CAP and the Development of the Steel and Iron Industries in Chile, 1946-1980*

CAP y el desarrollo de las industrias del hierro y acero en Chile, 1946-1980

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Abstract

This paper provides the first comprehensive account of the development of the steel and iron industries in Chile during the 1940s-1970s, by focussing on CAP, which was created as a mixed company in 1946. Our main sources of information are the Annual and Financial Reports of the company. We show that CAP quickly became hegemonic in both industries, which was unusual within Latin America. The economic performance of CAP was impressive, while per capita steel consumption trebled in three decades. CAP resorted to resources long available but until then unexploited, overcoming previous failed attempts to launch the industry. This was down to strong state support, but also due to extensive cooperation with the private sector. The 1970s proved too turbulent for the company, due to political instability during the socialist Allende's short term in office (1970-3), and the international crisis that hit the iron and steel industries after 1973.

Keywords: Steel Industry | Iron | Chile | CAP | Mixed Company

JEL Codes: H32 | L22 | L61

Resumen

Este trabajo proporciona la primera revisión exhaustiva sobre el desarrollo de las industrias del hierro y acero en Chile durante las décadas de 1940 a 1970, centrándose en CAP, que fue creada como una empresa mixta en 1946. Nuestras principales fuentes de información fueron los informes Anuales y Financieros de la compañía. Mostramos que CAP ocupó rápidamente una posición hegemónica en ambas industrias, lo cual era inusual en América Latina. El desempeño económico de CAP fue impresionante, mientras que el consumo per cápita de acero se triplicó en tres décadas. CAP recurrió a recursos disponibles durante mucho tiempo, pero hasta entonces sin explotar, superando los fallidos intentos previos de lanzar la industria. Esto se debió a un fuerte apoyo estatal, pero también a la amplia cooperación con el sector privado. La década de 1970 resultó ser demasiado turbulenta para la empresa, debido a la inestabilidad política durante el corto mandato del socialista Allende (1970-3) y la crisis internacional que golpeó a las industrias siderúrgicas después de 1973.

Palabras clave: Industria Siderúrgica | Hierro | Chile | CAP | Empresa Mixta

Códigos JEL: H32 | L22 | L61

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1. Introduction

Twentieth-century economic growth has been linked to the expansion of modern industries, and the steel industry has played a key role in industrial and military development.Steel is a major component of most capital goods,and became the cheapest and most used metal in the world, as it was extensively supplied to key industries linked to the industrial revolution, in particular railways, automobiles, construction, oil, and machinery (D'COSTA, 1999; ROGERS, 2009). During the second half of the nineteenth century and first three-quarters of the twentieth century no other metal was so important for economic growth. When CEPAL undertook its first ever sectorial study for Latin America, the chosen sector was steel, because of

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its perceived importance for the economic development of the region (CEPAL, 1953). It was a cornerstone of the economic policies implemented during the ISI period.

As far as global steel production is concerned, the twentieth century can be divided into three periods. The first period covers the first half of the century (c.1900-1945), when production was low, and there was little international trade. National steel industries were mainly supplied by locally produced raw materials, such as iron and coke. The US and some European countries, such as the UK and Germany, were the world leading producers and exporters, accounting for 85 % of world exports by the mid-1940s, while fewer countries were exporting (RUEDA, ÁLVAREZ and GONZÁLEZ, 1990; AZPIAZ, BASUALDO, KULFAS, 2007).

The second period was the so-called golden age of steel, and which is the focus of our study. Rogers (2009) called it the period of "post-war prosperity" in the steel industry, while others preferred to talk about a first phase of restructuring of the world industry (D'COSTA, 1999). During this period there was an increasing global demand for steel, which led to an annual growth in production of 6.3 % between 1947 and 1974. There were too some important transformations in the composition of the main suppliers: the global geographical distribution of steel production changed substantially. (WARREN, 1985) The combined share of steel exports in the US and the leading European countries fell to 35 % by the end of the 1970s, while Japan, the USSR, India, China, other European countries, and some other developing countries, including in Latin America, increased their share (WARREN, 1985; CEPAL, 1984). These countries managed successfully to break the monopoly of US dominance within a short period of time (D'COSTA, 1999). The iron trade also increased significantly, fuelled by demand from new steel producers in Europe and Japan. Australia and Latin America increased their iron production and exports, fostering their mining activities, but also transport facilities such as railways and ports, to facilitate iron shipments (D'COSTA, 1999). Within Latin America, countries such as Brazil and Chile exported iron even before the period covered by this article (BARROS, 2019).

The third, and last period, covers roughly the last quarter of the century, which was affected by several economic crises during the 1970s and 1980s, that impacted negatively on the industry. Production stagnated globally between 1975 and 2000. This situation triggered a fall in the prices of both iron and steel, leading to a fierce competition amongst suppliers. This, in turn, fuelled productivity improvements, but also the granting of subsidies and protection from foreign competition. During this period the restructuring of the world industry was finalized, shifting from advanced capitalist countries to late industrializing countries (D'COSTA 1999). The production crisis that affected the world industry has only been solved during the last twenty years, thanks to China's re-entry into the world market (AZPIAZU, BASUALDO and KULFAS, 2007).

Within Latin America, there was limited steel production in many countries before WWI, including Brazil and Argentina (ROUGIER, 2006). Modern steel works, i.e. integrated steel mills, started in Mexico in 1903, after the creation of CompañíaFundidora de Fierro y Acero of Monterrey[1], and the Brazilian firms Companhia Eletrometalúrgica Brasileira, Cia. Brasileira de Mineração e Metalurgia, and Companhia Siderurgica Belgo-Mineira, amongstothers, in the 1920s (AZPIAZU, BASUALDO and KULFAS, 2007; GUSTAVO, 2015; HABER, 2006). Their combined productions amounted to 70k MT in 1929 and were all private enterprises. They were followed by Altos Hornos of Corral in Chile, in 1937, which had a production capacity of 20k MT. On the eve of WW2, it was estimated that the combined production capacity of Latin America was modest by international standards, and mainly the result of private endeavours (RUEDA, ÁLVAREZ and GONZÁLEZ, 1990).

