



Commodity policies in Bolivia

By Theo Mutter

Mining has historically been the backbone of the Bolivian economy. However, the present crisis in the world economy and structural changes in many metals consuming industries have led to a dramatic decline for the Bolivian mining industry, and thus for the national economy. In this article Theo Mutter gives a background to the crisis in Bolivian mining and argues for the necessity of a radical departure from the present resource-based economy.

The article was written at the beginning of 1985 and does not analyze the most recent developments in Bolivia. Although far-reaching in form, the proposals of the new government have not yet been followed by any concrete actions implying a fundamental change in Bolivia's mineral policies.

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Introduction

For the solution of an economic crisis there is a tendency in a country with important mineral resources, such as Bolivia, to take recourse to the richest mineral deposits or at least to make this attempt. Resorting to non-renewable resources is furthermore often a policy required by the International Monetary Fund (IMF) for credit adjustment and restructuring packages; this is dealt with under the caption — short-term increase of export capacity. For public and economic planners it also is much easier to expand and intensify the existing production structures, instead of restructuring them or opening up new areas of the economy — particularly since results in the second instance take longer to be realized.

The question then is whether the quick solution is useful and successful for the overall economy and society in the long-term, or if it is not exactly the existing *economic structure* which has

entered a crisis or is perhaps even responsible for it. Under these conditions it is probably more important to find an answer to another question: Isn't this the right time? Doesn't the crisis offer an opportune moment to escape from the structures carried over from the colonial period?

Can the commodities policy be the suitable carrier to solve the crisis in the whole economy? The consequences and the difficulties connected with such a move are explained by using Bolivia as an example. The basic message of the article is at the same time generally and principally valid for all countries having a high commodity export dependency.

Mining — backbone of the Bolivian economy

Before examining the role of mining in Bolivia's general economic policies, its significance in the country's economy should be described, since it is often

Table 1
Mineral production 1984
(in t)

	1981	1982	1983	1984 ¹
Antimon	15 300	13 980	9 950	9 675
Tin	29 781	24 660	23 750	17 000 ²
Zinc	47 030	45 680	47 130	38 280
Lead	16 750	12 500	12 100	8 020
Tungsten	3 450	3 200	3 070	2 590
Silver	205.3	172.9	191.2	142.3
Gold	2.1	1.25	1.6	1.1

Notes:

- ¹ estimated.
- ² less than.

Tin-producers in Bolivia:

- COMIBOL included all miners who work on COMIBOL owned territory but produce on their own account: about 70 per cent of total tin production.
- Medium mining companies (20) 20—25 per cent.
- Small firms with a production of up to 100 t per year (more than 1 000) about 5 per cent.

Source:

Medium Mining Companies' Association.

characterized as a classical example of a *commodity-based economy*.

Mining has been the dynamic sector in Bolivia for a long time and it has also been the only possibility of internal formation of capital for many years.¹ Its primary importance, however, is not evident from a glance at *internal economic data*. The whole extractive sector (mining, including smelting, and petroleum including gas) can only claim a 7.5 per cent share of the total Gross Domestic Product (GDP). Employment in mining is a mere 3 per cent. This is due to the high capital intensity, particularly in the petroleum and natural gas sector.² The relative importance of metal mining has gradually been reduced over the past years, because of the rapid growth in other economic branches, particularly petroleum during the 70s and natural gas today. As a result of the economic crisis the absolute figures are also falling drastically. In the production of tin³, Bolivia's most important metal, the country has dropped from second to fifth place worldwide.

However, the significance of commodity exploitation for the Bolivian economy becomes much clearer when one observes its contribution to *foreign trade*. Commodities have always made up more than 75 per cent, occasionally more than 90 per cent, of the exports. The essential products originate from the mineral sector, during the 70s petroleum and later natural gas; agricultural goods are hardly mentionable. Tin alone still accounts for almost 30 per cent of statistically recorded exports, in spite of a drastic reduction in production⁴.

