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Dear Peter,

Bolivian Foreign Minister Guillermo Bedregal was outraged. How could the United States break a gentlemens' agreement? Jaime Villalobos, Minister of Mines and Metallurgy, criticized the U.S. for jeopardizing the "survival" of Bolivian tin mining. The president of the National Chamber of Mining, José Gutierrez del Río, went further. He recalled Bolivia's goodwill in selling tin concentrates to the U.S. and her allies during World War II for the pittance of US 50¢ per fine pound. In Gutierrez's words, Bolivia has yet to reap the dividends of her sacrifice, "The years have passed, and we have not seen any reciprocity. The position of the [U.S. General Services Administration] has always presented grave threats to the stability and equilibrium of the Bolivian economy." Gutierrez del Río was supported vehemently by Pedro Montecinos, president of the Federación Nacional de Cooperativas (FENCOMIN). Montecino labelled the U.S. decision "evidence of manifest hostility." And on the streets of La Paz, pedestrians could be heard arguing that the United States was once again trying to bully Bolivia into economic submission.

Bolivian politicians, mining executives, and union leaders are up in arms over the news -- released in mid-February -- that the U.S. Department of Defense (DOD) and the General Services Administration (GSA) has presented to Congress a plan that would release into international markets 7,000 metric tons of tin from the U.S Strategic Stockpile during fiscal year (FY) 1990. Since 24 October 1985, when the international price of tin nose-dived and the tin contract was terminated on the London Metal Exchange, Bolivia's public and private mining sectors have painfully restructured and diversified. In the process, thousands of Bolivian miners have been left unemployed and dozens of unprofitable mines have been shut down. And yet, recently released figures show that the Bolivian mining sector is on its way to recovery, albeit slowly. With mineral exports worth US $274 million in 1988, the mining sector surpassed the hydrocarbons industry as the leading earner of foreign exchange in Boliva. The current controversy over the release of tin from the U.S. Strategic Stockpile provides convenient pause to reflect on the changes that have taken place in the Bolivian mining sector since 1985.

Behind the emotive rhetoric and reaction produced by Bolivian officials, serious observers are asking a few questions. Where is the parastatal Corporacíon Minera Boliviana (COMIBOL)? Locked in a bureaucratic struggle

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to restructure its way to profitability amidst political disagreements and labor conflicts. What about the private sector, represented by such firms as EMUSA and COMSUR? Continuing to diversify away from tin production, but hobbled in its efforts to exploit other mineral reserves by a lack of cheap and easily available credit. Then too, what of the small mining cooperatives, which have absorbed some of COMIBOL's redundant miners since 1985? Thriving, but with seat-of-the-pants technology and labor intensive mining that concentrates either on the richest deposits or reworking the tailings of old mines.

U.S. STRATEGIC STOCKPILE

At the heart of this controversy lie the disputed conditions reached in a 1983 "gentlemens' agreement" between the United States and tin-producing nations of the ASEAN Pact -- Malaysia, Indonesia, and Thailand foremost among them. According to the U.S. State Department's Office of International Commodities, the U.S. agreed to limit Stockpile releases to 3,000 metric tons during FY 1984. The Office of International Commodities maintains that the 3,000 metric ton limit applied only to FY 1984, after which the terms of the agreement allowed the U.S. to dispose of 5,000 metric tons per year without incurring the wrath of the Asian parties to the agreement. Last year, however, Malaysian authorities challenged U.S. management of Stockpile disposals, insisting that 3,000 metric tons was the upper limit. Without any written document to which disgruntled parties could refer, interpretation of the "gentlemens' agreement" has often produced raised voices, but no firm resolution. U.S. diplomats argue that the 3,000 metric ton limit changed to 5,000 tons in FY 1985; these same diplomats also contend that the U.S. reserved the right to release up to 3% of world supply (currently around 180,000 metric tons), should circumstances warrant such a disposal. In any case, disposals of stockpiled tin were as follows:

GSA DISPOSALS (1) (in metric tons)

FY	Commercial Sales	Upgrade	AID Sales	Subtotal	Cumulative (2)
'83	2865		----	2865	163,574
'84	365	2032	----	2397	165,971
'85	375 (4)	2630	----	3005	168,976
'86		5490 (5)	----	5490	174,466
'87				4500 *	
TOTAL:	144,445 (3)	10,983(6)	19,098(3)	178,966	178,966 (6)

NOTES:
(1) Of tin metal from GSA Strategic Stockpile surplus (142,700 m.t.)
(2) From commencement of GSA sales in September, 1962.
(3) From commencement of sales, 1962-1987
(4) Commercial sales were suspended on 24 October 1985.
(5) GSA sales to upgrading contractors reportedly resumed in January, 1986.
(6) From September 1962 to 31 December 1986.
* My own estimate based on interviews here.

