COMPANY REPORT

Companhia Vale do Rio Doce in the political history of Brazil

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Since the beginning of the 20th century Brazilian interests and powerful international groups have struggled for control over Brazil's immense iron ore fields.
In this article Maria Clara Couto Soares analyses the emergence of Companhia Vale do Rio Doce (CVRD) and its importance in the Brazilian efforts to create an integrated national iron and steel industry as a basis for economic development.

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THE GESTATION PERIOD: 1902 – 1941

The history of CVRD begins in 1902, forty years prior to its founding. That year Brazilian interest groups organized the Vitoria to Minas Railroad Company *(Companhia Estrada de Ferro Vitoria a Minas, EFVM).* Their plan was to construct a railroad connecting Diamantina, in the state of Minas Gerais, with the port of Vitória, in the state of Espirito Santo.

This initiative came as a response to legislation by the Brazilian government promoting the construction and exploitation of railroads. By contracts of February 1st and 3rd 1902 and of February 3rd of 1903, a number of privileges were granted to EFVM. These included a concession to construct the railroad and operate it for 60 years, a guaranteed profit of 6 per cent during thirty years on capital invested in the construction of the railroad (not exceeding 36,000 mil reis per km of track), the required lands free of any charges, exemption from import duties, expropriation rights and privileges for the mining of ore in the region.

Concomitant with the construction of this railroad, which was begun in 1903, the government in 1907 formulated guidelines for a study of the geological and mineralogical structure of the country. As a result, the recently created Brazilian Geological and Technological Service was charged with a project to prospect and make economic studies of Minas Gerais (MG), with primarily iron mining in sight.

British capital takes control of Brazilian iron ore reserves

On the basis of the information provided by the Geological Service, which revealed the existence of iron ore of exceptional quality and enormous potential in the Itabira region, the English engineer Murley Gotto of City Improvements obtained, for the low price of 200 "contos de réis" [1], the option of buying large tracts of land in Itabira, Minas Gerais.[2]

Minas Gerais and the Rio Doce Valley in the 1860's, before the EFVM railroad made the iron mountains accessible for exploitation.

In 1908 Murley Gotto, together with other British industrialists, formed a group which set out to try to modify the plan for the EFVM so as to be able to make use of this railroad for the transportation of iron ore from Itabira.

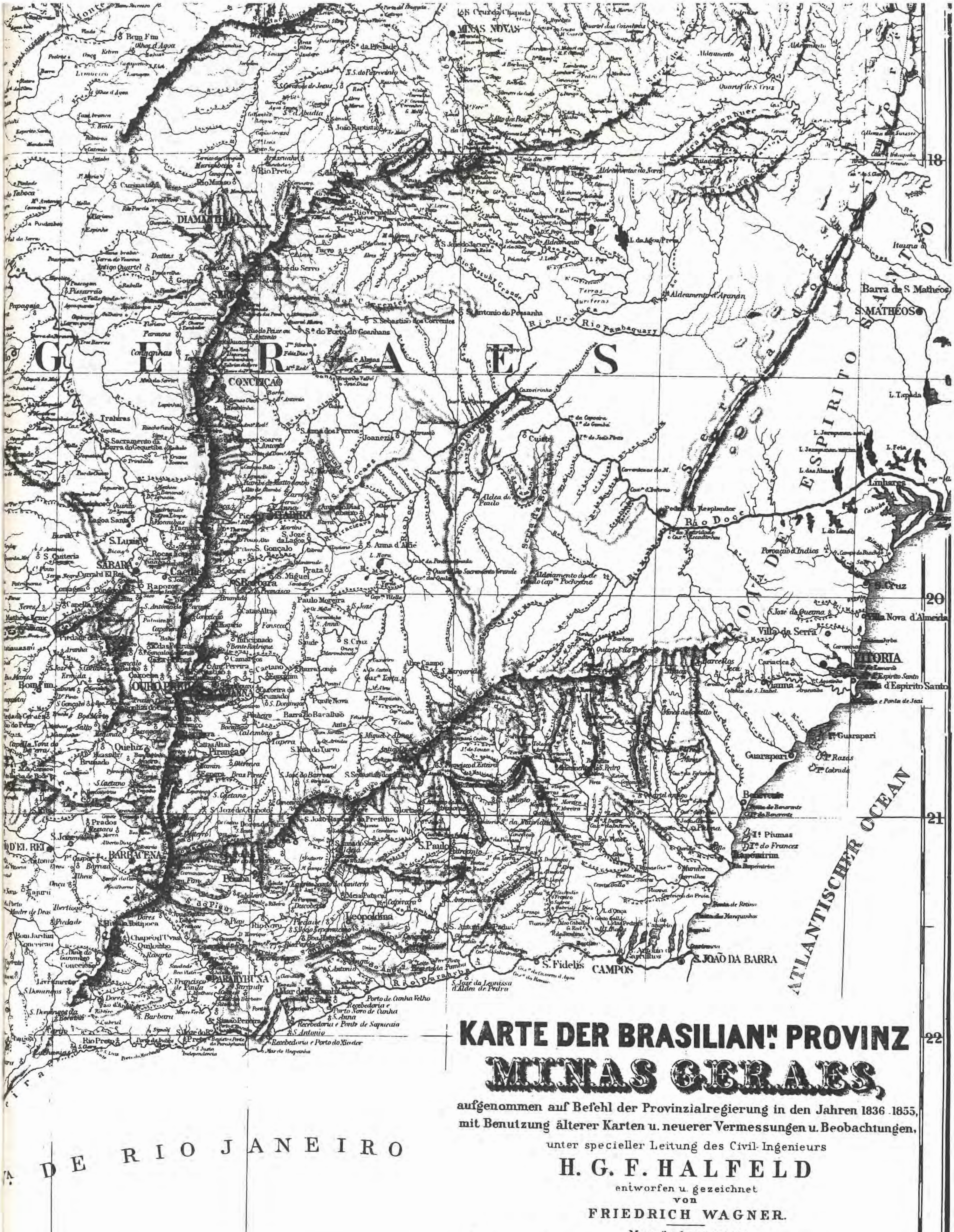
On the basis of the favourable attitude of the directorship of EFVM with respect to this modification, and the possession of the option to buy the Itabira mines, the following year the British group organized the *Brazilian Hematite Syndicate.* Composed primarily of English bankers and industrialists, its function was to make the export of Itabira's iron deposits feasible.

Aware of the importance in maintaining control not only of the mine itself, but also of the means of transportation as well as the loading docks, to ensure financial success in large scale export of ore, the Syndicate's first priority was to seek to implement such control. In 1909 it had established, as major shareholder, control over EFVM.

In order to make full use of the railroad, the English firm asked for authorization from the Federal Government to make changes in its original route. In exchange for the approval to construct a final segment to Itabira, the Brazilian Government demanded from the Syndicate the construction of an ironworks in the region, with a minimum monthly capacity of 1 000 tons of iron products.

With this authorization in hand, the English syndicate promptly exercised the options to buy Itabira iron fields, increased its shares in EFVM, and signed a contract with the Vitória Port Company, the latter to enable the export of raw iron ore to be processed in ironworks in England and other countries in Europe.

In 1911, the Brazilian Government gave a concession for the establishment of the *Itabira Iron Ore Co.*, organized by Percival Farquhar, which had acquir-



KARTE DER BRASILIANn. PROVINZ
MINAS GERAES,
aufgenommen auf Befehl der Provinzialregierung in den Jahren 1836 -1855,
mit Benutzung älterer Karten u. neuerer Vermessungen u. Beobachtungen,
unter specieller Leitung des Civil-Ingenieurs
H. G. F. HALFELD
entworfen u. gezeichnet
von
FRIEDRICH WAGNER.
Maasstab : 1: 2.000.000.
Deutsche Meilen (15 = 1°)
Legoas.
G E R A E S
DE RIO JANEIRO
ATLANTISCHER OCEAN
ESPIRITO SANTO
MINAS NOVAS
DIAMANTINA
CONCEIÇAO
OURO PRETO
BARBACENA
S. MATHEOS
Barra de S. Mathéos
VITORIA
CAMPOS
S. JOÃO DA BARRA
S. Fidelis
Leopoldina
Linhares
Guarapari
Rio Doce
Meridian von Pão d'Assucar
18
20
21
22
23
1
1
2
3

"Farquhar landed in Rio in July 1931, from a Pan Am hydroplane grimly determined to press President Vargas to approve his big Itabira iron ore export project." [1]
The port of Vitória, with ore dock built in 1941-42 on hill at left.

[1] Quoted from C Gould: The Last Titan

ed the mining rights of the Brazilian Hematite Syndicate and its shares in EFVM.

However, this çompany did not succeed in obtaining the necessary capital, and halted its operations with the outbreak of the First World War, when it found itself even further from the means of realizing its objectives.

Local resistance to government sell-out

Resuming negotiations with the Federal Government in 1916, Itabira Iron was able to transform the original Brazilian demand concerning the construction of an ironworks into an optional clause. To this the state government of Minas Gerais, staunch defender of the idea of a metallurgic industry in the state, responded and tried to sustain the original demand. By raising the export tax on iron ore sharply, the state government put pressure on the English company by offering to lower it again, on the condition that the Itabira Iron would establish an ironworks in Minas Gerais.