This situation changed dramatically after the Great Depression[2], when a renovated steel industry emerged greatly supported by the states. The 1930s inaugurated an inward-looking development process within Latin America, characterised by protectionism, the abandonment of economic liberalism, import substitution

[1] According to Cerutti, this was the most important steel company within Latin America until the creation of the state's Volta Redonda in Brazil in the 1940s. (CERUTTI, 1993)

[2] In Argentina, according to Duggan the main impetus to establish the industry was provided by the Second World War, not the Great Depression, as was probably the case in Chile, Mexico and Brazil. (DUGGAN, 1989).

strategies, and intervention of the state in economic affairs, including the promotion of industrialisation (BÉRTOLA and OCAMPO, 2010; HABER, 2006). Within this context, most Latin American governments entrusted their state development agencies with the creation of national steel works, which had previously only been established in Mexico and Brazil (HABER, 2006). The governments' aim was to lessen the dependence on imported steel to improve the deficit in the balance of payments, to avoid dependence on foreign supplies, and to promote industrial employment. They also sought to exploit their rich iron and coal reserves (UN-CEPAL, 1966; AZPIAZU, BASUALDO and KULFAS, 2007). Beyond Latin America, governments that embarked on plans for industrializing their countries, such as Japan and South Korea, actively supported the development of an indigenous steel industry (D'COSTA, 1999). The steel industry had also been highly protected in developed nations, where there was a perception that modern nations needed a large steel industry (ROGERS, 2009). State-led development programs for the steel industry were fairly common after WW2, in an industry also characterised by a lack of multinational ownership (D'COSTA, 1999).

The steel sector grew to be of paramount importance within this new Latin American economic model. Large public steel companies emerged during the 1940s in the leading steel producing countries such as Mexico (Altos Hornos de México, 1943), Brazil (Volta Redonda, 1946), Argentina (Zapla, 1945), and Chile (Huachipato). The largest of all was Volta Redonda, hailed as a landmark in the history of Brazilian industrialization (ABREU, BEVILAQUA and PINHO, 2000), which together with other public steel firms was regarded as the "crown jewels of a state-led model of development" (MONTERO, 1998). In the Central Bank's annual report of 1950, when Huachipato steel works began operations, it was stated that its inauguration was "the most important landmark in Chile's industrial history" (BANCO CENTRAL, 1950). By 1980 per capita steel consumption in Latin America was 108 kg, increased from 25kg in 1950 (SOLARI and MARTÍNEZ, 2006).

Unfortunately, most of the international literature for the 1940s-1970s has focussed on trying to explain the relative decline of the US, Germany or Great Britain, and the emergence of the leading countries of this period: Brazil, South Korea and Japan (D'COSTA, 1999). Less attention has been paid to other important producing countries (HOUPT, 1998), such as Chile. The absence of a steel industry in Chile before WW2 is puzzling since it had the most important raw materials needed to produce steel: iron reserves and coal (WARREN, 1985). Yet, the lack of capital, infrastructural bottlenecks and a weak domestic demand seem to have played important roles in delaying the establishment of a steel industry, as in most developing countries before WW2 (D'COSTA, 1999).

The main aim of this article is to provide the first comprehensive account of the Chilean steel industry c.1946-1980, and in particular of the dominant company within this sector: Compañía de Acero del Pacífico S.A (CAP hereafter), which by the late 1950s was the third largest steel company within Latin America. We wanted to understand how and why the company emerged during this period, since it resorted to resources long available but that had remained unexploited for decades, as well as to highlight the similarities and differences of the Chilean experience compared to other countries. CAP was created in 1946, thanks to an alliance of private and public capitals. It became a successful company that managed to supply most of the demand for the local market, greatly reducing steel imports and thus saving valuable foreign currency for a country suffering from balance of payments deficits. During the early 1950s a report by CEPAL (1984) acknowledged that Chile's steel consumption had increased considerably thanks to CAP production and enjoyed healthy profits. From the early 1970s CAP entered into a deep crisis. Steel production was nationalized, as well as the iron works. After the military coup of 1973, CAP started an irreversible process of reorganization followed by full privatisation, as was the case in other Latin American countries (MONTERO, 1998). The 1980s marked the end of the tradition of the state-owned steel industry all over the world (D'COSTA, 1999).

Our main sources of information are CAP reports for 1946-1980; the annual reports of the Corporación de Fomento a la Producción; and other contemporary reports. For international statistical information we consulted the Steel Statistical Yearbook, the Statistical Yearbook of CEPAL and other of its publications,

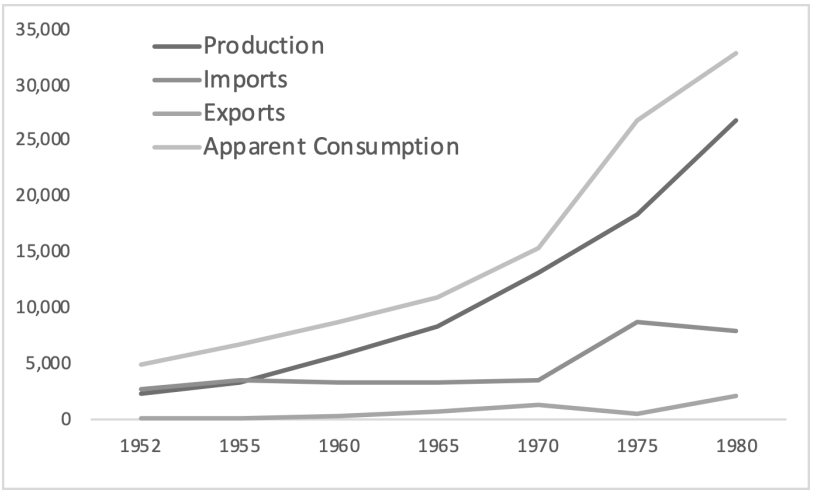
and the Annual Reports of the Chilean Central Bank.

