the fact that this is the one aspect on which the company was not allowed to operate as a profit-maximising private concern. CODELCO-Chile's budget is in fact subject to the approval of the Ministries of Mining and Finance. The approved budget assumes a given price for copper and sets the authorised amounts of current and capital expenditure and of taxes and dividends to be paid to the government. If the actual price exceeds the price forecast the extra revenue accrues automatically to the Treasury. If, on the other hand, the actual price is lower than predicted, CODELCO-Chile still has to meet its assumed obligations to the

[7] Average ore grade in Chile at the end of the 1970s was 1.11 per cent, while in the US and Canada it was around 0.70 per cent. W. Gluschke, J. Shaw and B. Varon, *Copper: The Next Fifteen Years. A United Nations Study*, Dordrecht/Boston/London, D. Reidel Publishing Co., 1979, p51, Table 12.

[8] See C. Fortin, 'Copper Investment Policy in Chile, 1973-84' *Natural Resources Forum*, Vol. 8, No. 4, October 1984, pp315-325.

[9] *Ibid.* and CED-Centro de Estudios del Desarrollo, *Alternativas de expansión de la Gran Minería del Cobre*. Materiales para Discusión No. 88, Santiago, May 1985.

Table 3

National Copper Corporation of Chile: Some Indicators of Performance, 1975-85

	1975	*1976*	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Copper production (000 metric tonnes)	682.4	854.1	892.7	876.5	910.2	904.5	893.6	1,032.9	1,012.1	1,049.8	1,076.7
Costs (US¢/lb)											
Gross operating	42.1	37.9	37.3	36.8	42.3	57.3	62.1	43.5	41.5	36.3	34.2
Administration and sales	13.0	4.0	3.5	1.2	1.4	2.0	2.4	1.8	1.5	1.5	1.2
Depart. and financial	1.8	7.7	7.3	7.8	6.9	6.6	8.9	8.2	12.8	9.5	11.3
Income from by-products	6.5	5.1	6.4	8.8	19.0	20.6	13.5	9.5	9.5	8.6	7.0
Total net cost	50.4	44.5	41.7	37.0	31.6	45.3	59.9	44.0	46.3	38.8	39.7
Operating profits (US$ million)	127.3	494.5	390.4	402.1	1,073.2	970.1	338.5	495.3	630.6	440.9	482.4
Payments to government (US$ million)	244.9	432.2	398.8	368.1	865.2	1,006.6	480.3	523.9	678.5	556.5	411.3
Gross investment (US$ million)	115.9	111.0	99.6	161.0	177.6	266.7	307.2	233.7	200.5	276.2	369.5

Source: based on Corporación Nacional del Cobre de Chile, *Memoria Anual*, 1976-85

government, either through reserves or external borrowing, for which authority from the Finance Ministry is also required. In 1976 and 1977 investment was probably below the level required to replace plant and equipment, reflecting both low copper prices and the views of the government's economic policy-makers that the state should not expand in a sector that could attract private foreign capital. In 1978 a policy was adopted whereby the state company should invest at a level sufficient to maintain output at around 900,000 tonnes per year; this required some expansion of treatment and processing capacity, because of the decline in ore grades. Investment levels thus went up in 1978-80. At the same time, however, the government was committed to a policy of expanding copper output and this it sought to achieve through attracting foreign capital. A highly favourable investment regime was offered, and between 1977 and 1982 six investment agreements were entered into with international mining companies, for a total of US$5.6 bn; the maximum output of the new mines was 830,000 tonnes of copper content. By 1982, however, only about US$680 mn of new investment had materialised and no significant new output had been added. Since then, four of the projects have been abandoned or postponed indefinitely. This reflects both the depressed state of the international mineral markets and the doubts of foreign investors about the stability of the investment regime in the context of increasing political conflict in Chile. These difficulties were highlighted by the absence of response on the part of foreign capital to the introduction of a new mining code in 1983 which considerably increases the advantages of foreign mining investors.

In the circumstances the government introduced a change of policy in 1981. Investment in the state sector increased substantially and output grew by about 15 per cent. By 1985 the output of the state company was 20 per cent higher than in 1981, and the company was announcing further expansion plans that would take its output near the 1.5 mn tonnes mark at the end of the decade.[10]

An Evaluation of Chilean Copper Policy

The rationale for the Chilean policy of output expansion is twofold: on the one hand, the cost advantage that the country has, already discussed; on the other, an assessment of the future prospects for the copper market which assumes declining prices. This is based on existing trends towards a reduction in the copper intensity of production in the industrialised countries resulting from technical change — miniaturisation, substitution — and from changes in the composition of aggregate demand, notably the relative increase of the service sector. It is further argued that an expansive policy is favourable to the industry in the long run, inasmuch as it forces increases in efficiency and productivity and drives out the non-competitive producers, thereby restoring

[10] These plans were reported later to have been revised downwards because of technical and financial reasons. See *Latin America Commodities Report*, CR-85-10, 24 May 1985, p8.

more remunerative prices. By the same token, the policy is argued to be consistent with international welfare criteria generally.