This attitude on the part of the state government created an impasse which only reached its solution in 1920 when, in a contract formulated to reconcile its interests with the demands of the state government, Itabira Iron requested and obtained authorization from the Federal Government to operate a steelworks and a rolling mill and a foundry with a minimum capacity of 150 000 tons per year.

Continued struggle to control the railroad

Together with this authorization, the contract signed in May 1920 also gave permission to Itabira Iron to construct two railroads for the exclusive use of the company. The first was to connect the mines with EFVM, while the other was a spur out to Ara Cruz, also in the state of Minas Gerais.

The enormous privileges conceded to this company was the cause of intense opposition. This was aimed primarily at the establishment of a total monopoly on railroad transportation in the region on the part of Itabira Iron. Through the railroad, this company controlled the entire production of the other firms in the area, since there was no obligation given in the contract for Itabira Iron to transport ore belonging to other companies.

This contract was not signed by the government of Minas Gerais, which caused the judiciary authority (Tribunal de Contas) to refuse to register it, as it considered the contract contrary to national interest. The legalization of the contract, contested by the "Tribunal de Contas", was not achieved until 1928, after Antonio Carlos had taken office as governor of Minas Gerais and Washington Luiz had assumed the Presidency of the Republic.

This legalization followed the signing of an agreement, in 1927, between Itabira Iron and the state of Minas Gerais, through which the company obtained a 30 year reduction of the export tax on iron ore, on condition that 5 per cent of the total production was first transformed into steel. On the other hand, Itabira Iron had to renounce rights and advantages previously granted by the Federal Government in the 1920 contract. Thus it lost the right of exclusive use of its own railroad and port facilities to transport iron ore.

The world economic crisis undermines British monopoly control

The advent of the 1929 crisis frustrated Itabira Iron's attempts to obtain financial support for the development of its activities. With the withdrawal of financial capital, the company was not able to fullfil its obligations to the Brazilian government, opening the possibility of an annulment of the contract.

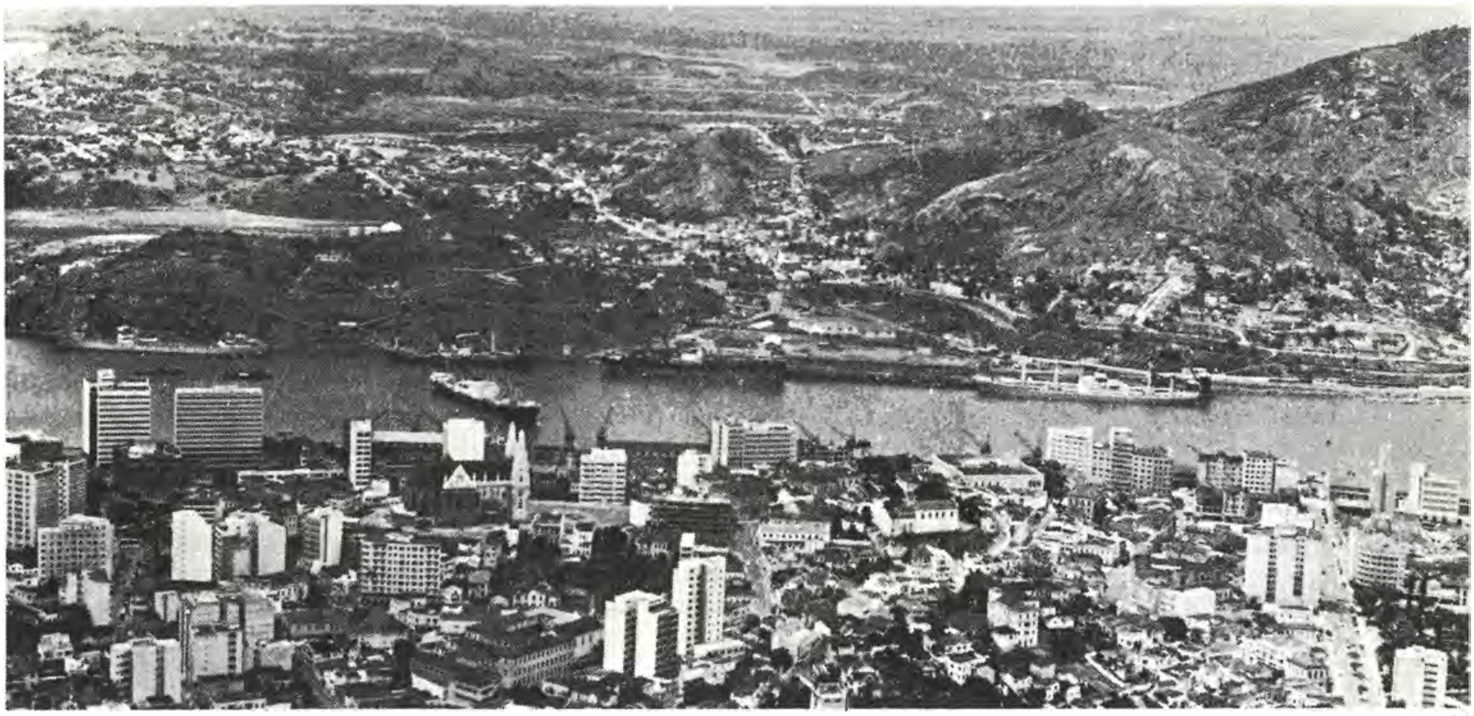
The political and institutional changes that occured in October 1930 put the question of Itabira Iron in a new light. Soon after Getulio Vargas had taken command of the Provisional Government he demanded that the terms of the contract be met and refused the request formulated by Itabira Iron to prorogate the installments. President Vargas declared the contract void in 1931.

This declaration of annulment was delayed, however, byt the revision of the contract by various government authorities. Having passed several instances, the revision was then brought up in Congress in 1935. Taking its time passing through the Congressional paper-mill, it survived the November 1937 *coup*, which with the closing of Congress implied that legislation was dictated from the President's office in the form of decrees.

Final annulment of the Itabira Iron contract

From 1938 onward, President Vargas considered the resolution of the problem with Itabira Iron and the establishment of a metallurgic industry in the country an issue of high priority. Taking into consideration the fact that the English company had still not begun the construction of a foundry, the irrevocable annulment of the contract established with Itabira Iron was declared, in August of 1939.

This declaration effectively stopped Itabira Iron's attempts to increase its



export of the iron ore from the whole Rio Doce valley region. At the same time, the Brazilian government found itself completely free to establish a national metallurgic industry, through a Brazilian company.

The Second World War opens the way for foundation of a national steel industry

Making good use of the industrial boom generated by the Second World War, the Brazilian government in 1941 created the *Companhia Siderúrgia Nacional (CSN)*, or National Metallurgic Company. The foundation of CSN was based on the principles of mixed economy, and this fully state owned company was to manufacture pig iron, iron, steel and related products.

Though it had lost all of the federal and state concessions granted to it through contracts with the Federal Government, through the irrevocable declaration of annulment from 1939, Itabira Iron still had the land rights and the claims to the Itabira iron mines, as well as the majority of EFVM shares. But with the inauguration of the 1934 constitution[3] Itabira Iron's prospects were significantly reduced, being unable, as a foreign company, to exploit directly its own mines. To bypass the legislation of the new constitution, the company thus sought to identify itself with Brazilian physical and legal persons. In this way, the company became organized into two separate parts: the first dealing with the transportation of iron ore via EFVM, the second taking care of the mining and related activities.

In this way, the *Companhia Brazileira de Mineraçao e Siderúrgia S.A.* (the Brazilian Mining and Metallurgy Corp.) was formed in 1939, controlled by Itabira Iron, even though it was composed by a group of Brazilian individuals. This corporation merged in 1940 with the EFVM.

Already in 1942 negotiations were initiated which were to transfer the mining rights and property of Itabira Iron Co, to *Companhia Itabira de Mineraçao* (the Itabira Mining Co.), which was an organization of Brazilian individuals. However, this transfer never came to pass, since with the signing of the Washington Agreements the British government freely transferred the land rights of Itabira Iron to the Brazilian government, with due indemnity paid out to the English owners of Itabira Iron (see below).

CREATION AND CONSOLIDATION: 1942 - 1967

While attempting an internal reorganization aimed at transforming itself in the eyes of Brazilian law into a national company, Itabira Iron's mining and export activities were interrupted by the outbreak of the Second World War.

As a result of the war, certain mineral reserves acquired a strategic importance, and the price control until then maintained by foreign purchasers was, as in the case of iron ore, broken.

Meanwhile, the Great Powers sought to establish firmer ties with several raw material exporting nations, in order to secure the supply of strategic materials, in particular those essential for the arms industry, while at the same time keeping the prices as low as possible.

In this context, several nations approved of a common assistance program to the benefit of the United States and the other nations allied against the Axis powers (Japan, Germany and Italy). One result of this program was the signing, in 1942, of the Washington Agreements with Brazil.

These consisted of six agreements, of which the most important was that referring to the question of extraction, transportation and export of iron ore from the deposits in Itabira.

This agreement, signed on March 3rd 1942 between Brazil, the United States and Great Britain, established that the operation and profits of the Itabira mines be handled by a Brazilian company, while stipulating the sale contracts for all the ore produced for the US and British governments.[4]

The importance of this agreement lies on the one hand in the solution it provided for the question of the Itabira Iron Ore Co., in the sense that it provided for national control over the Itabira mines, as well as over EFVM which until then had been in the hands of the British company. On the other hand, the agreement came to serve as the basis for the future establishment of the Vale do Rio Doce Co (CVRD).