2. The early Latin American steel industry

Despite the early pioneers in Argentina, Mexico, Brazil and Chile, expanding steel production in Latin America was not easy. There was a notorious lack of technical and financial expertise, combined with a lack of capital to fund costly investments needed for steel works, and the urgent need to obtain them in the international markets, at times when there was a shortage of foreign exchange to buy the best technology from advanced countries (D'COSTA, 1999). It took up to 10 years to get approval for local steel projects, as active involvement of the state was needed to launch the new industries. Lack of local demand was also an issue, as well as uncertainty about future demand. Furthermore, there was dependence upon foreign personnel to deal with technical issues related to both construction and operation (UN-CEPAL, 1966). Despite these issues, between 1934 and 1964 at least 18 modern steel plants were inaugurated in the region. Of these, 11 were public enterprises, making up the core of Latin America's steel production.

The three largest were Volta Redonda (Brazil), Altos Hornos (Mexico) and Somisa (Argentina) (KASMAN, 2005). CAP's Huachipato ranked immediately after them. These plants stuck to the model of large steel mills seeking to enjoy economies of scale (AZPIAZU, BASUALDO and KULFAS, 2007). Additionally, around 50 smaller, non-integral, steel plants were also created in the region. They produced steel using mainly scrap as raw material, rather than iron, and on a smaller scale. They were mainly located in the three leading producing countries of the region, which were also the most populous: Argentina, Brazil and Mexico (UN-CEPAL, 1966).

Chart 1. Steel production, foreign trade and consumption in Latin America, 1952-1980 (millionsof MT)



Source: International Iron and Steel Institute, (1978-2000); CEPAL (1981); CEPAL (1980).

This new Latin American steel industry developed isolated from foreign competition, thanks to very high import duties and favourable exchange controls. Due to this protectionism, combined with high production costs (LIAUDAT, 2008; AZPIAZU, BASUALDO and KULFAS, 2007), domestic steel prices (fixed by the government) were higher than in the US and European markets, and certainly higher than the cost of imported steel, were it allowed free of duties (UN-CEPAL, 1966). Latin American steel production more than doubled every decade from the 1950s to the 1970s, while imports remained stagnant up to 1970. Thus, there

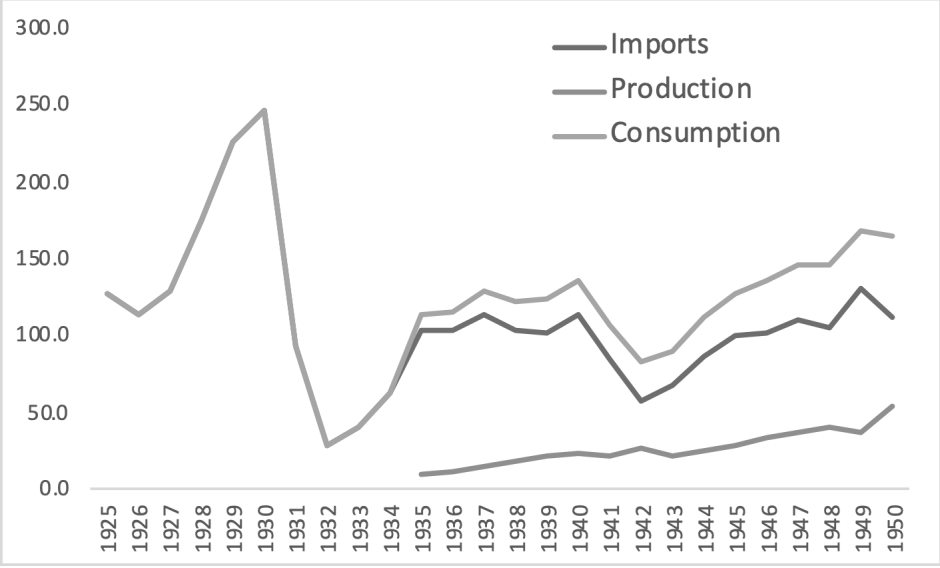
was a radical change in the market: from being dependent upon imports to relying on local production, Chart 1 (for example, in 1947, 93 % of the steel consumed in Argentina was imported) (AZPIAZU, BASUALDO and KULFAS, 2007).

After the mid-1960s, once the industry was consolidated, further investments were made to satisfy increasing local demand, taking production capacity to 35 million MT in 1980. The leading countries continued to be Brazil (15 million MT) and Mexico (9.5 millions MT), joined by Argentina, with 5 million MT (CEPAL, 1982). These three giants concentrated 85 % of the region's production. Now Latin America, formerly a marginal player, produced as much as 16 % of world steel production (WARREN, 1985). This was mainly explained in terms of increasing local demand, the opening of new modern plants or the increasing capacity of existing ones, and overall improvements in efficiency (CEPAL, 1984).

3. The early iron and steel industry in Chile, 1905-1950

During the first half of the twentieth century Chile was an enthusiastic importer of several steel products. One of the main importers was the railway sector, since the country had laid 4.200 kms of railways between 1900 and 1930, but also the building sector and the newly emerging import substituting industry. This latter industry had enjoyed a boom during WW1, due to the collapse of international trade, but also because of the imposition of higher import duties, and increasingly expensive imports caused by a fall in exchange rates. By 1930 the industrial sector accounted for 10 % of GDP (DÍAZ, LÜDERS and WAGNER, 2016).

Chart 2. Production, imports and steel consumption in Chile, 1925-1950 (thousands of MT)



Source: UN-CEPAL (1966)

During the early 1920s national consumption was around 120k MT per annum (Chart 2). However, between 1928 and 1930, consumption nearly doubled, due to increasing fiscal expenditure on public works (BERNEDO, 1989). This short boom in consumption ended with the Great Depression, which in turn led to inward looking development (NAZER, 2016), including the expansion of the industrial sector, which during the 1930s increased its participation within GDP to around 15 % (BADÍA-MIRÓ and DUCOING, 2021). The new industrial sector led to a recovery of steel consumption, but WW2 delivered a new blow and

reminded Chilean authorities that the country was too vulnerable to a sudden cessation of imports. This was of consequence because the new industries relied heavily on steel imports. It was, therefore, clear that the country needed a local steel industry to ensure that local demand could be supplied by local producers (ECHENIQUE and RODRÍGUEZ, 1990).