The disposal of 20,000 long tons (20,321 m.t.) authorized effective 1 October 1984. An additional 4,000 tons of tin metal authorized for disposal in November 1986. As of 31 December 1986 total GSA Stockpile amounted to 179,770 metric tons. 14,889 metric tons were available for disposal.

SOURCE: Monthly Statistical Summary, International Tin Council, London, May 1988.

Simply citing disposal statistics does not really put the Strategic Stockpile -- and tin's declining importance within the Stockpile -- in its proper perspective. When the Defense Department and GSA first made public its plans to review Stockpile contents in April 1988, tin was among the list of metals that included silver, contained tungsten, silicon carbide, manganese dioxide and ore, and flasks of mercury; according to the DOD, all of these metals have declined in importance given today's new weapons technology. Sales of these metals were projected to run around US $180 million. The problem with tin is that stocks are of lower purity than needed for application in the manufacture of circuit boards and other computer hardware. The bulk of the Stockpile's tin was once intended for the manufacture of cans to store C-rations. Revised thinking in Washington has placed greater emphasis on metals like platinum, palladium, germanium, high-purity chrome metal, high-purity nickel, and titanium sponge. DOD officials plan to spend US $180 million to upgrade stocks of these latter metals, which belong to a new generation of space-age, lightweight, and high tensile strength metals more suitable for use in a contemporary conflict.

Despite the immediate and vocal concern raised publicly in La Paz concerning the proposed GSA disposal (which, by the way, must still meet with Congressional approval), the reaction behind closed doors has been somewhat more muted. One senior member of COMIBOL's staff indicated that he personally did not think the GSA release would negatively affect international prices for tin. Rather, the same official worried that the release might keep prices at their current level, thus making it more difficult for COMIBOL to negotiate new loans to speed restructuring. In 1988, the Bolivian government negotiated a US $114 million loan with the World Bank, of which approximately US $60 million was designated for spending on COMIBOL.

But so far, news of the planned GSA release has not affected the tin futures market at all. On 2 February, the Rotterdam warehouse price quoted by Reuters stood at £4,515 per metric ton of high-grade tin. On 22 February, the same Rotterdam index had moved substantially higher to push past £4600 per metric ton, to as high as £4650 per metric ton. And markets were equally bouyant in Kuala Lumpur, where Asian brokers were content to see ex-smelter tin sell for 22.02 ringgit per kilo on 22 February, moving up from 20.51 ringgit per kilo on 2 February.

These price trends are just as important to GSA market watchers as they are to worried mining executives in Bolivia. U.S. diplomats have emphasized that the release of tin is a commercial venture, not a political effort to destabilize the market. GSA regulations governing the disposal of strategic metals mandate that the GSA cannot lose money on trading; in fact, that would be self-defeating since the Strategic Stockpile is not subsidized by budget allocations. Instead, the Stockpile finances new purchases of metals from the sales of old metals. Given the prices of metals like platinum and titanium sponge, GSA Stockpile managers will have to work closely with metals brokers to release tin in a rational manner that does not upset the market.

Private sector mining executives have even argued to me that the concern over an extra 2,000 metric tons of tin hitting the market in FY 1990 is misplaced. These executives point to the production capacity of Brazil instead. The huge deposit currently being exploited by the Panaparema mining consortium in the northern Manaus region of Brazil is one reason why Brazil has moved from producing 8,200 metric tons of tin in 1982 to 25,400 metric tons in 1986. Since the 1985 tin crash, Brazil has agreed to join the Association of Tin Producing Countries (ATPC) with observer status, and has so far followed production quotas. Nonetheless, industry sources speculate that Brazil alone has enough tin to supply world demand should it choose to do so. The presence of wildcat miners, known as "garempieros", also unnerves market watchers. These garempieros exploit tin with little regard for market regulation and their production, which easily exceeds 2,000 metric tons per year, is often smuggled out of Brazil to be sold to the highest bidder.