What have been the results of implementing this policy? In a first and important respect the policy has undoubtedly had favourable effects for the country: copper export receipts have shown considerably less fluctuation than international prices and have been a major contributor to the merchandise trade surplus that the Chilean economy has exhibited since 1982. The contribution of the copper sector to the fiscal budget has also been mentioned. While it could be argued that a policy of reducing supply could have been even more profitable through an increase in prices, econometric evidence seems to suggest that a reduction in Chilean output alone would not have increased prices to a sufficient extent to compensate for the fall in quantity.[11] The considerations militating against a reduction in output among other Third World producers have also been mentioned already. Self-restraint on the part of Chile would have probably led to a loss of markets to other producers. This is not to suggest that the Chilean copper policy and its relatively favourable impact in terms of foreign exchange receipts had a developmental impact more generally. As will be discussed below, in the context of the overall economic policy of the Chilean military government such developmental impact was very limited.

The policy also contributed to producing one of the forecast results in the international market: higher cost producers tended to improve their productivity, a phenomenon particularly noticeable among USA mines.[12] In that sense it could be argued that Chile contributed to increasing efficiency in the world copper industry. On the other hand, the expectation that Chile would replace less efficient producers in the world market is more debatable. As already indicated, the main reductions in output took place among US producers, and this was combined with a policy of intensive effort to improve on productivity levels; as a result, US mines began to reopen in 1984-85 and it is unlikely that Chile's inroads in the US market will prove durable. On the other hand, high cost producers among Third World countries have not reduced their output, except marginally and unwillingly, as in the case of Zambia; Zaire, Peru and Mexico have in fact increased their production. This points both to a flaw in the Chilean policy and to possible policy alternatives that could retain the aim of maximising copper export revenues in the short and medium term. Chile is a member of the Inter Governmental Council of Copper Exporting Countries (CIPEC), of which Peru, Zaire and Zambia are also members. A policy of maximising output over a period of years can be regarded not only as compatible but as complementary to a policy of coordination with other Third World producers to agree on flexible production policies that could include reductions and cuts under particular conditions. Such a flexible, coordinated and interventionist approach has been urged on the Chilean copper authorities by the Chilean critics of the current policy who nevertheless agree that production restraint is not *per se* a desirable course of action. Such alternative proposals also include reference to the need to maximise the presence of the state copper sector in the efforts to expand productive capacity. This is argued both on the grounds that state investment in the expansion of existing operation is less costly and more profitable, and on the grounds that the benefits to the national economy are higher — everything else being equal — when the investor is the state company than when it is an international enterprise.[13]

Perhaps the most serious criticisms of the policies of the Chilean military government in relation to the copper sector have less to do with the sector itself than with the use of the foreign exchange surplus generated by copper exports and, in the last analysis, with the overall economic policy of the regime. Table 4 shows the evolution of the main indicators of economic development in Chile in the period 1976-85. In 1985 per capita GDP was only 92 per cent of what it had been in 1971, while per capita manufacturing value added was 72 per cent of its 1971 value. Per capita gross fixed capital formation was 78 per cent of the average 1960-70. Per capita manufacturing value added averaged 74.4 per cent of the 1971 value, and in no year of the period was it above 86 per cent. Per capita GDP averaged 91.4 per cent of the 1971 value, and only in two years — 1980 and 1981 — was it above the 1971 level. These are the last two years of what was called the economic 'boom' in which per capita GDP grew at about six per cent per year from 1977 until 1982. This figure, however, is doubly deceiving. On the one hand, the 'boom' followed a drop of over 20 per cent in per capita GDP in the first three and a half years of the regime, and therefore the accumulated growth between 1977 and 1981 was only nine per cent as compared to the 1972 level. Furthermore, if the growth figure is corrected for the payment of the foreign debt — i.e. if per capita gross national product, as distinct from GDP is used — and if the value added by the marketing of imported goods and by financial services is excluded, the figure for 1981 is in effect *below* that for 1973.