The first attempts to create a national steel industry are to be found during the last decades of the nineteenth century, when SOFOFA, the most important business guild in the country, started a campaign to provide the nation with a steel industry. It was based on the following arguments: the economic development of the country relied on industrial growth; the industrial sector could not expand without steel; a national steel industry was not viable without state protection; and the country enjoyed rich veins of iron and energy, which would allow for the creation of an efficient steel industry (MILLÁN, 1999). However, Chilean iron ores had some worrying impurities, since they had too much titanium (CEPAL, 1953). SOFOFA went as far as to hire a French engineer, Charles Vattier, to assess the feasibility of creating a steel industry. Vattier undertook several expeditions within the country, the results of which were published as a book. There, he described all the iron reserves in the country (VATTIER, 1890). A second study was entrusted to three European engineers, and was published five years later (1895). Both studies concluded that the country was endowed with the raw materials needed to produce steel (ECHENIQUE and RODRÍGUEZ, 1996). These studies were popularised in France by Vattier and attracted the interest of the US-French firm Schneider-Creuzot, who sent a representative to negotiate with government authorities over the possibility of installing a steel plant in Chile in 1904 (ÁLVAREZ, 1943). The negotiations prospered, and the results were passed as a law in 1905. It provided subsidies for steel production and a guarantee of 5 % on the paid capital to the foreign company to start steel operations in Chile. 100 hectares of land were given for the construction of the plant, and 80k hectares of forests (LEY 1768, 1905).

Following these guarantees, the company Societé des Hauts-Foumeaux Forges et Aciéries du Chili was created in Paris in 1906. Immediately, the company acquired the iron minerals of El Tofo, located in the northern province of Coquimbo, and decided to locate the steel plant in the south, in the port of Corral (near Valdivia), some 1.300 km distant from El Tofo, due to the availability of rich forests in that zone. In Corral, a new large dock was built, as well as two large steel furnaces, with a production capacity of 75 tons daily, plus housing for workers and other buildings[3]. The steel plant became known as Altos Hornos de Corral (AHC hereafter) and began operations in 1910. Despite the initial enthusiasm, the company ended in failure, and declared bankruptcy in 1912 (ÁLVAREZ, 1943). Never again, at least during our period of study, were foreign companies to play an important role within Chilean steel production. In Brazil however, the presence of foreign capitals in the industry was significant (AZPIAZU, BASUALDO and KULFAS, 2007).

The French company abandoned the steel plant and decided to rent El Tofo to Bethlehem Chile Iron Mines, which was affiliated to the Bethlehem Steel Co., the giant US steel company[4], which around that time began to look abroad for iron ores, not only in Chile but also in Spain and Cuba(ROGERS, 2009)[5]. The contract was for 30 years, in exchange for a fixed annual payment of US$200k and US$0.10 per ton of iron extracted. The Chilean government, in turn, requested that the steel plant AHC resume operations, while the Bethlehem had to supply 100k MT per annum for AHC. Soon, the Bethlehem started new investments, estimated at US$40 million in 1928, to exploit the mineral with the most advanced technology, starting iron exports to the US in 1922 (PEÑA and LILLO, 1928).

In 1925, a group of Chilean entrepreneurs from Valdivia organized a society to resume steel production at the AHC: Compañía Electro-Siderúrgica e Industrial de Valdivia (ESVAL). It envisaged the reconditioning of the Corral steel plant by installing a hydroelectric power plant. In February 1926 ESVAL bought to the French company the installations of the AHC for US$400k, which included the contract to buy 100k MT of iron ore from El Tofo with the Bethlehem (ECHENIQUE and RODRÍGUEZ, 1996). Soon after completing

[3] It was common for steel companies in other countries to provide housing for their workers, either in the public or the private sector. In Argentina, for example, Cantábrica, a private company, rented houses to their employees at reduced prices, from the 1940s. (ROUGIER, 2009)

[4] The US Steel Corporation and the Bethlehem were the two largest players on the US market after several mergers and acquisitions. (MISKELL, 2017; D'COSTA, 1999)

[5] By this stage Latin America had around 20 % of the world's iron reserves but less than 1 % of the steel production. (Kasman, 2005). See also CEPAL (1953).

the deal, ESVAL sought government support to finance the modernization of the plant, estimated at US$7.2 million. ESVAL succeeded, and after the promulgation of a law in 1929, the state's participation in ESVAL ownership was authorised. ESVAL became a mixed company, with an initial capital of $60 million, of which $48 million was supplied by the state and $12 million by the private sector. The board of the company was, understandably, to be fully controlled by the government. Furthermore, this new law gave ESVAL the right to get a bonus from the state for steel production for 20 years; the right to use 24k hectares of forests to produce coal for 30 years; while the Chilean president was authorized to increase import duties on both iron and steel, for the next two decades (LEY 4600, 1929).

Unfortunately for ESVAL, neither the state nor the private consortium provided the full capital on time, mainly due to the impact of the Great Depression on the Chilean economy. From 1932 onwards ESVAL gradually started to receive the committed capital, which reached the $60 million mark in 1938. Yet, given the rampant depreciation of the Chilean peso it now accounted for just US$2 million. In this new scenario, the original project was abandoned: the old furnaces of AHC started to operate using vegetable coal, and production started in 1935, averaging 18k MT per annum until 1939, and suffering losses most financial years. That same year (1939), a center-left coalition, the Popular Front, was elected, redefining the state role within the economy, characterised by state-led industrialisation, including the creation of state companies, import substitution, and internal market regulations. These policies were consolidated under the following center-left governments led by the Radical Party during 1942-1952 through CORFO, a state development agency created to formulate and undertake a plan for fostering national production (NAZER, 2016).