Finally, the "overhang" of tin stocks that glutted the market after the 1985 price crash in London seems to be contracting at a regular rate that is leaving a lot more breathing room for producers and consumers alike. The world overhang of stocks has declined significantly in 1988:

WORLD TIN STOCKS (in metric tons)

Tin stock holders	January 1988	December 1988
LME warehouses	19,400	5,800
Brazil	5,300	10,000
Malaysia	10,400	10,000
Other producers	2,500	2,000
Consumers (1)	23,000	16,000
Total	60,600	43,000

NOTES:
(1) Consumers include private banks who were left holding tin as collateral for loans extended to the International Tin Council prior to 24 October 1985. [See WLM-1 & 2]

SOURCE: Private industry estimates.

In the end, all the speculation concerning the GSA release may be a moot exercise. Said a senior U.S. diplomat in La Paz, "We are by no means inflexible in our position. We have made it known to the Bolivians that we regard 7,000 metric tons as a negotiable figure. Of course, we will want some concessions to modify our position, especially given the fact that we currently estimate that there are 140,000 more tons of tin in the Stockpile than we need. And there is time to talk, since we are still months away from the beginning of FY 1990."

U.S. diplomats have not made public, however, just what concessions are on the State Department's agenda. Nevertheless, Secretary of State James Baker has commented that he is not entirely satisfied with the progress of Andean countries like Bolivia in stemming the increased production of coca leaves and coca-paste that is turned into cocaine and floods U.S. markets. It is not at all unthinkable that U.S. policymakers might seek to link fewer tons of tin to fewer kilos of cocaine.

COMIBOL: WHOSE REASONING WILL PREVAIL?

A Bolivian metallurgist reflecting on the recent bruahaha over possible GSA tin sales remarked to me, "It's always a lot easier to cry imperialism to the North than to criticize ourselves." He was referring to the mixed-bag of reforms that have yet to be completely carried out after the MNR government under President Paz Estenssoro assumed office in 1985 and set out to rationalize the poorly managed public sector with promises of privatization.

Under the terms of Decreto Supremo 21060, MNR policymakers set as priorities for privatization state-run operations, not just with COMIBOL, but also in the hydrocarbons sector managed by Yacimientos Petroliferos Fiscales de Bolivia (YPFB), and in services like the state-owned airline, Lloyd Aero Boliviano (LAB). Plans to privatize YPFB and LAB have been all but scrapped; moves to take COMIBOL private have been opposed not only by organized labor, but by bureaucrats who have a stake in continued state control. As one engineer, who is studying the problem for a small non-profit think tank here, put it, "You must remember that over the last 35 years, an unhealthy number of senior-level bureaucrats have been weaned on following political decisions that had more to do with pleasing party leaders than taking into account commercial considerations of profitability."

This is not to say that efforts have not been made. But in instances where bureaucrats do not drag their feet for fear of losing their jobs, a lack of coherent direction regarding privatization has put off precisely those investors who must be wooed to make privatization work. Rolando Jordan, Secretary-General of the Associación Nacional de Mineros Medianos was straightforward, "Of course we [the private sector] would like to buy into COMIBOL mines. Anyone who tells you no is merely pretending that COMIBOL does not sit on the richest remaining tin reserves in Bolivia." But memories of the 1952 nationalization decree that confiscated the Hoschild, Aramayo, and Patiño mines are still fresh in the minds of many private-sector mining executives. Last month, COMIBOL made a public bid to attract joint venture capital to revive the highly politicized, and historically conflict-ridden Catavi mine complex near Oruro. Four weeks later, not a single investor has stepped forward, and COMIBOL announced yesterday that Catavi would shut down on 1 April. Without any clear idea of what actually constitutes a joint-venture in the minds of COMIBOL executives and Ministry of Mine officials, noone felt the risk worth taking. Then too, fear exists among investors that when such directives are made clear, they will embrace the entire mining industry still under state control, providing, for example, for a 51% COMIBOL stake in a joint-venture regardless of the particular mine in question. Since COMIBOL's mines vary greatly in terms of the need for capital investment in heavy machinery and the extent of remaining, proven, mineral reserves, that could kill the privatization/joint-venture initiative before it ever got off the ground. This is despite the fact that COMIBOL executives estimate that US $1.3 billion will be required to put COMIBOL back on sound footing. As one European diplomat summed up, "Joint-ventures need to proceed on a case-by-case basis. But Bolivia is a very special country when it comes to mining, so you will probably see too many regulations to attract investors."