The creation of an export oriented iron ore industry

The main clauses of the agreement, which apart from the three nations was also signed by EXIMBANK and Metal Reserves, were as follows:

- the obligation of the British government to obtain and transfer to the Brazilian government the deposits of the Itabira region, until then owned by the Itabira Iron Ore Co. Ltd. [5]
- the obligation of the US financial institution EXIMBANK to provide a loan of US$ 14 million for the purchase, in the US, of all the equipment, machinery and materials neccessary for the lengthening and restoration of EFVM, and for the outfitting of the Itabira mines and port of Vitória.
- the obligation of the Brazilian government to rescind EFVM, and to deliver it to a company established by the said government; to lengthen the railroad to the Itabira mine fields, to restore and improve the railroad as well as the port facilities of Vitória, so as to enable the transportation and export of a minimum of 1,5 million tons of ore anually.
- the obligation of the Brazilian government to establish a company, with a nominal capital and constituted in accordance with Brazilian laws, to be responsible for the extraction, transportation and export of Itabira ore. This company must be directed by Brazilian and US citizens, approved by both governments. If the credit forwarded by EXIMBANK is paid back in full when due, and the company's obligations are settled, the operation of the mines revert, upon request, to the Brazilian government.

The foundation of CVRD

As a result of the ratification of the Washington Agreements by the Brazilian, US, and British governments, the President of Brazil Getulio Vargas established the basis for the foundation of the Companhia Vale do Rio Doce through edict No. 4 352, of June 10th 1942.[6]

This company would be rebuilt from the rubble of the then annulled subsidiaries of Itabira Iron, Brazilian Mining and Metallurgy Co., which had absorbed EFVM, and the Itabira Mining Corp.

According to above mentioned edict, CVRD would be set up as a joint-stock company with mixed financing, aimed at the exploitation, trade, transportation and export of Itabira iron ore, and commercial exploitation of EFVM.

The company's executive organs were to be a board of directors, an auditing council and a general assembly of shareholders. The board of directors was to have 5 members: a president, two directors of Brazilian nationality, and two directors from the US.

As provided for in the Washington Agreements, an agreement was signed, on March 18th 1943, between the Brazilian government and EXIMBANK, in which the Brazilian government was granted a loan of US$ 14 million, to finance the purchase of the equipment neccessary for the mechanization of the Itabira mines and the reconstruction and improvement of EFVM.

Taking into consideration the company charter, its starting capital of 200 000 "contos", and the signing of the contract with EXIMBANK, it is obvious that the program called for in the Washington Agreements was at this point well under way.

The CVRD in the forties – slow growth EXIMBANK intervention

Bound by the rules and conditions by which it was founded, the activities of CVRD in the forties were limited to the implementation of the aforementioned reform program of its infrastructure, to the struggle of overcoming its serious financial problems, and to resolving the conflicts resulting from interference by its financier EXIMBANK.

Actually, CVRD did not have the opportunity to develop in a gradual and rational way in accordance with its corporate reasoning, as it was tied by the political conditions laid down in the Washington Agreements.

According to a CVRD report from 1945, analyzing the company's activities during the Second World War period,

> "The reality is, however, that despite the fact that our company exported ore during this three year period, in accordance with the Washington Agreements and in solidarity with our English and American allies, economically they should have foreseen, from the begining, the negative effects of this export, since the company was not in the condition to produce, nor much less to export the amount of iron proposed, on account of the company's extremely precarious disposal over the iron. Moreover, as the reason for its founding was international interest, summarized in the Washington Agreements, it was not structured to solve its immediate financial problems, as long as much more important and urgent questions remained unresolved."[7]

Thus, during the three years (1943-1945) in which Brazil participated in the war, CVRD exported only 291 180 tons of ore, all of which was consumed by Great Britain, as the US desisted from sharing the export quota. As will be remembered, the tri-annual contract foresaw an export of 1.5 million tons annually, and a total of 4.5 million tons for the three year period.

With the end of the war, which coincided with the lapse of the tri-annual contract, the contract giving CVRD the exclusive right of sale to the US and England ceased to be in effect, since the latter declined the option of renewing the contracts for the purchase of ore provided for in the Washington agreements, leaving CVRD responsible for the sale of its own ore.

Although this reduced the pressure on CVRD to export at a loss, it left the company without a market in either a short or long term perspective. This problem became even more serious as a result of a market slump, with low demand and prices, resulting primarily from a fall in the production of the European metallurgic industry, coinciding with a technological and organizational weakness which gave little room for competition against other producers in the international community. In addition, CVRD suffered from a practically non-existent trade structure, which forced it to yield to innumerable intermediaries, paying prices well below those to be found on the international market.

With the end of the Second World War and the growing internal pressure to establish a democratic government, that emerged with the end of the "Estado Novo", presidential elections were held in December of 1945, in which general Eurico Gaspar Dutra, of the Social Democratic party, was appointed. The presidency of CVRD was then alloted to the engineer Demerval José Pimenta, who had played a prominent role in the development of the company.

The most serious problem facing the company was its weak financial situation, which made it impossible to continue the reconstruction program, and at the same time settle its debts and payments of loans with EXIMBANK and Banco do Brazil. [8]

Lack of state support reinforces CVRD's dependence on US capital

However, CVRD did not receive, at this time, any support or assistance from the government, as illustrated by the repeated negative responses from the then Minister of Finance Gastao Vidigal with respect to the possibility of new loans or advance payments to the company by Banco do Brazil.

As the federal government neither provided resources nor paid any attention to the problem of the company's future, CVRD's administrative difficulties grew even worse, particularly since the US representatives on the board of directors sought more and more to assume executive control over the company.

Negotiations for the new loan began in late 1946 and EXIMBANK granted a sum of US$ 7,5 million. The conditions included a 15 year term with an interest of 3,5 per cent, and a 3 year grace.

EXIMBANK tries to get control

During the long period (1946-1948) in which these negotiations were carried out, EXIMBANK sought, through a series of demands associated with the terms of the loan, to change the administration of CVRD in order to gain complete and effective control over the company.

EXIMBANK justified its demands on the basis of the contract signed March 13th 1943, in which it had granted the company a loan of US$ 14 million, without guarantees from the National Treasury, which was to be paid with full interest on the sole basis of the taxes earned from the sale and transport of iron ore during a term of 25 years. These terms of payment had been based on the assumption that after two years, that is to say from 1945 onwards, the company would be exporting a fixed total of 1,5 million tons of iron ore annualy. Comparing with the actual amount of ore exported during this period, EXIMBANK argued that as a result of inefficient management the bank was making a loss, since it was not receiving in full the payments due. [9]

While the terms of the loan were still being negotiated, the mandate of the board of directors expired. A new directorate was elected on March 31st 1947, in accordance with the compromises established with EXIMBANK by the Minister of Finance.

Thus the US representatives Robert K. West and Howard Williams, and the Brazilian representatives Emídio Berutto and Delicardiense Alancar Araripe, nominated by EXIMBANK, were elected to the posts of directors, while the Presidency of the company, nominated directly by the President of the Republic rather than through elections in the shareholders assembly, was retained by Demerval Pimenta.

Following the election of the new board of directors, EXIMBANK set out, through its representative Robert K. West, to obtain complete control over the management of the company. This it could only do by seeking to modify the power entrusted to each directorship, through changes in the internal statutes and regulations of CVRD, subordinating the more important functions of the company to directorship under foreign control.

In essence, the changes proposed by the EXIMBANK representative implied cancelling the extensive powers wielded by the company president, reducing his influence to filling no more than a decorative function, and transferring his authority to the four directors, selected and controlled by EXIMBANK.

The CVRD president opposes the EXIMBANK strategy

> "By nullifying the president's authority, the administrative control of the company will fall into the hands of the other four directors, two of which are of North American nationality (...)
> The relevant powers vested by the

statutes in force on the president, namely the right to veto the decisions made by the board of directors, and to cast the deciding vote in the case of a tie, are withdrawn.

Now, it is precisely these two powers which protect the national interests inherent in the formation of mixed-economy companies." [10]

In addition Pimenta pointed out that complete compliance with the demands made by EXIMBANK is unneccessary, since it is in the interest of the bank to grant the loan, in order to increase, as speedily as possible, the export of ore. For it is only through the taxes earned on this export that the Brazilian government can pay back in full the advancements already made by EXIMBANK.

In October of 1947 the President of the Republic, Eurico Gaspar Dutra, requested the consent from Congress for a loan of 7,5 million US$ dollars from EXIMBANK with the National Treasury providing guarantees for the loan, and that CVRD's capital be augmented with Cr$ 350 millions, even though the negotiations with EXIMBANK had not yet been completed.

This bill was approved by the Senate, becoming a law (No. 247) on February 2nd 1948.

In the minutes of the accords presented by EXIMBANK, two major questions still remained unsolved, however. The first concerned the manner of repayment of the loan of US$14 million sealed on March 18th 1943. [11]

Open threats by EXIMBANK

EXIMBANK, pointing to the delays in the reconstruction work, sought to have the notes paid in full through taxes collected *after* the day of expiration.

To coerce the company to accept this clause, the bank proclaimed that it would neither approve of any credit grants to the Brazilian government, nor to any other Brazilian firms requesting loans, unless CVRD complied with the bank's demands.