When the development plan was fully formulated, CORFO decided to implement action plans immediately. These included industrial promotion, including fostering the steel industry, at that time composed mainly of ESVAL and a few small steel foundries. CORFO supplied them with financial assistance, protectionist measures and subsidies to acquire metallurgic coke at low prices. Unsurprisingly, the main recipient of CORFO's assistance was ESVAL, which received a loan for US$312k that allowed the company to begin the construction of a new large Siemens Martín furnace, and other improvements (CORFO, 1939). Subsequently, in 1942, CORFO decided to continue supporting the expansion of ESVAL, by subscribing US$1.5 million as a capital contribution. This allowed ESVAL to finish the construction works that had been initiated, to add an electricity plant, and to modernise its facilities. Production capacity increased to 30k MT (CORFO, 1944). However, despite this support, ESVAL's operations stopped in dramatic fashion in 1958 (Echenique and Rodríguez, 1996) CORFO's support to ESVAL included the unfulfilled construction of a steel plant, which was none other but the future CAP's Huachipato.

4. The creation and early operations of CAP, 1942-1950

In 1942, the government of president Juan Antonio Ríos, under the slogan "to rule is to produce", created a commission, composed of members of the government, the private industrial sector and the institutes of engineers, to study the feasibility of creating a large steel plant in the country. After several months, the commission issued a report proposing the installation of a new steel work in the province of Concepcion, by a new company, rather than modernizing the existing AHC. It also advised that foreign assistance was needed for technical and financial studies[6], as well as for its construction and working; that the new company needed legal protection; that it had to be a mixed company, but its management had to be under private hands. The government also decided to create a Steel Committee (ECHENIQUE and RODRÍGUEZ, 1996). This is similar to what happened in other nearby countries such as Brazil, after the creation in 1941 of the state Companhia Siderúrgica Nacional (also a mixed company in which the state had a majority

[6] In Argentina too, when the Steel Plan was launched during the late 1940s, ARMCO Co. assisted the government in the creation of SOMISA. In Brazil, US Steel also provided consultancy services when the first state steel company started operations (AZPIAZU, BASUALDO and KULFAS, 2007). Beyond Latin America, in Spain, from the early 1960s Altos Hornos de Vizcaya, the main steel company of the country, was assisted by US Steel. DEPINEDO and FERNÁNDEZ, 2003).

of shares); Argentina, where in 1947 a National Steel Plan was launched under the so-called Savio's Law, which built on a previous decree of 1941 that created a military-industrial empire known as the Dirección General de Fabricaciones Militares (DOMÍNGUEZ, 2012; DUGGAN, 1989).

Within CORFO, a Steel Department was created to take forward the project, assisted by US consultant engineers Brassert& Co., (Figueroa, 1954) which was the same firm that advised the first Latin American steel giant, Fundidora de Fierro y Acero de Monterrey in Mexico (ÁVILA, 2012). The first decision taken by this department was to locate the envisaged steel works in San Vicente bay, close to Talcahuano. By this stage there was widespread agreement that any steel plant should be located as near the coast as possible (WARREN, 1985). Despite being far away from the iron mines located in the north, there were several advantages: it was very close to coal deposits, it had easy maritime access, it was close to rivers that would provide water and electricity from Abanico hydro power plant, and it was close to the third largest urban centre of the country (Concepcion), which could provide enough labour. Finally, it would also help to decentralise industrial activity, highly concentrated on the Santiago-Valparaiso axis (FIGUEROA, 1954).

Regarding supplies of the main raw materials, CORFO decided to keep the contract with Bethlehem, securing 347k MT of iron per annum from El Tofo. Coal needed for the production of metallurgic coke was to be obtained by mixing national coal with imported coal[7]; limestone was to be obtained from Guarello island, in the extreme south of the country, and dolomite from Valencia mine in Uruguay (ECHENIQUE and RODRÍGUEZ, 1996). Another key decision to be taken was about the initial size of the plant. An initial capacity of 203k tons, which was larger than the current national demand, was decided on, but on the expectation that it would increase in the near future, while surpluses could always be exported. It was also possible to expand the capacity of the plant up to 600k tons per annum (ECHENIQUE and RODRÍGUEZ, 1996).

Once the technical report for this project was finished, which estimated the cost of the new plant at US$59 million, it was presented by CORFO to the EXIMBANK. By the end of 1945 EXIMBANK had approved a loan for US$28 million, which was conditioned to buying all the machinery, equipment and inputs needed in the US as well as hiring a US consultancy firm to provide technical support to ensure the efficient working of the plant. (ECHENIQUE and RODRÍGUEZ, 1996)[8], A similar role was played by the EXIMBANK in the creation of Mexican and Brazilian steel public companies during the 1940s (AZPIAZU, BASUALDO and KULFAS, 2007), while it also lent to private steel companies in the region, at least those in Mexico and Argentina (ROUGIER, 2006).

In turn, the Steel Committee lobbied successfully for a new law in 1944. It granted special benefits to any company producing iron bars or rolled steel using Chilean iron ores. At least 60 % of the capital share of these companies had to be owned by Chileans, while other special conditions of CORFO's involvement were also imposed. The state also granted generous tax benefits: for twenty years these companies would not pay any tax, amongst other privileges, including being able to hire foreign consultants easily, subsidized exchange rates to liquidate export returns, the expropriation of any land needed for its operations, and CORFO's general support to obtain loans. (LEY 7896, 1944)

In April 1947 CAP was created as a joint stock company. Its main aim was to produce iron bars and rolled steel. The initial capital of the firm was set at US$15 million, divided into series A, to be owned by CORFO, and series B, which could be acquired by any person or company. The board of the company was to be composed of a president and 14 other directors. CORFO subscribed US$5 million, the Caja de Amortización (a public autonomous institution) another US$2 million, while the remaining US$8 million was left to private national investors. This was the most difficult operation according to Flavián Levine, senior manager of CAP (Levine, 1990). However, the government managed to convince some private companies of the benefits of being part of this project, in particular to obtain special treatment as suppliers of the new steel giant, of coal (Carbonífera y de FundiciónSchwager), oil (COPEC), and transport (Sudamericana de Vapores). They would also benefit from distributing steel locally (Sodimac), providing consultancy services

[7] Chilean coal had, necessarily, to be mixed with imported coal, for technical reasons (CEPAL, 1953).