Tin is repeatedly used for illustration since it plays such a dominant role, and determines the structure in the background so as to give the appearance that Bolivia only produces tin. But even though tin exports have accounted for more than 70 per cent of total mineral exports in some years, and remained

above 40 per cent until petroleum, and later natural gas, with their great export share changed the relative importance, tin only still accounts for 65-75 per cent of total mining production from a rich range of ores (wolfram, antimony, lead, zinc, copper, silver, bismuth, iron and gold amongst others).

Within the economic policy the commodities sector is nearly always viewed as *the leading sector*, or simply assumed as such, although there are hardly any multiplier effects nor any stimulation of forward and backward linkages. They are taken for granted in countless economic and development plans — perhaps more as a happyful wish — but the enclave character remains as before.

And at the same time the export of commodities continues to be the most important source of foreign currency for the economy. The double-edgedness of a policy relying on commodity exports for acquiring foreign currency reserves points to an inherent problem in a commodity-based economy. On the one hand the crisis has become so deep that the export income no longer is sufficient for the inputs required to maintain the present level of production. It is therefore no longer possible to count on mineral exports as a generator of a foreign currency surplus to be used in other sectors, e.g. to finance food imports. On the other hand the commodity reserves and their accelerated export are the only assets showing up a balance favourable to Bolivia in credit negotiations presented to e.g. the IMF.

Bolivia and the international commodities market

Those who consider the commodity sector as Bolivia's only alternative out of the crisis look at the situation — or at least give the impression — only from a Bolivian, as *supplier's angle*. The condition of the world commodity markets is hardly taken into consideration. In fact the market sets decisive limits for the policies open to the country. From this

perspective the relatively weak position of Bolivia becomes evident.

None of the important tin-mining countries (Malaysia, Thailand, Indonesia, Australia etc) are as dependent as Bolivia on the export of this single metal. At the same time, and in spite of its low wages, Bolivia has the highest cost for extraction, due to unfavourable geological and technological conditions in the high Andes where the primary ore is mined⁵. It should be added that the very low metal content (under one per cent) of the ore mined at present is partially the result of a lack of exploration. Bolivia is therefore clearly a classical *marginal producer* on the world market having production costs which are close to or under the world market price of the metal.

It is, however, not possible to assume that terminating production is the logical consequence. In the overall framework of the economy short-term structural adjustments following the business cycles are not possible, especially if the specific branch plays such an important role on the whole. In addition, in these cases the fixed costs of the company increase the losses much more in the long-term and the foreign currency flow it thus diminished. However, this type of situation must be warning signals for every politician concerned with the economy of a country since deficit production can only be kept up under very special conditions.

Even a relatively well-functioning *commodity agreement*, such as the International Tin Agreement, cannot provide basic assistance at this point. The Bolivians had to learn this from a near 30-year experience⁶. Bolivia has frequently hesitated at signing and has demanded improvements. The problem remains that the agreements always assume average prices valid for all parties involved and that Bolivia gets the short end of the stick because of its high production costs. In addition the USA has the power to control the price of tin on the world market. Sales from the stra-