This move made Pimenta's position even more fragile, since it put pressure on many sectors of the Brazilian economy, dependent on EXIMBANK loans, to support the position of the remaining CVRD directorship and the Minister of Finance, who openly supported EXIMBANK's efforts.

The changes in the conditions of repayment of the 1943 loan were approved at a shareholders' assembly held on July 5th 1948. Accordingly, CVRD was under the obligation to repay in full all of the promissary notes issued on March 18 th 1943, including those already acquitted by the bank.

As a consequence, a sum of US$ 2,091 983:77 (corresponding to 27,9 per cent of the US$ 7,5 million loan being negotiated at the time) which CVRD considered already paid, once again became due EXIMBANK.

It is important to remember here that the argument used by EXIMBANK to justify a CVRD administration of its own design was "the neccessity to secure the payment of the issued IOUs", since the 1943 loan was realized without guarantees from the National Treasury.

In other words, had the Brazilian government guaranteed the original credit, EXIMBANK would have had no justification for interfering in the company's organization, besides the interference already provided for in the founding edict, which established foreign control over two chairs in the directorate.

Furthermore, at the same shareholders' assembly, approval was given to EXIMBANK's second demand, namely an administrative reorganization through changes in the company statutes.

Nevertheless, according to the statutes, the supervision and direction of company business were still in the hands of the president, which caused EXIMBANK to issue yet another set of demands, aimed at totally annulling his authority.

With this question still pending, the contract for the US$ 7,5 million loan was signed on August 12th 1948. The release of the loan remained, however, conditional of the "resolution" *(sic)* of the still unresolved disagreements. [12]

Decisive struggle for control of CVRD

Following the signing of this contract, pressure from the bank increased noticeably, and the already existing crisis within the CVRD directorship worsened, with the president in open conflict with his board of directors. [13]

On the basis of a request for exoneration, which the Minister of Finance Correia e Castro presented on June 10th 1949 (as a result of pressure from Parliament among others) and his replacement by Guillerme da Silveira Filho, Pimenta contacted President Dutra to seek support in regaining control over the company.

Free from the influence wielded by Correia e Castro, who clearly supported EXIMBANK, and following several audiences with the President, Pimenta succeeded in winning the support of Dutra and the new Minister of Finance to push for new changes in the company statutes.

On January 21th 1950, President Dutra approved a reform of the CVRD statutes, in which was established, among other things, the right of the company president to appoint the directors, and that they remain subordinate to him. It also befell him to supervise and direct the company business, and further, to appoint and dismiss the supervisor and the heads of executive organs subordinate to him. The board of directors, as an elected ("eletivo") organ, was to be responsible for the planning, orientation, and control of the results and accounts.[14]

As a result, the directors remained in office, but were automatically discharged from the executive functions which they had come to exercise.

It was first with the publication of a presidential dispatch in the official daily on January 25th 1950, that the members of the board of directors were informed of the changes that the statutes had undergone.

EXIMBANK immediately launched an allout campaign to prevent the presidential decision from being approved in the shareholders' assembly. Among other things, the bank filed complaints with the US ambassador to Brazil, with the US Secretary of State and with the Brazilian ambassador in Washington, alleging that being bound by the contracts associated with the loans, CVRD was not free to elaborate on the statutes at its leisure.

EXIMBANK representatives resign from CVRD board

The Brazilian government having made clear to EXIMBANK that it was simply responsible for the supervision of the payments of the loan, it being the exclusive authority of the shareholders to approve of any changes in the statutes, an extraordinary assembly of shareholders was called, to decide on the proposals.

This meeting, held on February 2nd 1950, unanimously approved the new statutes, which provoked the US government to file a new wave of protests with the Brazilian ambassador in Washington.

As a result of the measures adopted by the Brazilian government, EXIMBANK withdrew R K West from the CVRD directorship, while declaring its decision not to participate further on the board, motivating the other US director, Harold Williams to resign.

1950, besides being the year in which the Brazilian government established definitive control over CVRD, was also a financial turning point for the company. In this year, the first positive results appeared on the CVRD balance.

CVRD was already at this point one of the major enterprises in the national economy, leading and controlling Brazilian export of iron ore.[15]

The reconstruction program was practically completed and in 1952 iron ore production finally reached the target figure of 1,5 million tons.

However, in an analysis of the CVRD export for 1942-1950, these figures are hidden in a total for the period of only 2,173 090 tons. In fact the company operated at a loss until 1948, when it for the first time made a profit. The positive result did not show up in the balance until 1950, mainly as a result of the recovery of the prices on the international market.

The slow growth of CVRD in its first decade reflected the conditions in which it was born, which were determined by objectives extrinsic to the company itself, at times serving interests determined on a pure political basis. Tied down by external interference and lack of governmental financial support, CVRD did not succeed in this period to transcend the conception in which it was founded. Its activities were more or less restricted to the operative functions of extraction, internal transportation and shipment.

It was not until the following decade that CVRD consolidated itself as an export company of significant importance on the international market.

THE CONSOLIDATION PERIOD: 1951 – 1967

Solidification of the infrastructure and administrative consolidation

1950 was a transition year for CVRD. But 1951 was to be a historical marker. The first All-Brazilian board of directors was elected,[16] and the reconstruction program was finally completed. 1951 also saw the formulation of a new company strategy, reshaping the profile of CVRD, until then primarily determined by the US members of the board. Furthermore, a policy of price fixation was initiated followed by the conquest of captive markets through changes in the company's commercial policy.

The fifties heralded the reconstruction of the European steel industry, and the development of an international iron ore trade which had come to stay. By 1952 CVRD had completed its technological modernization and reached the production target of 1,5 million tons of iron ore per year. This growing productivity and the simultaneous fall in the production cost of ore, resulting from the modernizations, also motivated changes in the commercial polices of the company.

Decline of the US market emergence of Europe and Japan

Until 1953, the US had been the primary market for CVRD. However, on a technological level, the US steel industry was still relying on methods developed during the war. But in Europe, which had been forced to completely rebuild its steel industry as a result of the ravages of the war, and in Japan, which received important impulses for development of the steel sector in the postwar period, processes were being developed which incorporated technological innovations, based on the use of high-grade ore.

Evidently these developments influenced the CVRD export trade, and a progressive transfer of company interest toward the European market, and later on to the Japanese, can be noted from this time.

Structural limits to CVRD increased exports

From the 1950s the strong expansion of the European steel industry, especially the German, the emergence of Japan as a new and important market, and a gradual development of the technological level of the US steel industry, permitted CVRD to consolidate itself as a truly great export company.

However, in the process, its relationship to the market was undergoing substantial changes:

- On the one hand, it turned more and more toward Europe as the main trading partner – and also, later on, toward Japan – demoting the American market to marginal importance. [17]
- On the other hand, CVRD was lacking the technological and commercial know how necessary to anticipate changes in the market, provoked by technological innovations. This posed a serious threat to its ability to consolidate its position on the international market.[18]

An agressive pricing policy

The financial problems, which had caused constant friction with Banco do Brazil and with EXIMBANK, reducing even further CVRD's credibility in Brazil and abroad, were finally solved, through the implementation of an agressive price-jacking policy considered vital for the survival of CVRD.

In the beginning of the fifties, the price for iron ore paid to CVRD was approximately 60 per cent lower than that paid to brokers dealing independently with the US. By exploiting the strong demand for iron ore resulting from the Korean war, CVRD decided to face the pressure from customers, brokers and EXIMBANK, and force a price increase of its ore.

This decision stirred up enormous pressure from the purchasing firms, which sought to hinder the new price policy through a campaign in which they put strong pressure on the government to intervene, relying on the company's burdensome debts. However, the decision of CVRD was sucessfully maintained resulting in a price for CVRD ore identical to the current market quotations.

Nevertheless, CVRD still relied on an extremely insipient commercial apparatus, which weakened its position markedly. It had neither a commercial policy nor a corporate structure permitting it to evaluate and adopt to the tendencies of the market, the shifting demands on the quality of ore presented by different steel works, the appearance of new competitors on the market or the quotations for ore on the international market, etc.

A new sales policy

In 1954 CVRD adopted a new commercial strategy based on direct contacts with its customers through the *contracting of foreign firms to represent CVRD abroad*. Thus, in England, Canada and Belgium the company was represented by British and European Sales Ltd., on the continent (excluding Belgium) by SADI (Sociéte Anonyme d'Importation), and in the US by The Cleveland Cliffs Iron Co. [19] Though this direct representation eliminated numerous intermediares, it also implied that CVRD ceded control over its trade to three foreign firms, which practically came to monopolize the sale of Brazilian iron ore in these regions.

Also in the fifties, CVRD began investing in *technological research*, seeking ways to make economic use of fines, until then considered as waste. As a consequence the company, which until then had offered only one product, in 1953 began to export fines. However, a full scale effort in the development of new technology was not made until the following decade.

The fifties also saw a strengthening of CVRD's technical infrastructure. Large sums were invested in the road network, in the mechanization of the mines, and in the completion of the enlarged port facilities in Vitória, which allowed a significant increase of shipments in the following decade.

This accumulation of strength, the full effects of which were to be felt in the 1960s signified a qualitative jump in relation to CVRD's first ten years, but a slow quantitative growth, despite the fact that its export totals had increased uninterruptedly. [20]

The 1960s – accelerated growth, technical innovations and direct trade

The sixties marked the consolidation of CVRD as a major international iron ore exporter. In 1960 the company's share of world iron ore exports was 4,3 per cent. In 1969 this figure had increased to 9,1 per cent.