[8] By this stage, the idea of a superior US steel productivity was well rooted within the sector, even in developed countries such as the UK (MISKELL, 2017).

(Koppers), or insurance (Chilena Consolidada).

The first CAP president was former Finance Minister Arturo Matte Larraín; its first general manager was Desiderio García Ahumada, formerly in the same position at CORFO; while other key members of the team were Eduardo Figueroa, Raúl Sáez and Flavián Levine. Due to EXIMBANK's loan conditions, a foreign consultancy firm, Koppers & Co., would assist in the management of the firm, as well as in the investment plans, engineering and operations control. (ECHENIQUE and RODRÍGUEZ, 1996)[9] Construction works at the plant, called Siderúrgica Huachipato (Huachipato hereafter) started in 1947, and were finished in 1950. Unfortunately, final costs were 50 % above the initial estimates, so that EXIMBANK had to provide another loan for US$20 million. These developments are summarised in Table 1.

Table 1. Financing Huachipato, 1947-1950

Variable	US$∼of 1947(millons)	Variable	US$∼of 1947(millons)
Capital		Loans	
CORFO	5	EXIMBANK	48
Caja de Amortización	2	CORFO	10,1
Private investors	8	Central Bank	10
Total Capital	**15**	Caja de Amortización	1,1
		Equipment suppliers	3
		Total loans	**72,2**
Loans + Capital	**87,2**		

Source: CAPb (1946-1950).

Construction works were led by the US engineer Williams Taylor, supported by the Chilean engineers Eduardo Figueroa and Raúl Sáez, who employed over 6,000 people, including 300 Chilean engineers and technicians, as well as 134 US engineers and technicians employed by Koppers Co. CAP sent 18 recently graduated engineers to the US, to get special training in steel production, who after returning to Chile were employed as the direct link between Koppers' staff and the rest of the working personnel (ECHENIQUE and RODRÍGUEZ, 1996). Eventually, and on schedule, Huachipato started operations in 1950. In its opening ceremony, the Chilean President Gabriel González Videla stated: "with the inauguration of this large national steel industry ... we left behind a century of colonialism and economic dependence". Paradoxically, the president also thanked the US for "contributing to making this longing possible" (EL DIARIO ILUSTRADO, 1950). Unlike other Latin American countries where many private steel companies participated in the market, in Chile, CAP, and therefore the state, held a dominant position. In Argentina for example, many private companies, such as Acindar (which Chilean investors were involved in setting up) (LIAUDAT, 2008; DOMÍNGUEZ, 2012) were also active participants in steel production during our period of study[10]. In Brazil there was a similar situation, and only from the mid-1970s did the state take on a more important role within the industry after the creation of SIDERBRAS (AZPIAZU, BASUALDO y KULFAS, 2007). Beyond the region, in Spain, ENSIDESA (a public company) shared the market with the private firms Altos Hornos de Vizcaya and Altos Hornos del Mediterráneo (De PINEDO and FERNÁNDEZ, 2003).

[9] The use of American or European firms as consultants was very common within the industry, in both the private and the public sector. In Argentina, for example, the private company Cantábrica used the services of the French De Wendel y Ci. (ROUGIER, 2009).

[10] However, the state companies Altos HornosZapla and Somisa were the only fully integrated ones, while private companies were mainly destined for the rolling process. (DOMÍNGUEZ, 2012)

5. CAP ownership and management between 1950 and 1980

The ownership of CAP was shared by the state and public investors between 1946 and 1968, with a majority stake holding by the private sector. However, in 1968, in a favourable political environment for nationalization and bringing strategic companies under state control, the governments of Frei Montalva and Salvador Allende decided to acquire 99 % of the shares of CAP through CORFO. During Pinochet's first seven years of dictatorship, between 1973 and 1980, this situation did not change, but from 1980 CAP was divided into several companies, paving the way for a complete privatisation during the 1980s.

From its creation until 1970, there was considerable cooperation within CAP, between private and public investors, as well as foreign lenders: collaboration between the private and the public sector within a company. This is different to the Argentine and Mexican cases, where the steel sector was made up of independent public and private companies, both participating actively in the market (AZPIAZU, BASUALDO and KULFAS, 2007). In Argentina, private companies usually bought intermediate products to the state's SOMISA, like Acindar, for example (LIAUDAT, 2008). In Mexico too, the Fundidora de Fierro y Acero de Monterrey was a private company that acted independently, although with cooperation from the public sector, including subsidies, or acting as guarantee for loans[11]. There was no mixed ownership, as in the case of CAP.

The high degree of cooperation between members of the CAP board could be explained in terms of the high degree of professionalism of the 15 members of the board, which included high profile engineers, economists and entrepreneurs. They all remained for long periods as members of the board(CAPb, 1946-1970). During most of this period private investors had a majority on the board, electing 10 directors, including the president. CORFO, in turn, had the right to appoint 5 directors, including the vice-president of the company. However, CORFO could veto any major decision taken by the board, while the vice-president had an executive role, and was allowed to take to the board any major topic for discussion (CAPb, 1953).

Key senior managers of the firm remained in their position for long periods of time. For example, the first executive team led by Eduardo Figueroa as general manager, the economist Flavián Levine as commercial manager, Gregorio Waissbluth as operations manager, the vice managers Jorge Vial, Manuel Agosin, Julian Lawrence, and the chief lawyer Sergio Gutiérrez, formed the core team that led the company for many years. Flavian Levine was appointed general manager in 1958, remaining in that position until 1975, surviving a right-wing government, a center-left government, a socialist government, and a few years of Pinochet's dictatorship, and providing stability and continuity during the long-term expansionary plans of the firm.