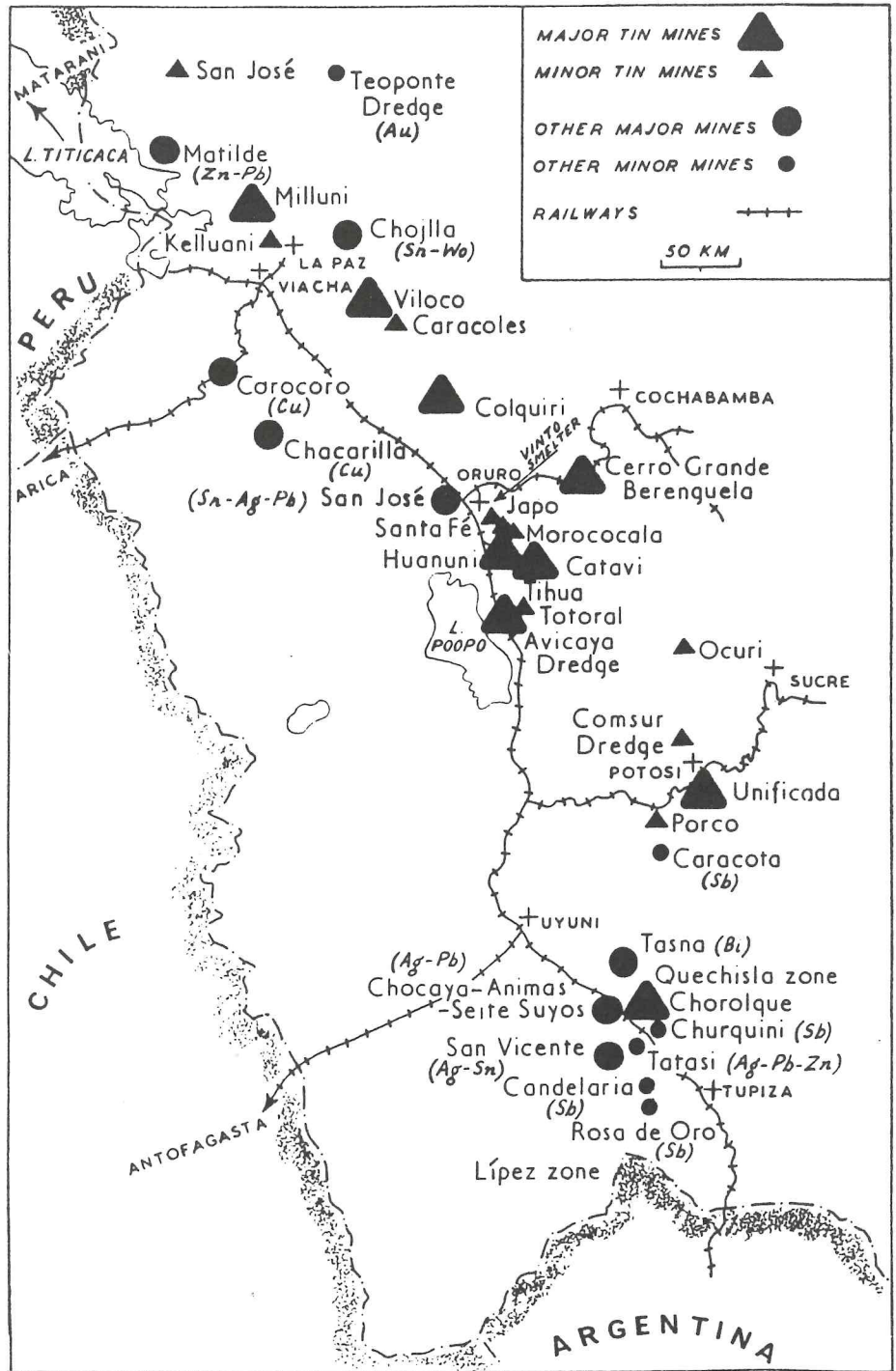
tegic (GSA) reserve create ripples of excitement on the commodities market by their very announcement.

Regarding other metals, Bolivia plays a minor role as supplier or produces minerals which are of lesser significance on the world market⁷. During the short oil-exporting period Bolivia never became an important producer on an international scale. Its weak negotiating position is also evident if we consider *natural gas*, which has now exceeded tin in export value. Actually no international natural gas market exists which represents a unified price structure. However, comparisons with similar gas delivery agreements indicate how cheaply Bolivia is selling its precious non-renewable resources.

The problems of a commodity-based economy

The above, schematic, presentation of the Bolivian economic structure indicates the basic problems of a commodity-based economy relying on the export of one or a few products. If the economic dynamic is almost exclusively built upon production and export of raw materials, and hence controlled from outside, *dependence* on the export of commodities and on the import of technology, and therefore on the industrialized countries, is *structurally retained*. Due to a lack of other economic sectors, which could serve as bearers for an accumulation process, the commodity production is pressed forward. The required productivity increase, however, can only be achieved with modern imported machines and equipment.