When and if COMIBOL does make up its mind concerning privatization, prospective investors will still have to contend with one of South America's more militant labor forces. As the political climate in Bolivia heats up with the coming of the May presidential election, miners who have been silent for the last three years are becoming increasingly vocal. Since last

Friday, there have been daily demonstrations in the central streets of La Paz to protest privatization plans. In Oruro, miners at the Bolivar complex have gone on strike, costing COMIBOL an estimated US $350,000 a day (not to mention the fact that COMIBOL cannot take advantage of rising tin prices when miners are on strike). And earlier this month, angry miners at the Altiplano mine of Coro-Coro took as hostages COMIBOL engineers and technicians who had come to the mine to remove idle machinery desperately needed in other parts of Bolivia. Bolivia's richest tin mine, Huanuni, was also the sight of a strike in August and September that dragged on for 35 days before arbitrators could reach an agreement with union leaders. Miners protested that their strike was based on safety concerns, since Huanuni shafts were not adequately ventilated to allow for three 8-hour shifts. But more than one observer was left scratching his head after finding out that the shafts were ventilated well-enough to allow thieving miners to enter Huanuni during the midnight-to-eight "graveyard" shift and make off with gunny sacks of tin ore to be sold to unscrupulous buyers. Even after the strike was settled, COMIBOL police surprised 16 miners early one Sunday morning with 490 kilos of tin ore in their possession. There are, however, seamy sides to the same story. One former manager of the Caracoles mine told me that during his administration of the mine, it was common for COMIBOL's own engineers to work in concert with miners out to steal tin ore. The same manager admitted to having purchased ore from thieves with to the intention of reselling it immediately to make up for his poor salary. On average, COMIBOL engineers earn 1/3-1/2 of what their counterparts in private mining take home.

Organized labor's fears regarding privatization are not totally unfounded. In December, the Bolivian Camara de Diputados (equivalent of the House of Representatives) authorized the confiscation of the privately-held Totoral mining complex located near Lake Poopo. The property and mineral reserves reverted to COMIBOL after investigators discovered that the mine owner, Miguel Orlandini, had neglected to pay his miners since April 1988. Press reports coming out of the mine earlier this year detailed stories of miners subsisting on a cup of tea and a piece of bread per day. One young mother had given birth to a baby that still weighed only 500 grams at 5 months old. It has not been made clear whether Sr. Orlandini ever paid the US $40,000 fine that corresponded to his abuse of labor laws. Small wonder, then, that when the Federación Sindical de Trabajadores Bolivianos (FSTMB) met in the Yungas city of Chojlla during December to elect Victor López Arias as its new secretary-general, the FSTMB also approved a platform that exhorted miners to "get on with the resistance, and from [resistance], move on to subversion." Anyone who has followed the course of events in Peru over the last year cannot help to be troubled by statements of this nature. Saúl Cantoral, Secretary-General of the Peruvian National Federation of Mine Workers [whom I interviewed for WLM-8] was not assassinated in Lima earlier this month for advocating joint-ventures.