6. The development of Huachipato, 1950-1980

From the beginning Huachipato steel works started a process of expansion, seeking to reach one million MT of steel[12]. The first expansionary plan (1951-1955) sought to reach a production capacity of 320k. For this, a second Bessemer converter was introduced, as well as another Siemens-Martin furnace, plus the expansion of the original two Siemens-Martin furnaces[13]. The second plan (1957-1959) endeavoured to reach 450k MT, as well as to replace the original machinery for the rolling process (the old ones were bought second hand). A new modern process was to be introduced. Likewise, a fourth Siemens-Martin furnace was purchased. However, the most important aspect of the second expansionary plan was the modernization of the cold-rolling mills, which allowed Huachipato to compete internationally (CAPb, 1962).

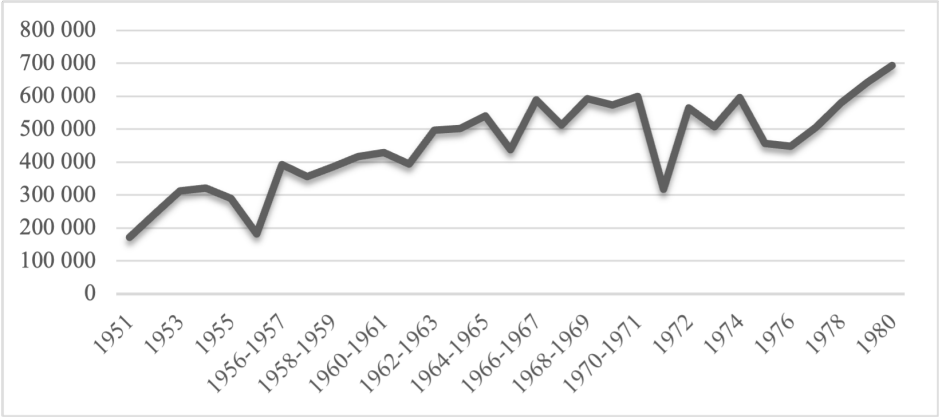
[11] There was also cooperation in Argentina between the state and the private sector steel producers' association, Centro deIndustrialesSiderúrgicos, during the 1940s-1950s,before the creationof SOMISA (KASMAN, 2005).

[12] Curiously, this was the same target set for SOMISA in Argentina. The Brazilian strategy was different: there were many state-owned steel companies.

[13] CAPb (1962) Companies often used Bassemer, Siemens and Electric systems to produce steel (DEPINEDO and FERNÁNDEZ, 2003). In Spain in particular, before the 1960s, Siemens took the lion's share of production, although Bassemer and Electric furnaces were also producing.

The third plan was termed "productivity increase" (1962-1965). It was estimated that Huachipato was in a position to increase production to 600k MT per annum, solely by improving efficiency. The first measure was to improve the working of the blast furnace and to double the capacity of two of the Siemens-Martin furnaces, from 100 to 200 tons(CAPb, 1962). Before the end of the plan, a second blast furnace was introduced (1964-1965), taking production capacity to 650k MT of steel without having to import scrap (CAPb, 1965-1966). So far so good: the three first expansionary plans were successful.

Chart 3. Huachipato's steel production, 1951-1980 (MT)

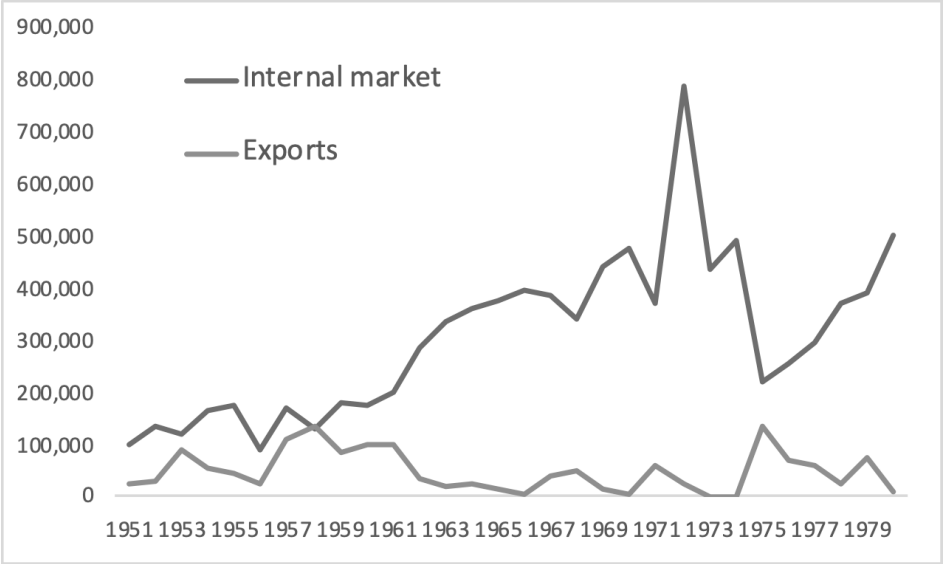


Source: CAPb (1951-1980).

The last plan (1965-1970), though, proved too ambitious, and the target of 1 million MT was never achieved. It needed an expansion of the dock, a new mill with two oxygen converters of 100 tons each, an oxygen plant with a capacity of 290 tons daily, a new lime plant, and an expansion of the rolling capacity. As we shall see, a major obstacle was how to finance all these ambitious projects. Eventually, the new mill was inaugurated in 1976. As can be seen, there was continuous growth between 1951 and 1974, except for falls in 1956 and 1968 (due to prolonged strikes) and 1971 (Chart 3). The stagnation of 1974-1976 was due to the international economic crisis, while growth was resumed from 1977, led by increasing local demand.

The main products were steel bars, steel plates, and steel tubes. The main clients, in order of importance according to a 1969 report, were from the following sectors: building, mining, food industry, household wares industry, industrial investment, agriculture and transport (CAPb, 1969). The building industry needed many bars and tubes due to the anti-seismic regulations in the country where earthquakes were very common, mining companies needed large quantities of bars and plates (as did the agricultural and transport sector), while there was also high demand for plates, particularly in the industrial sector, which under the ISI model had expanded quickly. The building sector was the main consumer of locally produced steel not only in Chile but also in the rest of the Latin American countries which had a steel industry (SOLARI and MARTÍNEZ, 2006).