Several factors contributed to this growth, especially the adoption of *a policy of direct trade*, the signing of the first *long term contracts with Eastern Europe*, the completion of the *new terminal in Tubarão*, which together with *the emergence of the superfreighter*, enabled CVRD to conquer the Japanese market, and finally, the success of *the company's structural reorganization*, which permitted the adaptation to important technological developments in the international steel industry.

The main problem that CVRD faced in the sixties was in fact a rapid adaptation of its production to new technologies in the steel industry, where innovations leading to the substitution of the existing Siemens-Martin furnaces with LD furnaces, substantially altered the specifications of the ore used in the production of steel.

These changes called for the use of higher grade and more homogenous ore, causing stricter regulation of the specification demanded by the purchasers, while at the same time increasing the share of the cost of the raw material in the total production cost.

In 1966 the port of Tubarão was inaugurated, permitting an realization of *the first contract with Japan*, signed in 1964, in which the latter commited itself to buy, during a period of 15 years, 50 million tons of iron ore. The contract

Itabira 1981
"Yesterday: valleys, mountains and ageing houses
Today: an island of iron ore mountains
Tomorrow:
Poster in Itabira, Minas Geraes
(Above)
CVRD truckdriver in one of the iron ore mines of Minas Geraes.
(Right).

The first ship to load from the new Tubarao terminal on April 1 1966 was, ironically, the Swedish mv Lappland, named after Sweden's northern iron ore province. Eleven years later on June 20 another Swedish ore carrier, the Svealand (photo below), received the present world cargo record of 268,689 metric tons of iron ore. Both were owned by the Swedish Broström Group.

signed with Japan confirmed the policy established in 1962, to enter long term contracts through the formation of captive markets, a policy which was definitively consolidated in the early 1970s.[21]

The end of self-financed expansion

Meanwhile the competition in the iron ore market increased merkedly with the appearance of new producers, directly geared towards the steel industry's new demands.

In order to maintain its role on the market despite its comparatively disadvantageous position, CVRD initiated an expansion program calculated to compensate the losses resulting from the falling prices with a substantial increase in the amounts of ore exported.[22]

Thus the company set about to reshape, the mine/railroad/port complex, diversified its production of ore, began studies for the implementation of its first pellet plant and increased its long-term contracts in captive markets.

These undertakings, requiring enormous investments signified, besides an accelerated growth of the company, *the end of the policy of self-financing which had been followed until that time.* Instead , the company set out to important loans in the international financial market, a policy greatly facilitated by the respectability and credibility which it by now enjoyed abroad.[23]

A new commercial policy was also adopted, expressed in the formation of various subsidiaries, based abroad, promoting a more market-adapted and profitable trade apparatus, capable of providing exact information vital to short term decision making and strategic planning, both necessary to challenge the domination of foreign representatives in the international market.

In 1968, the resistance against long-term contracts on the part of the European countries having abated, CVRD signed 3-year a sales contract with Italian steel firms and a ten year contract with USINOR.

Another important event in this development was the formation of a whole fleet of large-capacity ore carriers.[24]

By the end of the 1960s CVRD was a well consolidated company of significant importance in the international iron ore market, offering a wide range of different types of ore, posessing its own transoceanic fleet, the latter of particular importance for the conquest of the Japanese market in the following decade, where Australian ore presented seriuos competition by virtue of its major existing or potential markets.

In addition CVRD managed to secure its sales through the establishment of long term contracts, and through association with foreign capital from the countries which represented its major existing or potential markets.

As a result of the growth realized during this period, CVRD accumulated the technical, administrative and financial capacity to diversify into a state conglomerate.

The diversification/ conglomeration period: 1968 -

The period reaching from 1968 to 1975 was characterized by continued growth in the production and export of iron ore. CVRD's production quintupled during these years, and in 1975 reached a level which was not surpassed until 1979. In 1968 CVRD accounted for 6,8 per cent of world iron ore exports. CVRD's share the grew to 9,1 per cent in 1969, to 11,4 per cent in 1970, and reached roughly 20 per cent in 1975.

In order to diversify its range of iron ore products, CVRD in 1973 started production of *sinter* and *pellet feed,* which came to occupy an increasing share of its total production, following the tendencies of the world market.[25]

From 1975, as a result of the deepening crisis in the European steel industry, CVRD's exports began to decline.

The company also started to loose ground in the national market. At the same time MBR and SAMITRI, two major competitors, expanded their production significantly.

CVRD maintained, however, its position as the world's leading exporter of iron ore and, with the launching of the Ferro Carajás project, it planned to increase its share of world iron ore exports and conquer new markets.[26]

Already well established as an exporter of ore, with its own fleet of heavy ore carriers and directly in control of the sale of its ore, the company from 1968 turned its attention to diversification of its activities outside the iron ore industry.

The reasons for CVRD's diversification

This strategy which was launched already in 1967, with expansion into forestry and the pulp industry came about for several reasons:

- Firstly, there was an imminent need for the *creation of new investment areas,* since the profits generated by the iron trade exceeded what could be reinvested in that sector.
- Secondly, there was a need for new *commercial structures*, in particular in the area of trade, which could secure the availability of CVRD products in foreign markets.

The first reason for diversification illustrates the great capacity CVRD had acquired to generate financial surplus, and reflects the size and profitability of its operations. It is noteworthy that the diversification period coincides with the period when sales increased unprecedently, i e, prior to 1975.

With respect to the second reason for diversification CVRD developed some noteworthy mechanisms to coerce and favour its customers in the iron ore market, which is a *buyers' market*, by involving them in CVRD activities, other than the production of iron ore. For:

> "(...) the more diversified the possibility is of doing business, the more interesting does the potential seller become. Thus the export of iron ore not only justified CVRD's partnership strategy, but it also gives a first explanation to its horizontal diversification, which intensified during the seventies. CVRD continued to export, to the same partners and on the same market, but with new products." [27]

In our opinion the different forms of partnership with foreign groups were determined, first and foremost, by *market considerations* (the creation of "captive" markets and/or the possibility of increasing the share of the international market) and by political/governmental interests, and secondly, by financial and technological necessity.

In this move towards partnerships with multinational capital, CVRD gave priority to enterprises in partnership with Japanese capital, mainly to maintain and enlarge the role of the Japanese market as a consumer of iron ore, not in terms of prices, but in terms of quantity. The partnerships with Japanese investors cover a wide range of activities, resulting in the production of pellet ore, pulp and aluminum, all geared towards filling the internal needs of the Japanese economy.

Within the frame work of the diversification program, which was realized with capital accumulated in the iron ore sector, CVRD established a series of *joint ventures* with national capital from other countries, eg in the areas of iron ore mining and pelletizing, as well as in other sectors including forestry/pulp, bauxite/alumina/aluminum, fertilizers, titanium and manganese.

Investments in iron ore mining

With respect to the first block of investments, one can note the company's strict focus on its principal activity. The new investments were all, directly or indirectly, linked to CVRD's original activities and aimed at the enlargement of the reserves of ore under CVRD control and of the company's production capacity, with the purpose of maintaining and increasing its share of the world market.

Investments in pelletizing

The second block of investments, was a result of the increasing demand for pellets in the world market, and of the rising profitability of blast furnaces, enabling CVRD to raise the price of its ore.

The strategy of forming joint-ventures in this context is intimately connected with the establishment of indirect trade, with markets controlled through enterprises created with potential buyers of the product.

Thus, all the three partnerships which CVRD formed with foreign firms for the production of pellets, had as a fundamental aim the purchase, by these firms, of the end product.

All the partnerships were realized with foreign groups which occupied a marginal position in the international steel oligopoly, and which had an interest in substituting crude ore with pellets in their steel mills.

Investments outside the iron ore sector

The third block of investments, concerned with activities far removed from CVRD's original interest, represent the *horizontal expansion* of the state group. These activities were concentrated in the mineral sector, where CVRD sought vertical control over the production, as in the cases of aluminum or fertilizers.

A large part of the diversification in this block was achieved through the formation of *joint ventures,* in accordance with the strategy elaborated by CVRD in the late sixties, in which enterprises in new areas were carried out with partners associated in the formation of captive markets, with market access as the basic motivation. CVRD's involvement in the forestry and aluminum sectors are the prominent examples.

It is finally neccessary to note the creation of subsidiaries such as *RDEP* – Rio Doce Engenharia e Planejamento S.A. (the Rio Doce Engineering and Planning Co.) in November of 1971, and *DOCEGEO* – Rio Doce Mineraçao e Geologia S.A. (the Rio Doce Mining and Geology Co.) in July 1976. This reflect CVRD's intention of increasing its administrative capacity and maintining control on the tactical and strategic level in each sector.

The RDEP performs economic, financial and administrative planning, provides consulting services and technical assistance in the engineering field. It was created mainly to increase CVRD's expertise in basic engineering which is essential to a company which has recently developed into a large conglomerate. It fell upon RDEP to make the neccessary studies and services for CVRD. It was assuming control over engineering and managing projects in different sectors, in order to develop a common orientation and global coordination to CVRD's expansion.

It is logical that this company was given a position of some importance within CVRD, evolving into an instrument for the implementation of the group's overall sectorial and technological policy. It even achieved a similar role for the national mineral resources policy, as CVRD constitued a powerful instrument for the execution of this policy in Brazil.