In tandem with COMIBOL executives, Bolivian miners need to take a hard look at themselves. The Bolivian Instituto Nacional de Estadisticas (INE) released a study in December that is all too revealing: the index of mining productivity in COMIBOL mines fell from 84 in 1981 to 39 in 1985. The wave of lay-offs since 1985 -- which were meant, in part, to rid the parastatal company of miners who were not interested in productivity -- has not proven an unqualified success either. COMIBOL executives have complained to me that many of their best drillers, or "perforistas", lept at the chance to pocket wage buy-outs of up to US $5,000 and move on. Left in the mines, according to COMIBOL, is a core of miners who stayed on because they had nowhere else to go. INE's productivity study underscores this fact: the index dropped to 17 in 1986. Productivity has since risen to 22 in 1987, and 26 in the first quarter of 1988, but actual productivity is still a far cry from what it was in 1985, and hardly comparable to where it was in 1981. Along the way, COMIBOL's current importance as a mineral producer has declined, relative to the private sector and mining cooperatives.

COMIBOL MINERAL PRODUCTION: 1977-87
(in metric tons, with percentage market share)

MINERAL	1977		1987	
Bismuth	631	93%	---	---
Copper	3,643	94%	---	---
Tin	23,306	69%	180	2%
Silver	169	91%	39	28%
Lead	14,366	69%	951	10%
Wolfram	1,056	34%	---	---
Zinc	35,447	54%	2,527	7%

NOTES:
--- indicates where mineral production ceased altogether.

SOURCE: MEMORIA 1987, Asociación Nacional de Mineros Medianos, 1988.

With unemployment running around 25% (unofficially), it stretches the imagination to think that COMIBOL cannot replace inefficient miners and executives with efficient ones. The question is: how to attract personnel and keep them happily productive? One solution might be to set up profit-sharing plans that distribute equity shares and cash bonuses to the most productive workers. That way miners might not be tempted to steal minerals (which, according to COMIBOL's own estimate, costs the Huanuni complex US $1.2 million a month), and might get executives used to the idea, however slowly, that private-sector incentives are not all that bad. Another measure might be to seize the assets of careless managers like Sr. Orlandini at Totoral; but instead of confiscating such assets, why not put them on the auction block? Until COMIBOL puts its own house in order, the last thing the parastatal company needs is another mine.

Actually, the day is not far off when private shares in companies are publicly traded in La Paz. Officials of the U.S. Agency for International Development have been working with representatives of Bolivia's banking, industrial, and services sectors for some time now to set up a La Paz bourse next year. Setting up a stock exchange highlights future problems and opportunities for Bolivians. Unless Bolivia's government -- regardless of who sits in the Palacio Quemado -- can guarantee economic stability and low inflation, a "secondary market" for shares may never develop. And a secondary market, in which investors can resell their shares with a reasonable expectation of profit, is essential to the working of a bourse, however small. What good will 500 shares in COMIBOL do for a Bolivian miner if he cannot sell them when he so desires?

PRIVATE MINING: A STORY OF STUNTED GROWTH

As the story goes, when the pre-1952 Revolution mining magnate Simón I. Patiño offered to build a modern, paved highway around the Cochabamba valley without charging the Bolivian government, his offer was rejected. The reason: Patiño insisted on naming the highway after his wife, Albina. This is just one of the many ironies that surface when public perceptions concerning private business are examined in Bolivia. As one executive mused when I spoke with him about the problems of the private mining sector here, "We are still thinking about businessmen and capitalism in feudal terms. To say that someone is making money in Bolivia is to accuse him of committing an unpardonable sin."

Yet even more ironic is that the private banking sector in Bolivia seems to have taken to heart, "de facto", the Old Testament's dictum against lending money. While private mining executives are uniformly eager to show observers evidence of their recuperation from losses suffered when metals prices reached their nadir earlier in this decade, they also grumble unreservedly about their ability to put their hands on cheap and easily available credit. Quickly cited are two facts. Loans are there to be had, but only if they can be repaid in the unrealistically short amortization period of 60-90 days. And interest rates would be the envy of King Solomon. Active interest rates for loans disbursed in Bolivianos (Bs) have run between 40-55% since 1985. Dollar loans, though less dear, are still enough to make most executives gulp; current dollar interest rates are pegged between 24-30%. As a result, most of the foreign capital that has streamed into Bolivia since 1985 -- in the form of loans from the World Bank or the International Development Bank to revive Bolivian industry -- has gone untouched.