This is not changed by commodity agreements. They can at best contribute to a smoothing of cyclically-determined oscillations. The Bolivian experience with the Tin Agreement effectively demonstrates how little resistance the commodity agreements can offer against general market developments. And the international economic crisis



has made the commodity countries aware of the negative consequences of this dependence. The dominating position of the industrialized countries remains in any case. Commodity markets are and will stay exclusively *demand-oriented markets* over which the industrialized countries in effect control the purchased quantity and the prices. Aside from the directly economically-determined factors there are also long-term political interests at stake, whether open or hidden. The above-mentioned strategic reserves of the USA are one factor⁸.

The basic problems are not solved

simply by *processing commodities in the producing country*, in order to export a higher quality of raw material. Thereby the industries are merely provided with a more suitable material base; trade continues to follow the laws of the commodity markets. Tin as an ore or in bars, pure or as an alloy is still a commodity. Such a step nevertheless opens the path to a qualitative change. Smelting of tin concentrate in the Vinto plant (Bolivia) has made the country, at least theoretically, more independent of the 3 or 4 tin smelters in the USA and Europe, to whom it was earlier forced to sell its ore, as only they were able to

Table 2
World tin production and consumption (in kt per year)

	Consumption	Production
1972	191	196
1973	214	189
1974	200	183
1975	172	181
1976	193	180
1977	184	188
1978	185	196
1979	185	200
1980	174	200
1981	163	204
1982	157	190
1983	157	190

Source:

Supplement — Tin International.

Table 3
Foreign trade in M USD

	1982	1983	1984*
Export	828	755	730
Import	430	540	470

* estimated

1983 about 25—30 per cent share for tin, mineral production total about 50 per cent. About 45 per cent for gas.

From 1983 to 1984 total production in mining decreased by about 25 per cent and gas/oil about 4 per cent.

Sources:

Boletin Estadistico, CEPAL, Dresdner Bank — Frankfurt 1985.

crease of the metal content and the consequent increase in costs for mining has been blamed on a lack of or insufficient exploration¹¹. Although this is one important reason for the present economic difficulties of the mining enterprises, it can not explain the problems of the commodity sector as a whole.

On the contrary, accelerated mining places a veil on the real problem or results in a more rapid depletion of reserves. Granted, hardly any limits exist regarding the extent of reserves, but the economic viability and ecological limits determine this boundary should exorbitant costs and energy investment be required for production. In the long run this does not remain constant. Had for example the prices of tin not risen continually, the problem of Bolivian tin producers would have been acute much earlier and the present debate would have had to be carried out earlier. The increasingly diminishing tin content and the exhaustion of the most important petroleum reserves in the country point loud and clear to the problem of finiteness. With accelerated mining an industrialization based on domestic resources will be weakened in the long term — successful as it may be. A monostructured commodity-based economy, such as that in Bolivia, must develop a *new basis of accumulation* prior to putting the lights out in the mining industry. It should build up a self-sustaining economic foundation.¹²

Some activity has been undertaken against the depletion of natural resources. However, it only offers consumers a guarantee that industrial inputs or consumer goods are not threatened. *Recycling* of certain materials generally extends the limits of finiteness, *substitution* provide the consumer with alternative commodities.

Both strategies, however, merely assume worldwide phenomenon of finiteness of commodities without considering the long-term problems of commodity exporting countries of the Third World. On the contrary, these strategies

cess the ores. Bolivia can now represent itself on the world market as an independent. Whether or not this provides any economic advantages is another point of discussion which must remain open here.