[11] See J. Bande, *Más allá del CIPEC. Proposiciones para una estrategia de Chile en el mercado del cobre.* CED- Centro de Estudios del Desarrollo, Materiales para Discusión No. 84, Santiago, May 1985.

[12] 'Los productores norteamericanos después de la ITC', *Minería y Desarrollo,* Vol. I, No. 6, Santiago, June 1985, p1.

[13] CED, *op.cit.* note 9 above, pp45-55. For the general critique see Bande, *op.cit.* note 11 above.

Table 4

Chile: Main Economic Indicators, 1976-85

	per capita GDP (1971 =100)	*per capita manufacturing value added* (1971 = 100)	*per capita gross fixed capital formation* (1960-70 = 100)
1976	78.1	66.8	62.1
1977	84.3	71.2	70.6
1978	89.7	76.5	81.4
1979	95.5	81.1	93.6
1980	101.2	84.7	112.1
1981	105.2	85.4	126.4
1982	90.2	67.1	78.2
1983	86.9	67.1	64.5
1984	90.8	72.4	69.2
1985	91.6	72.1	78.1

Source: based on national accounts data as reported in Banco Central de Chile, *Boletín Mensual,* various issues

The poor performance of the Chilean economy in this period was a function of the overall economic policy adopted by the military regime. This was an extreme form of free-market model, in which the aim was the elimination of state intervention in the economy, whether in the sphere of prices and wages, of protection, of the use of taxation to influence resource allocation, of subsidies to industry, and of rates of exchange and rates of interest. In all these areas the objective was to allow the free forces of the market to operate. In particular, this meant a more or less complete opening of the economy both in trade and in financial flows. This was basically accomplished by 1979, when the maximum tariff for imports was set at ten per cent and most restrictions on the movement of capital were removed. This is not the place to attempt an overall evaluation of the economic policies of the Chilean military government, a task which has furthermore been carried out elsewhere.[14] It would appear, however, that the result of the policies was a fundamental shift in the economic dynamics of the system away from the productive sphere towards the financial sector, and the growth of luxurious consumption to the detriment of accumulation. In terms of the external sector, this meant an inordinate growth of imports of consumer goods, particularly durables, which exceeded the growth of exports and was therefore financed with an increasing external indebtedness.[15] Table 5 shows the behaviour of the main components of the balance of payments for the period 1976-85.

To conclude, it would appear that the central objective of the copper policy of the Chilean military regime, namely the expansion of output, is defensible both in terms of its impact on the Chilean economy and of its effects on the world copper industry and market, but that the policy itself has been flawed inasmuch as it has not been accompanied by a determined and creative presence in the world markets, including coordination with other Third World producers, flexibility in the setting of output targets and a fuller use of the various mechanisms that the market offers to producers and consumers alike. In terms of its internal impact, it would appear that, while the policy allowed for the availability of a higher level of foreign exchange resources than would otherwise have been the case, the overall policy of the military regime conspired against those resources being put to developmental use. As a result Chile, which in 1982 replaced the United States as the largest copper producer in the world, was at the same time plunged into an economic crisis from which it still has not recovered.

[14] C. Fortin, 'The Political Economy of Repressive Monetarism: The State and Capital Accumulation in Post-1973 Chile', in C. Anglade and C. Fortin (eds.), *The State and Capital Accumulation in Latin America,* London, Macmillan, 1985, pp139-209.

[15] This was mostly private foreign commercial borrowing; arguably the performance of the copper industry increased Chile's external borrowing capacity.

Table 5

Chile: Balance of Payments, 1976-85
(million US$)

	1976	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Current account	148	-551	-1,088	-1,189	-1,971	-4,733	-2,304	-1,117	-2,060	-1,307
Trade balance (goods)	643	34	-426	-355	-764	-2,677	63	986	293	788
Exports	2,116	2,185	2,460	3,835	4,705	3,836	3,706	3,831	3,650	3,743
Imports	-1,473	-2,151	-2,886	-4,190	-5,469	-6,513	-3,643	-2,845	-3,357	-2,955
Services	-523	-660	-732	-914	-1,320	-2,164	-2,476	-2,200	-2,452	-2,156
Capital account	66	577	1,946	2,247	3,165	4,698	1,215	508	1,978	1,224
Direct foreign investment	-1	16	177	233	170	362	384	132	67	112
Autonomous capital	67	561	1,769	2,014	2,955	4,336	831	376	1,911	1,112
Surplus/deficit	281	118	712	1,047	1,244	67	-1,165	-541	17	-99

Source: Banco Central de Chile, *Boletín Mensual,* No. 698, April 1986, p998 and No. 699, May 1986, p1258