When asked about the complaints coming from their colleagues in private mining, bankers here reply that they are not to blame. Said one vice-president of a major lending bank in La Paz, "My hands are tied. I cannot lend money for more than 90 days when my depositors refuse to leave their money in the bank for more than 60." Despite bankers' relative silence regarding collateral requirements, which often require capital seekers to sign away their personal possessions as well as the assets of their mining companies, the underlying message rings out loud and clear. Three years after Paz Estenssoro's election, Bolivians are still afraid to trust in the future stability of Bolivian economy. With elections only 9 weeks away, that edginess is growing even more acute. One Bolivian housewife told me that she intended to pull her dollar savings out of the bank next month, regardless of who is ahead in the polls.

While savers' mistrust is an omnipresent theme in all of the Andean countries, private banking's problems today (and hence, those of the private mining sector) owe themselves in good measure to the policy of "de-dollarization" carried out under the previous administration of UDP President Hernán Siles Zuazo. To combat the penetration of dollars into the mainstream of the Bolivian economy due to "neo-imperialism", dollar savings accounts were frozen and converted to Bolivian currency. When hyperinflation took off during the same period, many Bolivians watched helplessly as their deposits disappeared. Private bankers fared little better. The Asociación de Bancos e Instituciones Financieras de Bolivia (ASOBAN) estimates that savings deposits (in dollar terms) fell from

US $585.8 million in July 1981 to just US $29.8 million in August 1985. ASOBAN further calculates that private banking institutions lost US $47.4 million to artificial exchange rates imposed by the UDP government from the moment that government imposed de-dollarization in November 1982 to UDP's ultimate defeat in the 1985 elections.

The rest of the news is not all bad, but certainly mixed. Under the Paz Estenssoro government, inflation has been dramatically pared to the 20% range (annually). And savings deposits, even though they may stay in the bank for only 60 days, have grown in size to partially recoup the losses of the UDP years. Statistics released in August showed that public savings deposits had reached US $434.3 million. Of that figure, Bolivians were holding nearly 75% in dollar-denominated deposits. And in 1987, 10 straight years of declining investment were reversed when domestic capital formation directed to investment grew by 4.8% over the previous year. Unfortunately for Bolivians, investment capital formation in 1987 still represented just a mere 43% of its real 1978 value. One reason may be that Bolivians still prefer to keep their money abroad. A Swiss report published in December figured that Bolivians have stashed away US $536 million in foreign banks. That is fairly negligible when compared to the estimated US $5.8 billion deposited abroad by Colombians, but Colombia's economy is also much larger and more diversified.

Faced with these difficulties, private mining companies have chosen to ride the trend of rising metals prices by reorienting their operations to exploit metals whose prices are going up, or to mine those metals that enjoy perpetually high value. For example, lead prices increased by 42% in 1987; lead ore extraction shot up by a whopping 1,750%. The price of wolfram, on the other hand, declined by 2% in the same period; wolfram exploitation then fell by 33%. Production of gold also went up, due mainly to the rich deposit owned by Inti Raymi, S.A. Gold production increased from 295.5 kilos in 1986 to 487.58 kilos in 1987. This 65% leap in production came at a time when gold prices rose by 21%. As for tin, the private mining sector has been easing out of that mineral's production for over the last decade. Private mines produced 6,967 metric tons of tin in 1977; that compares to a paltry 2,295 metric tons in 1987.

PRIVATE SECTOR MINERAL PRODUCTION: 1977-87
(in metric tons, with percentage market share)

MINERAL	1977		1987	
Antimony	9,868	61%	6,294	63%
Bismuth	42	6%	-----	-----
Copper	-----	----	-----	-----
Tin	6,967	215	2,295	28%
Silver	12	6%	73	52%
Lead	2,186	12%	6,735	73%
Wolfram	1,602	52%	484	62%
Zinc	26,097	40%	35,277	91%

NOTES: ----- indicates where mineral production ceased altogether.

SOURCE: MEMORIA 1987, Asociación Nacional de Mineros Medianos, 1988.