Precisely because of the importance it enjoyed, RDEP became, during the 8 years of its existence, the object of a massive political opposition mainly from the multinational consulting companies and the aluminium cartel, but also from certain sectors CVRD itself.

The results of this resistance was, in the short term, the blocking of RDEP's activities within CVRD[28] and in the long term, its liquidation, in 1979, after allegations that it was implementing a biased financial policy.

The creation of DOCEGEO, on the other hand, was aimed at controlling CVRD's prospecting and geological research activities by adopting an investment program taking charge of costly research in order to increase CVRD's opportunities of investing in the mineral sector.

However, at the same time as it was trying to redirect CVRD's activities towards iron ore mining, DOCEGEO stopped a large part of its research.

The most controversial question at present concerns the management of the exploration and transfer of CVRD's deposits in the "Provincia Mineral de Carajás", which are being prospected by DOCEGEO.

The diversification strategy – a summary

The importance attached by CVRD to its diversification strategy, can be analyzed on the basis of its investment program, which from the outset has been divided into 5 year periods.

In the budget for the 1976-80 period, 32.7 per cent of annual investments were set aside for diversification projects. In 1978, still according to the same budget, the investments in the diversification program already exceeded those earmarked for the expansion of the iron ore sector. Amoung the various diversification projects between 1976-78, the largest by far were those in the aluminum sector, with 30 per cent of investments and the Carajás project, with 28.3 per cent.

Nevertheless CVRD's diversification strategy was not carried out in accordance with the original plans, nor did it produce the expected results. The causes and consequences of this development would require an in depth study that is beyond the scope of this study. Suffice here to stress the two main developments which negatively influenced CVRD's diversification policy:

First, the fall in profits of the group and the resulting reduction of its investment capacity, stemming from the global crisis in the steel industry, that began in 1975.

Secondly, the pressure, in the form of a new policy proposed by the Figueiredo government, to privatize large parts of CVRD's activities in various sectors. This once again shows the ambivalent structural character of this public/corporate organism.

Notes:

1 See introductory backgrund pp 14-15.

2 At this time, and until the reform of the Brazilian Constitution in 1934, the mineral rights of the subsoil belonged to the landowner, with a few exceptions defined by law.

3 It was on the basis of the 1889 Constitution, which granted the mineral rights to the landowner, that a rush of foreigners bought large tracts of land in the Rio Doce valley region at the turn of the century, after the discovery of the rich iron ore deposits.

This possibility was abolished with the 1934 Constitution, in which the mineral rights were forfeited to the Union.

The rights of the landowner who based their claims on land titles were, however, respected, on condition that these mines be made known and properly registered. Bowing to the new legislation Itabira Iron registered its mines in 1935.

4 According to Osny Perreira Duarte in his book *Ferro e Independencia* (Iron and Independence) one of the main characteristics of the policy adopted by the large trusts during the war, was their recourse to stateism ("estatismo"), which until then had been effectively fought back as a means of combating the rise of prices of raw materials through demands of price control.

The Washington Agreements instituted the state monopoly on rubber through the Banco do Amazonia, with the US providing half the capital, and the state monopoly on the export of iron ore with the founding, in 1942, of the Vale do Rio Doce Co. The prices on raw materials were frozen, and a state operated company was created by pressure from foreign interests, op. cit. p. 42.

CVRD's sale of iron ore at a fixed price of Cr$ 100 per ton during the period in which the Washington Agreements were signed was also condemned by Artur Bernardes who pointed to the prices on the international market, which at the time were about US$ 18.5 or Cr$ 300 at the contemporary exchange rate, per ton.

5 The Brazilian government later paid out an indemnity of 14,000 "contos de reis" to Percival Farquhar, who held the lease option for the Itabira fields, since he desisted from excercising his option as a result of the Washington Agreements.

6 According to Art. 6 §7 of Edict No. 4352 of July 7 1942. The maximum dividend to be distributed shall not exceed 15 per cent, the remaining liquid profit shall constitute a fund for the improvement and development of the Rio Doce valley, executed in accordance with plans agreed upon by the governments of the states of Minas Gerais and Espirito Santo, and approved by the President of the Republic.

7 Abranches, Sergio H. and Dain, Sulamis: *A Empresa Estatal no Brasil: Padroes Estruturais e Estrategia de Açao* (The State Corporation in Brazil: Structural Patterns and Strategy for Action), FINEP 1980, p. 43.

8 As a symptom of its minute competetiveness on the international market, CVRD registered in 1946 its lowest export figures since 1943, which in turn aggravated even further the company's financial difficulties.

[9] Pimenta, Demerval: *A Vale do Rio Doce e a sua História* (The Rio Doce Valley and its History), p. 283.

[10] Pimenta, op. cit. p. 179.

[11] According to clause VII of the 1943 contract:

> "The responsibility of the Co. with respect to each promissary note issued toward the repayment of the credit referred to, whether the promissary note refers to the principal sum or to the interests, will be limited to said note, which shall be paid solely on the basis of income derived from the taxes established in the following paragraphs, such that said income become disposable subsequent to the issue and preceeding the day of payment of said note."

After a period of 25 years, the promissary notes should be returned to the company as expiated, whether or not the capital accumulated through the sales tax of 15 per cent be sufficient to settle the balance.

[12] Pimenta, op. cit. p. 263.

[13] Pimenta declared at the time "The situation in which they want to put (CVRD) is absurd. It's a lukewarm and weak government to be so frightened, when holding 85 per cent of the shares and giving guarantees through the National Treasury for all of the loans given by EXIMBANK, it still submits, day in and day out, to the (bank's) demands, that the company administration be to its liking, simply because it is financing the reconstruction programs, op. cit. p. 263.

[14] This measure was a step in the direction of abolishing the requirement of having two directors of US nationality, though a formal change to this effect could only be brought about through a law , since the requirement was included in a clause of the founding presidential edict.

[15] In 1950 CVRD provided 80 per cent of the iron ore exported from Brazil.

[16] With the election of Getulio Vargas as President in 1951, Juracy Magalhaes was appointed new president for CVRD, along with the election of a new board of directors, composed only of Brazilians.

[17] Note that in 1950, more than 80 per cent of CVRD's exports were destined to the US. In only four years, that is to say by 1954, this figure had fallen to only 35 per cent, while figures for the export to Europe had risen from 8.2 per cent to 61.2 per cent.

[18] Abranches, Sergio H. and Dain, Sulamis, op. cit., p. 45.

[19] Osny P. Duarte, in his book *Ferro e Independencia* (see [4] above), traces the concession to the Cleveland Cliffs Iron Co. to the Defense Agreement between Brazil and the US signed in July 1952. According to this agreement, Brazil remained, according to Duarte, bound to the relationship to the US established during the Second World War, in which the US came to control the Brazilian economy, in particular its raw materials.

That Cleveland Cliffs was granted the right of representation was an expression of this control, resulting in the continued domination over the Brazilian iron ore on the part of the US steel industry.

[20] The following figures illustrate the growth of CVRD's exports:

1950: 739,382	**1955**:2,346,570
1951:1,314,134	**1956**:3,376,896
1952:1,794,896	**1957**:4,575,293
1953:2,175,976	**1958**:4,141,121
1954:2,209,973	**1959**:4,414,910

[21] Several foreign iron ore producers activelly opposed the construction of the Tubarão facilities, as the saw in this enterprise the threat of loosing shares of the market to CVRD.

[22] Brazil, which had a near-monopoly on the sale of enriched high-grade ore suffered a financial setback with the fall of the quotations for lump ore.

During the 1951-54 period, the average price *(FOB/Vitória)* was US$ 12,93 per ton, while in the 1960-72 period, the price had fallen to US$ 7,99.

[23] The first of these loans was signed in 1964 with the International Development Bank, involving a sum of US$ 28,8 million, mainly destined to projects concerning construction of the port of Tubarão and a pellet plant.

[24] Seamar Shipping Corp. was established on September 22 1966 as a shipping subsidiary, with main office in Monrovia, Liberia. It was incorporated into DOCENAVE in 1968.

Nippon Brasil Bulk Carries Ltd., established January 9 1967, represented a partnership with two Japanese firms, with trade interests covering a broad area, headquartered in Nassau, Bahammas.

[25] In 1973, pellet and sinter feed by CVRD represented 2,5 per cent and 9,2 per cent of the world production, respectively. By 1977, these figures had increases to 13,8 per cent and 36,0 per cent. With the initiation of ore production in Carajás, planned for 1985, CVRD's global production will be completely composed of sinter feed.

[26] Cf pp 52 - 69.

[27] Abranches, Sergio H and Dain, Sulamis, op. cit., pp 81-82.