The idea of processing ores, however, receives a new dimension if it becomes a part of a *strategy of resource-based industrialization*. This economic development strategy has many supporters in Bolivia. Envisaged in the development plans are tin canning factories, metal processing industries and later machine-building. As convincing as the theoretical concept appears at the outset, in reality it was confronted with similar problems as the import-substitution strategy and the desired success has vanished. An UNIDO study by M. Roemer⁹, has provided detailed evidence of the causes of failure:

- The international market structures which do not possess an unlimited absorption capacity for industrial products.
- The tendency of protective trade policies in the present crisis impedes new market access for newcomers and developing countries.
- The general level of development, with a lack of or poorly developed industrial infrastructure are also factors hampering a successful industrialization.
- The existence of one or a few commodities as the only basis of industrialization, forces *complimentary* semi-finished *products*, as well as the techno-

logy and capital goods to be imported. The concept can really only bear fruit if capital goods no longer have to be imported in the long run. The analysis is joined at this point with the well-known debate about dependency at a new higher level in the international division of labour.

The example of tin is especially appropriate. It shows that availability of a commodity alone does not suffice as a basis for industrial development. In nearly all applications of tin the metal only makes up a minimal share¹⁰. In sheet metal, the most important application, e.g. the proportion of tin is less than 1/2 per cent. Thus it is not logical that over 99 per cent of the inputs should be transported to the tin but vice versa.

Employment impact and *distribution effects* are — as Roemer established — minimal. Particularly in the field of metal processing procedures are very capital intensive and provide few jobs. The intention here is not to argue against every form of industrial development, but rather to make high expectations more realistic as the promise of success of economic policies can not be supported only by resorting to a resource-based industrialization.

Economics policy-makers and planners also appear to omit one essential aspect in their medium to long-term concepts — the *finiteness of mineral resources*. In the national development plans or the sectoral planning for mining and metallurgy in Bolivia the de-

may soon force countries like Bolivia to diversify their economy away from commodities and concentrate on other areas. To date, however, the discussions on ecocodevelopment in Bolivia have continued on unfruitful ground.

Commodity policy in crisis

Considering these unfavourable conditions Bolivia's commodity-based economy must inevitably face a crisis. The economic conditions have never been so severe in its 160-year history as at the outset of 1985. The commodity sector which, according to popular opinion, is supposed to be the last resort is not even able to solve its own problems. The concept of a *rent economy*, in which the commodity sector supports other sectors of the economy and contributes financially to the creation of new bases of accumulation, has long been a perversion in Bolivia. An attempt to finance a diversification of the economy with profits from mining failed in the 50s. A self-sustaining development, which was supported to grant a new dynamic to the economy, did not occur when the agribusiness enterprises in the eastern subtropical lowland made heavy losses and had to be supported with important long-term subsidies, due to misguided economic policies.

Not even the commodity boom in the 70s made a lasting impact on Bolivia's economic structure, aside from a number of empty pits and several over-sized plants (e.g. oil refineries). President Banzer's *sell-out policy* of 1971-78, with rapid, large scale, commodity exports, was carried out at the expense of necessary long term investment and prospecting. Neither the high export income nor the important credits received during this period were productively invested. Long overdue investments in the mining sector, e.g. exploration of new deposits and re-equipment of out-dated plants were not initiated nor were specific development of other productive areas of the economy undertaken where agriculture offers a rich potential — aside from

a few half-hearted projects. Here it is only possible to discuss official economic policies, but it is worth noting that the rapidly expanding illegal cocaine business of this particular period, has since then become the most significant branch of the country's economy.

The large investments made during the period all contributed to fix Bolivia's role as an exporter of commodities, but *without* any recognizable *internal strategy* — as suggested for example by Samir Amin¹³. The maximization of foreign currency earnings was the only obvious goal of the policy. For this reason, logically, large investments were made only in extraction and processing. How could otherwise such a gigantic oil refinery have been erected in Santa Cruz (Palmasola), where petroleum reserves soon were depleted? Or how could the Klöckner Group of the FRG be allowed to construct a costly, and controversial, lead-silver smelter in Karachipampa when further credits had to be mobilized to secure the necessary mineral input? — just to mention two examples. Investments like these made it unavoidable that a fall in commodity prices would lead directly to a domestic crisis which would continue and become deeper during an international crisis.