Private mining executives are painfully aware, however, that mining is cyclical business. Failure to invest capital in heavy machinery during the periods of rising prices to lower production costs can be fatal, especially in an environment of fierce international competition. Indeed, mining companies around the world have had to come to terms with this fact; the U.S. Phelps Dodge Copper Corporation learned the hard way that it had grown fat on high copper prices during the 1970's. When copper prices plunged at the beginning of this decade, Phelps Dodge was forced to lay off miners and reevaluate its mining strategy. After streamlining and reinvesting capital in machinery, Phelps Dodge can now produce copper as economically as anyone, including the Chileans who operate the huge Atacama open-pit copper mine. But until the Bolivian banking sector loosens the strings of its purses, mining executives here will have to weigh present profits against future survival. And noone in La Paz even wants to consider the possibility that a UDP-style government will return to presidential office in 1989.

COOPERATIVE MINING: CAN THE GOOD TIMES LAST?

Anyone who appreciates the travails of the small businessman has to admire the gutsy operations of the mining cooperatives that have sprung up in droves around Bolivia since 1985. Widely varying estimates put the number of Bolivians employed in grass-roots, cooperative mining at anywhere between 10-20,000. Depending on whom you believe, that is almost as many miners who were made redundant after COMIBOL set out to restructure itself three years ago.

Cooperatives have gained ground in almost every sector of mineral productions since 1985, mainly at the expense of COMIBOL.

COOPERATIVE MINERAL PRODUCTION: 1977-87
(in metric tons, with percentage market share)

MINERAL	1977		1987	
Antimony	6,384	39%	3,697	37%
Bismuth	7	1%	0.6	100%
Copper	231	6%	9	100%
Tin	3,623	10%	5,726	70%
Silver	5	3%	27	20%
Lead	4,187	19%	1,514	17%
Wolfram	413	14%	303	38%
Zinc	2,980	6%	947	2%

SOURCE: MEMORIA 1987, Asociación Nacional de Mineros Medianos, 1988.

Unlike miners employed by COMIBOL, cooperative miners usually risk their own capital. Meager as that capital may be, cooperative miners are not nearly so predisposed to strike as their COMIBOL brethren. Losses suddenly become very real when the money is coming out of the miners' pockets. But even though cooperatives have grown enormously since 1985, many wonder how long they will be able to operate profitably, since the cooperatives operate on thin margins that do not allow for abrupt downturns in metals prices. And if private banking has been reluctant to loan to the private mining sector on realistic terms, you can just imagine how difficult it must be for an Aymara or Quechua miner to walk into a bank and negotiate a loan. Thus, cooperatives have concentrated on extracting tin from old tailings left around existing, but paralyzed, COMIBOL mines like Llallagua, or heading east into the Amazon basin to pan for gold. In the latter case, it is often hard to draw the line between legal cooperatives and bands of smugglers. The Bolivian Ministry of Mines estimates that while the 1988 legal exportation of gold hovered around US $60 million, the illegal value of 1988 smuggled exports zoomed above US $130 million. Once again, as I discussed in WLM-9, the permeability of Bolivia's vast borders is a big problem. Most of the gold makes its way through the sparsely populated Beni and Pando departments to be sold across the frontier in Brazil.

And it is no easier to become a legal cooperative miner than to become a legal street vendor. Since December, I have been working with the Aymara farmers and hopeful miners from the Lake Titicaca island community of Cumana [see WLM-12] to try and get a limestone pit-mine successfully off the ground. That there is a market for limestone, there is no doubt. Private companies have offered to rent Cumana's limestone deposits for a period of 5 years; these companies estimate that they can extract 10-15,000 tons of limestone ore for processing per month. But these private companies already possess the heavy equipment to get on with the job straight away. Village leaders, who would prefer to retain their economic independence, now face the dilemma of how best to accomplish their goal.

To give you some idea of what obstacles lie in the path of cooperatives trying to legally establish themselves, Cumana's experience is quite illustrative. Village leaders began to knock on the door of various ministries nearly a decade ago, then to register a mineral claim to protect their rights to the limestone deposits. Registering that claim took over three years; the Aymara leaders of the Cumana cooperative guess that they spent around US $10,000 in the process. Of course, not all of that money was spent officially. A good bit was passed under the table to bureaucrats who seemingly could not show up for appointments or sign documents unless their breakfasts were paid for. There were even outright bribes along the way. As one Aymara leader told me, "Without bribes, or "coima", we would have waited another three years."