[28] In 1978 RDEP had only one active contract with CVRD, and even this was in the process of being dropped. Neither the CVRD holding company nor the other subsidiaries required RDEP's services, a situation which effectively strangled the company's economic base.■

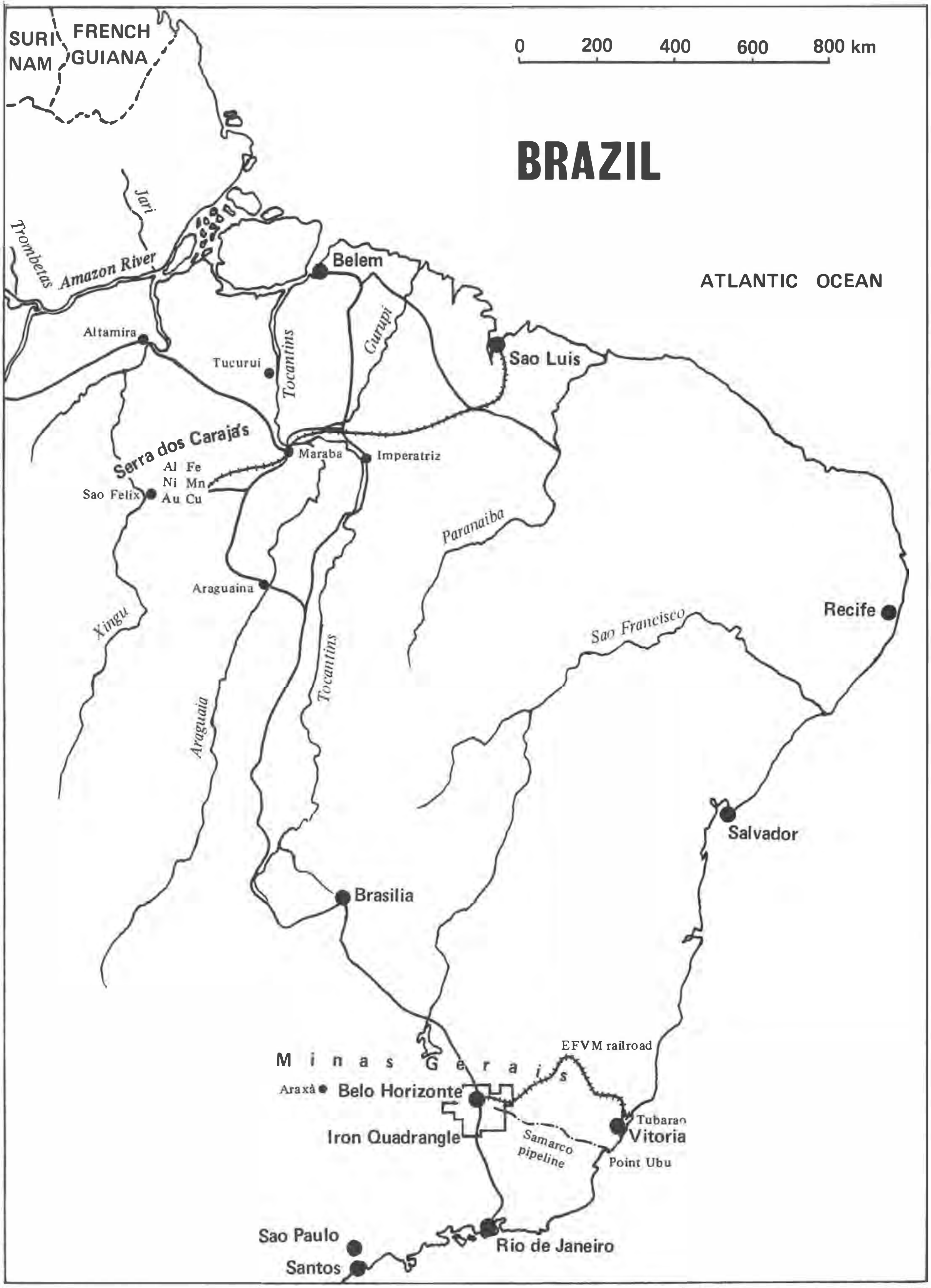
CVRD subsidiaries and joint ventures	Founding date	Shareholders	Objectives	Notes
Forestry and Cellulose				
Cenibra – Cellulose Nipo Brasileira S.A.	03-73	CVRD – 54.4% JBP (Japan) – 46%	Production and sale of cellulose paper and pasteboard	
Flonibra – Emprendimentos Florestais S.A.	10-74	CVRD – 55% JBP (Japan) 45%	Forestry etc. for the production of cellulose	
Aluminum				
MRN – Mineraçao Rio Do Norte	07-74 [1]	CVRD – 46% ALCAN (Can.) – 19% Other: 35%	Mining and marketing of bauxite	Aimed primarily at filling the market needs of the Canadian partner, ALCAN even though the state held the majority of shares.
ALUNORTE – Alumina do Norte do Brasil S.A.	07-78	CVRD – 60,8% NALCO (Jap.) – 39,2%	Production of aluminum	The development of the ALBRAS/ ALUNORTE Project, a captive complex geared toward the production of alumina and aluminum for Japanese internal consumption, is the result of among other things, the energy crisis which forced Japan to transfer large parts of its energy-consuming industry and, on the internal level, government projects that gave priority to the development of initiatives that sought to profit from the energy resources at Tucuruí, besides the already mentioned question of trade agreements established by CVRD in the iron ore sector.
ALBRAS – Alumino Brasileiro S.A.	09-74	CVRD – 51% NALCO (Jap.) – 49%	Production of aluminum	
Mineraçao Vera Cruz S.A.	1977	CVRD – 36% RTZ (Rio Tinto Zinc, UK) – 64%	Mining of bauxite	The two groups mined adjacent bauxite fields in the southern part of the state of Pará. The contract gave managerial control to the British group and gave priority to the development of RTZ's fields, the foreign group thus receiving the lion's share of the contract.
VALESUL – Alumino S.A.	1976	CVRD – 80,75% Reynolds Int. Inc., (UK) – 64%	Production of aluminum	In accordance with the governments tendency of allowing private multinationals to lead the Brazilian aluminum industry the Royal Dutch Group assumed, through Shell, control over the project, as CVRD withdrew from any participation.
VALENORTE – Alumino S.A.	10-73	CVRD – 100%	CVRD holding Co. for the aluminum sector	

Fertilizers				
VALEP – Mineraçao Vale do Paranaiba SA VALEFERTIL – Fertilizantes Vale do Rio Grande S.A.	12-74	CVRD – 100%	Mining of phosphate, titanium, niobium, and rare earths	Due to Governmental pressure to revert CVRD's focus to the mining of iron ore, these two companies soon come under the auspices of PETROBRAS, through FOSFERTIL, of which CVRD controlled 34%. [2]
Manganese				
Urucum Mineraçao S.A.	04-76	Triple partnership with CVRD, Metamat (Br) and Alcindo Vieira – Convap (Br)	Mining and marketing of manganese	
Amazonia Mineraçao S. A.	04-70	CVRD – 51% US Steel – 49%		Mining the Carajás iron ore deposits. Since June 1977 a subsidiary of CVRD.
Navegaçao Rio Doce Ltda.	09-73	CVRD – 53%		Transport of ore
Rio Doce Europa S. A.	01-74	CVRD – 100%		Sale on the foreign market
Havale Ltda.	08-74	CVRD – 50% ACESITA (BR) – 50%		Mining and marketing iron ore
Caraça Ferro e Aço S. A.	1975	CVRD – 100%		Mining of iron ore
Minas del Rey Dom Pedro	1975	CVRD – 51%		Mining of iron ore
Minas Serra Geral S. A.	09-76	CVRD – 51% Kawasaki (Japan) – 49%		Mining of iron ore
ITABRASCO – Cia. Italo-Brasileira de Pelotizaçao	04-73	CVRD – 50,9% FINSIDER INT. (Italy) – 49,1%		Production began in 1977.
NIBRASCO – Cia. Nipo-Brasileira de Pelotizaçao	03-74	CVRD – 51% A Japanese Steel consortium – 49%		Production began in 1973.
HISPANOBRAS – Cia Hispano-Brasileira de Pelotizaçao	1974	CVRD – 50,9% ENSIDESA (Spain) 49,1%		Production began in 1979.

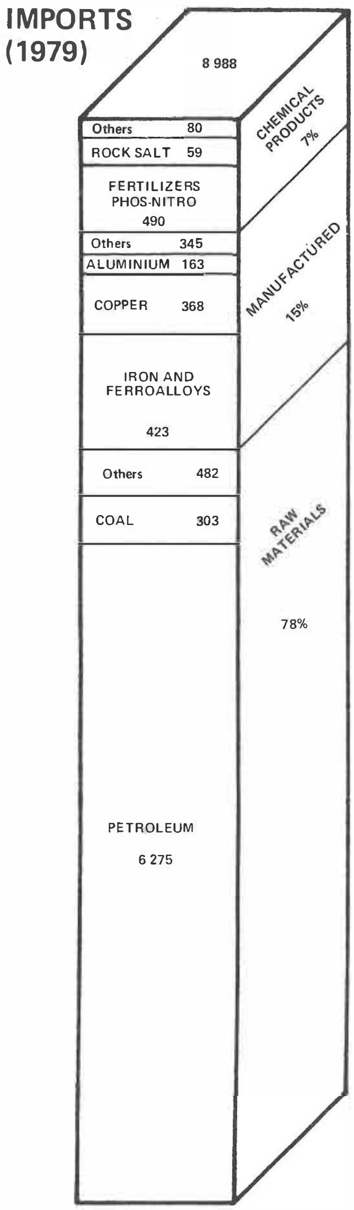
Notes:

[1] Date of first agreement

[2] The mining of titanium, however, remained under CVRD's hat, since the CVRD group had maintained negotiations with the US firm New Jersey Zinc concerning a joint production enterprise. But as the foreign firm didn't produce the expected boost, the partnership expired


SURINAM
FRENCH GUIANA
0 200 400 600 800 km
BRAZIL
ATLANTIC OCEAN
Jari
Trombetas
Amazon River
Belem
Altamira
Tucurui
Tocantins
Curupi
Sao Luis
Serra dos Carajás
Al Fe
Ni Mn
Au Cu
Maraba
Imperatriz
Sao Felix
Paranaiba
Araguaina
Xingu
Araguaia
Tocantins
Sao Francisco
Recife
Salvador
Brasilia
Minas Gerais
EFVM railroad
Araxà
Belo Horizonte
Iron Quadrangle
Samarco pipeline
Tubarao
Vitoria
Point Ubu
Sao Paulo
Santos
Rio de Janeiro

Despite the fact that it is one of the world's leading exporters of raw materials Brazil has a large deficit in it's trade with minerals.
In 1979 the country exported minerals worth 2 719 million US dollars, but the import reached 8 988 million, creating a trade deficit of 6 269 million dollars in this sector alone.
Details in the figure and table below.