The present governments of Bolivia are now facing the consequences of this policy. The drastic *reduction of mining production* during the past few years is most certainly linked to the social upheaval and the daily fight for survival of the Bolivian people. With a tin production of less than 17 kt in 1984, the long-term goal is 30 kt — the production is at its lowest since the nationalization in 1952.¹⁴ The production is increasing only for gold and iron ore. The overall economic situation is alarming. If we look at the production figures in the commodities sector the trend of decreasing production is evident but without any subsequent reduction in costs! Only in gold, iron and natural gas significant new deposits have come into production.

The reason for this decline is the de-

pletion of most mines. The national mining corporation *Corporación Minera de Bolivia* (COMIBOL), which had a world tin market share of 10 per cent during former good days, has not opened a new mine since the nationalization of the large mines in 1952. Its responsibility to sustain the national budget and to generate a sufficient inflow of foreign currency in the rent economy meant a concentration on mining at the expense of prospecting. Particularly when finances become scarce those in charge cut funds for the search for new deposits.

The role of COMIBOL

Without a brief look at COMIBOL it is hardly possible to assess the Bolivian policies on mining and commodities. The company reflects the whole dilemma of the country's commodity policy. Apart from the task of entrepreneur it undertakes a host of governmental functions — funding schools, hospitals, infrastructure, hidden unemployment in administrative offices etc. Thus it can not be measured exclusively according to the criteria of a commercial company. This requires an overall economic appraisal of the company, or for the sake of clarification, that atypical functions and social services should be excluded. This will most certainly make productivity calculations and the recurring comparison with profitable private companies of the so-called medium-scale mining field more realistic.

At this point the *dual myth of nationalized companies* involved in commodities must be exposed.

- First, the commodities sector, particularly mining, is no longer a cow which can be milked eternally to assist in financing the national budget. The state companies have become virtually bankrupt.
- Secondly, it can not be assumed that the majority of the employed, especially at higher levels, do feel the need to be dedicated to the overall interest of a socie-

ty. 18 years of clientelism and prebendary economics established during military rule has made the *public sector* very independent, and it sees its *loyalty* more to the private economy — to do business — and to the protagonists of the 'Banzer-model'¹⁵. It is false to assume that because of the high public share in the Bolivian economy — the highest in Latin America — the access of the government and the translation of political decisions at the economic level of the companies have become easier. On the contrary, the parasitical state bourgeoisie, which has developed not only since the military coup of 1964, is a serious factor to be considered and a main hindrance for reforms in the society or even for wide reaching transformations.

COMIBOL's economic problems are typical for the whole economy in a way. In mining a long-term concept has been lacking from the very beginning. Securing reserves was always taken for the next direct step only. Despite a lack of linkages with mining and lately by natural gas, the dynamic of the national economy is still determined by these sectors. This means that the overall economic policy remains without a solid and lasting foundation — living from hand to mouth.

Certainly, the basic problem lies in the *lack of extensive exploration*. And it was not exactly far-sighted to divert the decisive funds to the unsuccessful diversification project Santa Cruz in the subtropical lowland at an unsuitable time during the building-up phase of the state company in the 50s. But to rehabilitate the commodity sector and put it on a stable foundation is only a starting point. None of the above-mentioned structural problems of the commodity economy has thereby been solved nor has any decisions been taken in this direction.

Apart from the state company the at the moment about 20 private enterprises of the so called *Medium Mining Companies* play an increasing role. These enterprises usually are much more ori-

ented towards abroad and numerous of them are directly or indirectly linked with international holdings.