Once the claim was legally settled, villagers set out to make themselves some money. With no metallurgist or mining engineer around to advise the Aymara, the cooperative soon went bankrupt. A huge cylindrical oven, approximately 7 meters deep and 2.5 meters in diameter, was cut into the side of a small knoll. Unfortunately, heat in the oven could not be calibrated with any precision, so the limestone that was burned to calcify the ore often came out with uneven results. More than once the cooperative was left with a worthless pile of rocks that no middleman wanted to buy. So from 1982-87, Cumana farmers put limestone mining on the back burner. It was a tough time for farmers on the Altiplano, especially from 1982-85, when hyperinflation produced a scarcity of goods that made the Aymara think more about their daily survival than their future as mining barons.

But after two years of relative stability since 1985, Cumana's mining cooperative decided to have another go in 1987. Since the cooperative had been inactive for more than 5 years, the cooperative was once again without legal accreditation. So the process of knocking on ministerial doors in La Paz began anew. From November 1987 to February 1989, cooperative leaders pursued their dream. This month, after spending approximately US $2,000, the cooperative was finally awarded all of the appropriate seals and signatures. Below is just a partial list of the offices visited by the Aymara from Cumana in their efforts to become legal: the Ministry of Mines and Metallurgy, to insure that there were no adverse claims against the deposit; the Banco Minero, to register for possible future loans, which will probably not be forthcoming (at least anytime soon); the Central Bank, to register for those same loans; the Instituto Nacional de Cooperativas (INALCO), to commit themselves to paying dues of US $8,000 over the next three years for legal advice and protection; and finally, the Ministry of Labor, to prove that the village cooperative intends to respect labor laws.

Though they now have their papers, cooperative leaders in Cumana are not cheering yet. The cooperative still possesses no operating capital. Mining equipment, however rudimentary, is expensive. Putting our heads together, village leaders and I came up with a list of the most essential items needed to get the mine started. The list included a custom-made oven, ventilated with air to reduce diesel fuel consumption and calibrate heat. Wheelbarrows, helmets, and other construction materials were added in to take account of various stages in mineral processing. Last on the list was a 10-ton dump truck, necessary to transport the ore to buyers in La Paz. Not included in the estimate were hydraulic drills; the men in Cumana are willing to work the deposits with picks and shovels. Also left out of the plans was earth-moving equipment to build a road to the top of the ridge where the bulk of the limestone is located. Even so, the cooperative must come up with approximately US $25,000, and that is a conservative figure. The price of potatoes will have to skyrocket (while other prices remain constant) before the Aymara of Cumana ever see that kind of money without securing a loan.

Nevertheless, the mere existence of this kind of private initiative and bold thinking bodes well for the future of Bolivia. Other societies, notably that of upper-class Britain, once considered the practical pursuit of capitalist ideas a filthy ideal not to be confused with the past glories of the Empire. Then the fortunes of that same upper class took a precipitous spill in the tumultous years following World War I. Half a century later, and for the last decade during Margaret Thatcher's Conservative revolution, that arrogance is beginning to turn around at roughly the same rate as Britain's economy. Bolivians of all classes would also do well to take note of Mr. Gorbachev's efforts to revitalize the Soviet Union and the Eastern Block with his "perestroika" reforms. No doubt there will be snags along the way, but that is to be expected. But for Bolivian politicians and labor leaders to throw up their hands in disgust and cry "Imperialism" everytime international commodity markets take an unexpected turn is simply irresponsable.

And if Bolivian are leery of extra-continental examples, they can always listen to their own. The Peruvian novelist and probable presidential candidate in Peru's 1990 elections, Mario Vargas Llosa, recently addressed an audience in Davo, Switzerland on the ills and opportunities that have respectivelyplagued and lay ahead for Andean peoples. His words were eloquent and to the point. "Any country can be prosperous," he said, before going on later to remark that, "in some respects, the governing classes of Latin America have opted for poverty." Vargas Llosa then turned his attention to Latin America's intellectuals, who have been the driving force of the Left on this continent since Castro's Cuban Revolution. He singled them out for their "continued promotion of utopias, instead of accepting pragmatism. They are definitely against common sense." What a timely admission of guilt for a novelist who is nothing if not a Latin American intellectual himself.

As ever,

WL [signature]

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