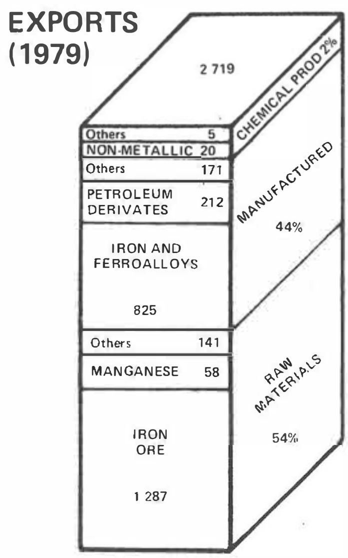


Brazilian mineral production 1979/1980

Metallic minerals	**Quantity tons (1980**	**Value % of BMP (1979)**
Iron ore	96,545 Mt	19.8
Bauxite	2,883 Mt	1.3
Copper	60,000	— [1]
Lead	92,000	0.4
Zinc	95,000	0.3
Nickel	2,500	— [2]
Tin	8,900	2.3
Gold	15	1.7
Manganese	1,300 Mt	1.6
Columbium (Niob)	28,909	2.5 [3]
Others		1.7
Total		**31.6**
Non-metallic minerals		
a. Energy		
Coal	5 MMt	4.6
Petroleum	9 Mm^3	28.3
Natural gas	1.910 Mm^3	2.7
Total	—	**35,6**
b. Diamonds & gemstones		
Diamonds	83.177 [5]	**0,3**
Gemstones	2,412 Tkg	**1,1**
c. Other[4]		**31.4**
Total value 3.774 billion US dollars		**100.0**

Notes:
1 Not available
2 0,03%
3 Cf page 35
4 Mainly industrial minerals
5 Carates

Sources:
Anuário Mineral Brasileiro 1980
Mining Annual Review 1981



Source: Anuário Mineral Brasileiro 1980

In 1977 the share (in % of BMP) of the 50 largest mining companies was as follows:

Foreign private capital	*25.93*
Brazilian private capital	*18.79*
Brazilian state capital	*16.99*

The 10 largest mining groups in Brazil (1977)

Group	Origin Ownership	% of BMP[1]	Commodity	% of Commodity[2]	Mining company
1. CVRD	Braz/state	14,01	Iron	48,63	CVRD
2. Votorantim	Braz/priv.	5,44	Iron	0,12	Siderúrgica Barra Mansa
			Manganese	0,28	" " "
			Bauxite	15,40	CBA-Cia Bras de Alumino
			Zinc	80,30	CMM-Cia Mineira de Metais
			Limestone	32,85	12 companies
			Silver	19,70	9 companies
			Magnesite	2,50	Ceramicade Guarhulhos
			Phosphates	0,20	Cia Cimento Portland Poty
			Dolomite	0,90	Siderúrgica Barra Mansa
			Fluorite	58,50	Min Sta Catarina/MICAL/MIBRAS
			Quartz	1,50	IBAR
			Gypsum	18,50	Soc Min Ponta da Serra
3. MBR	US/Braz/priv	5,32	Iron	18,42	Min Bras Reunidas
4. Siderbrás	Braz/state	2,72	Iron	3,47	CSN/Cosim/Min Ferro e Mang.
			Manganese	2,79	" " Min Met do NE
			Limestone	2,45	" /Cosipa/Min Ferro e Mang.
			Dolomite	12,70	" /Min Ferro e Mang.
			Coal	23,60	" /Carbonífera Prospera
5. ARBED	Luxemb/priv	2,16	Iron	7,25	Samitri/Samarco
			Manganese	1,42	Samitri
			Bauxite	2,70	"
			Marble	2,20	Samarco
6. Exploration und Bergbau	BRD/priv	2,05	Iron	7,10	Ferteco Mineraçao
7. Union Oil (Molycorp)	USA/priv	1,96	Columbium (Niob)	62,90	CBMM-Cia Bras de Met e Min Cia Min de Pirocoloro de Araxá
8. Empresas Sud-americanas Consolidadas (Hochschild group)	Panama/priv	1,82	Columbium	37,10	Min Catalao de Goiás SA
			Tungsten	45,20	Min Acuan Ind e Com SA
			Nickel	100,00	Morro de Niquel SA
			Beryllium	56,80	Brasimet Com Ind SA
					Mineraçao Sertaneja
9. Bethlehem Steel[3]	USA/priv	1,80	Manganese	63,43	ICOMI
10. Magnesita	Braz/priv	1,79	Silver	6,10	Cia Paulista de Mineraçao
			Magnesite	95,70	Magnesita SA
			Dolomite	19,00	"
			Talc	8,20	"

Notes: 1 BMP = Brazilian mining production (value)
2 Share of production (volume)
3 Share of MBR production excluded

Source: Me&P, May 1981

Other important foreign groups in the Brazilian mining industry (1977)

Rank[1]/Group	Origin Ownership	% of BMP	Commodity	% of Commodity	Mining company
15. Bunge y Born	Argentine/priv	0,94	Silver	3,80	Serrana SA de Mineraçao
			Phosphates	76,20	" "
16. Anglo Americ.	South Africa/priv[3]	0,93	Gold	65,91	Min Morro Velho SA
18. Saint Gobain	France/priv	0,78	Asbestos	48.05	SAMA SA Min de Amianto
Soc Fin Et	Switzerland/priv	0,78	"	48,05	" " "
23. Brumadinho	Britain/priv	0,66	Tin	24,40	Min Oriento Novo
25. BRASCAN	Canada/priv	0,65	Tin	24,40	Cia de Mineraçao Jacundá
28. IMETAL	France/priv	0,54	Lead	98,50	Mineraçao Boquira SA
			Gold	0,32	Plumbum SA
			Silver	96,10	" "
29. US Steel	USA/priv	0,50	Manganese	17,48	CMM, Cia Meridional de Mineraçao
31. Union Minière	Belgium/priv	0,48	Gold	2,69	Mineraçao Tejucana SA
			Sand	14,10	Dragagem de Ouro SA
			Diamonds	86,00	" " "
40. DK Ludwig	USA/priv[2]	0,34	Kaolin	47,90	Caulim de Amazonia Ltd
42. Dow Chemical	USA/priv	0,33	Salt	55,80	Min e Quimica de Nordeste SA
45. Engelhard Min. & Chemicals	USA/priv	0,30	Beryllium	18,70	Ubaldo Sales Fraga Cia Ltda

Notes: 1 Among the 50 largest mining companies

2 Since January 1982 controlled by private Brazilian companies

3 Since 1977 Anglo American has considerably increased its interests in Brazil. The energy corporations Shell and BP, through its acquisition of Brascan, have also invested havily.

Source: Me&P, May 1981

Companhia Brasileira de Metalurgica e Mineraçao – a US monopoly in Brazil

20 years ago niobium was a relatively exotic metal without any significant use in the steel industry.

The main reason for this was that niobium was produced as a coproduct of tantalum, which was extracted from columbium-tantalite ores in a costly process. Consequently niobium was scarce and quite expensive and niobium-containing steels and alloys were not developed to any significant degree.

However, this situation changed rapidly as it was discovered in the early 60s that very small additions (0.02%) of niobium to mild steel caused a significant increse in strenght. It was also discovered that grain refinement could result from niobium additions. These two discoveries spawned subsequent extensive research into niobium as a trenghthener and toughener of structural steels.

These developments made the niobim-containing pyrochlore deposit in Araxá one of the most valuable and strategically important deposit is owned by *Companhia Brasileira de Metalurgica e Mineraçao (CBMM)*, which is controlled by *Cia Metropolitana de Comercio e Participaçoes* (52.65), *Molycorp* (47.0), a wholly owned subsidiary of *Union Oil of Houston, USA*, and by private Brazilian shareholders 0.35% processing and marketing is controlled by Molycorp. At present there are only two other niobium mines in operation, one in Canada (Niobec Inc.) and the other in the state of Goiás in Brazil (Mineraçao Catalao Goiás). CBMM, however, is by far the largest producer, with about 80 per cent of the market. This has made CBMM the leader in the world niobium oligopoly, which is determining the world price on niobium oxide (98% min Nb).

Its ability to withstand very high temperatures and its strength at such temperatures make it a primary metal for use in aerospace equipment and missiles.

Source: Steel Times, April 1981
Mining Annual Review 1981
Mining Yearbook 1981 ■