No doubt, most of those can present a much better economic result than COMIBOL ever could, but on the other hand, the private firms leave mostly the social services such as schools or hospitals and infrastructure to public expenditure. Nevertheless their contribution to the income of foreign currency gives them a strong position within the economy and vis-a-vis the government. The association of the "Medium Mining Companies" has thus no real interest in any overall policy of economic diversification, it rather fights for strengthening of the proper sector. The high production cost and the low grade of ores anyhow don't admit a higher taxation.

A mollification of the state monopoly over the natural resources, as claimed by the association, and the reduction of taxes would reduce the government's control over the whole sector even more. It would also narrow the margin of activity for political decisions on the economic reorientation still more. Despite the profitable production in the private sector — the unprofitable mines are closed down much easier than in COMIBOL — the economic situation at the moment does not really allow a much higher taxation to skim off surpluses.

The policy of the private mining industry follows in some aspects the line of the governmental policy during the Banzer time 1971—1978. The finiteness of the resources and the overall economic development, as expected, are not their concern. A substantial contribution to the national development in the present crisis can't be expected from the private mining enterprises, actually even less than from the state controlled firms. The strong foreign interrelation of the private sector make the enclave character even more evident.

The crisis as an opportunity

The only first steps in a radical reorien-

tation of the economy must aim at making the key commodity sectors, mining as well as petroleum and natural gas, and thus the state companies YPFB (Yacimientos Petroliferos Fiscales Bolivianos) and COMIBOL, economically profitable — which is not possible in the short-term and without substantial contributions from outside. Should the income from nonrenewable resources continue to finance only the necessary expenditures for a continued commodity production, then the overall social justification of commodity export must seriously be put into question. Nor should possible future surpluses from these sectors be allowed to finance deficits in other sectors continuously.

At this point it should be evident how important it is to develop an accumulation base independent of the export of a few commodities. As mentioned the potential depletion of deposits (with the average tin content now less than 1 per cent) is already creating economic problems. The present economic catastrophe is not only the result of a general crisis of the economy but also and above all a severe crisis of the commodity production. Urgent decisions have to be made by the politically responsible and they must go beyond a mere repair programme. They must use the crisis to initiate an *economic and social transformation process* in Bolivia's economy. On the economic level this means a turn away from a vulnerable and dependent monostructure towards a long-term self-sustaining diversified economy. A number of promising possibilities do exist, both in agriculture and small-scale industry¹⁶.

A realistic alternative should not be dependent on a radical economic change from one day to the next. In the present socio-economic situation this could anyhow not be expected from the government of President Siles Zuazo. The country must now ride on *both tracks*:

- new areas and projects must be devel-

oped and realized in the framework of a long-term economic strategy,

- the necessary financial resources must initially come from branches already in production, and in Bolivia this can only occur via commodity exporting.

This means that in the short term, the commodity sector as the pillar of the economy, must be rehabilitated. However, a repetition of the 'Banzer-model' can not be allowed. The level of exploration must now determine the export volumes. Otherwise the strategy is too short-lived to fulfil its function. The milk cow of the rent economy should not only be milked carefully; it must also be fed regularly in order to reproduce. Such a development strategy should be drafted up in detail, but it goes beyond the scope of this study. It is not unrealistic but a necessary utopia if one does not close one's eyes totally to the present political and social realities.

However, the politics of the outgoing government do not indicate that any decisive steps in this direction have been taken. Old tracks are still being followed. One should ask oneself if it is not being too pragmatic or too resigned if the key element in the economic restructuring simply is an increased export of commodities in order to obtain surpluses with which undefined aims are to be financed¹⁷. Such doubts arise when it becomes evident that the basis of the strategy is not yet secured. Independent of the external factors that also have to be assessed, the reserves which are to be extracted and exported must be secure. A recent study on natural gas reserves in the lowland has already placed the government projections in a questionable light¹⁸.

Perhaps behind all the plans, which have more the character of deeds of despair than thought out political perspective, bitter recognition pervades that more than a 'debt repayment economy' is not possible at present in Latin America. Since it is not to be realized without substantial sacrifice by the people the



question remains how long it still will be possible in Bolivia and how long a policy of sacrifice may be maintained without offering a breath of perspectives. For Bolivia the only promising perspective is certainly: escape from a pure commodity-based economy.

Notes:

¹ Luis Penalzoa Cordero, *História económica de Bolivia*, Vol I & II, La Paz Bolivia, 1953/54 and Nueva historia . . . in 9 volumes, Vol I 1981, next volumes to be published successively.

² Banco Central de Bolivia, *Boletín estadístico No 250*, La Paz Bolivia 1984, and Ministerio de Minería y Metalurgia, *Boletín estadístico*, La Paz 1984.

³ The *Boletín estadístico de the Ministerio de Minería y Metalurgia* (LaPaz 1984) shows that tin production in 1977 still has been over 31 kt per year, but in 1983 it was only 24.6 kt and in 1984 less than 17 kt.

⁴ The US-Drug Enforcement Agency DEA estimates that the illegal export of cocaine is about the double of the officially registered foreign trade.

⁵ William L Baldwin, *The World Tin Market*, Durham USA 1983. 1985 9 USD per lb compared with 5 USD per lb on the world market.

⁶ The problems of raw material agreements have been discussed in: Theo Mutter, *Rohstoffabkommen — ein zweiseitiges Schwert* in: PERIPHERIE. Zeitschrift für Politik und Ökonomie in der Dritten Welt, Nr. 15/16, Berlin 1984.

⁷ Werner Gocht (ed) *Handbuch der Metall-*

märkte, Berlin/Heidelberg/New York 1974, pp 226-252; and Metallstatistik, Frankfurt/M 1984.

⁸ See also: Theo Mutter, PERIPHERIE Nr 15/16 pp 92-95.

⁹ Michael Roemer, *Resource-Based Industrialization in Developing Countries — a Survey*, in: Journal of Development Economics, June 1979.

¹⁰ Berthold F Müller, *Zinn Taschenbuch*, 2nd edition, Berlin 1982; and *Tin and its Uses*, regularly published by the International Tin Research Institute, Greenford GB.

¹¹ Out of the numerous plans which have been made in Bolivia for this sector only a recent one shall be mentioned: *Política Minero-Metalúrgica 1981-1985*, edited by the Ministry for Mines and Metallurgy, La Paz 1981.

¹² Dorothea Mezger, *Das Problem der nichterneuerbaren Ressourcen oder die ökologische Krise der Rohstoffexportländer*, in: PERIPHERIE Nr. 15/16, Berlin 1984.

¹³ Samir Amin, 'Self-reliance' und die neue internationale Wirtschaftsordnung, in: D. Senghaas (ed), *Kapitalistische Weltökonomie*, Frankfurt 1979, pp 333-334 and Dietmar Dirmoser, *Drogen und Politik — Cocainproduktion, Korruption und Macht in Bolivien*, in: LEVIATHAN, Zeitschrift für Sozialwissenschaft, 13th year. Nr. 2 Köln 1985.

¹⁴ Ministerio de Minería y Metalurgia, *Boletín estadístico*, La Paz 1984.

¹⁵ *Bolivien, ein Volk im Widerstand*, Sonderheft der Lateinamerika Nachrichten, Berlin 1981, pp 74-80, and C. Tornazo Roca, *Un nuevo modelo de acumulación?* in: Cuadernos de Marcha, Mexico 1/1979, pp 67-84.

¹⁶ See the papers of M. Minkner (industry) and G. Arnold (agriculture) presented at the International Conference on Bolivia organized by the Friedrich-Ebert-Foundation in Bonn the 13th and 14th of September 1984.

¹⁷ Paper presented by A. Nunez del Prado (economic advisor of President Siles Z.) at the above mentioned conference 1984 (note 16).

¹⁸ Mario Arriet et al. *Decisión Crucial: El destino de nuestro gas natural*, Publication CIDCRUZ, Santa Cruz, Bolivia 1983. ■