Chart 4. Huachipato's sales of finished products 1951-1980



Source: CAPb (1951-1980).

Regarding the geographical distribution of sales, Chart 4 shows that during the 1950s Huachipato sold significantly to the external market, but that from the 1960s the internal market absorbed the lion's share, exactly when sales were expanding. From its inception, Huachipato's board took the firm decision to export only what could not be sold in the domestic market. What happened in the 1950s can be explained in terms of the political and economic instability of the country and a misjudgement of CAP's forecasted sales, which forced the company to look for markets beyond Chile. The main destination market was Argentina, after the signature of a trade agreement in which Chile would exchange steel for vegetable oils and wheat. Other Latin American republics absorbed the rest of the exports(CAPb, 1952-1958). At this point it is worth mentioning that before SOMISA started production in 1961, the Argentina steel plan was a failure, so Argentina needed steel (KASMAN, 2005). Furthermore, the exchange agreement with Argentina lost momentum after the launching of the Latin American Free Trade Association in 1960, rendering exports to this country unprofitable (CAPb, 1961-1962).

From the 1960s, though, internal demand started to grow and to absorb most CAP production. Initially, internal sales were mainly channelled through marketing companies such as CODINA, SODIMAC, COPEC and SOGECO. However, after almost a decade, CAP internal personnel gained valuable experience for marketing and distribution, to the extent that CAP started to sell directly to large clients, leaving retail sales to the so-called "Authorized Steel Stalls", which were assisted by CAP. These retailers sold mainly to the building industry, with great success (CAP, 1960-1961).

From the beginning the price policy set by CAP for their finished products in the internal market consisted of selling at higher prices than in the international markets. Chilean consumers were paying a premium on what imported steel products would cost them without import barriers or high duties. CAP justified this overpricing policy in terms of the need to fund investment projects to expand production (CAPb, 1954). This situation led to strong criticism from many interest groups, in particular because CAP exported at lower prices than it sold internally (CAPb, 1958-1959). During the 1960s these criticisms increased, so that CAP was forced to publicly explain its pricing policy. The recurrent argument was that without overpricing CAP could not possibly have expanded its production capacity, and that it was saving the country a great deal of foreign currency by reducing steel imports (CAPb, 1968-1969). A report produced by CEPAL around that time (1966) (UN-CEPAL, 1966) confirmed that steel prices in Latin America were far higher

than in Europe and Japan, but in particular in Chile. The country was given as an example of extreme protectionism to the national industry. At the same time, CAP enjoyed some of the lowest production costs within the region, which explains the handsome profits achieved by the company (UN-CEPAL, 1966).

During Allende's government (1970-1973), CAP's internal selling prices were frozen, as a measure to combat inflation, triggering a financial crisis for the company: soon unitary production costs were higher than selling prices (CAPb, 1974). In response, selling prices were increased gradually after the military coup. At the same time, protectionism was reduced: import bans were lifted and import duties reduced. As a consequence, internal prices converged to international prices, forcing CAP to compete internationally (CAPb, 1976). A similar process was implemented in Argentina around the same time. (AZPIAZU, BASUALDO, and KULFAS, 2007).

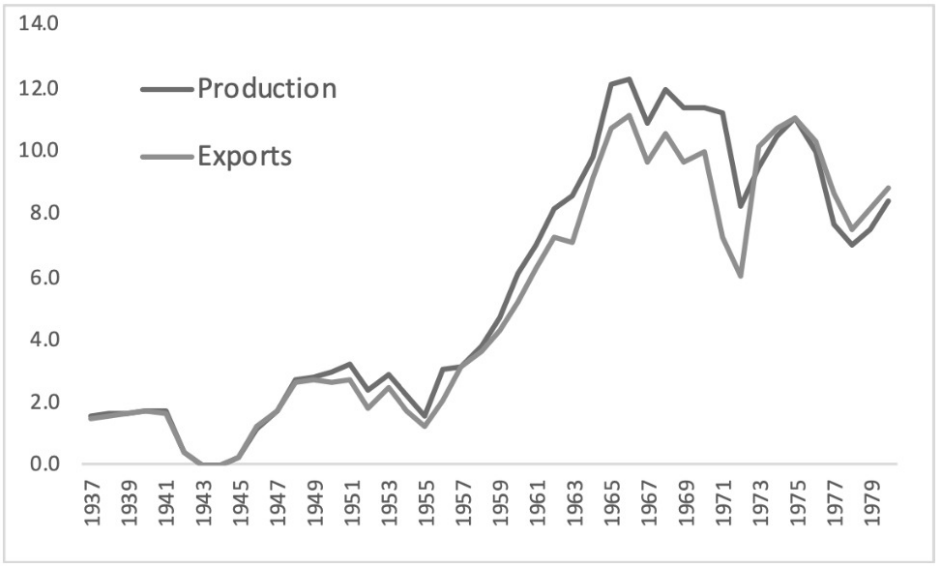
CAP's activities brought positive externalities to the region, in particular to Concepción and Talcahuano. Industrial activity developed around CAP, in particular industries supplying Huachipato's activities or buying its output. For this purpose, the company reserved 350 hectares in nearby areas for these complementary industries. The following companies started operating: Sociedad Industrial de Alambres, a wire producer (1952); Fábrica Nacional de Carburos y Metalurgia, a carbides and metallurgic company (1953); Metalúrgica del Sur (1954), a metallurgic company; Cemento Bío-Bío, a cement producer that used CAP slags as raw material; and ARMCO Chile, a steel balls producer (1961). (CAPb, 1951-1970) Secondly, there was an important urban development thanks to CAP's housing policy for its employees. Between 1949 and 1970 CAP supported its employees to acquire their own houses via the state's subsidized housing programs, to form cooperatives, and to buy land and urbanise it. The following suburbs emerged: Presidente Ríos (1949), Cerro Verde (1956), Los Cóndores and Llacolén (1962), Acero, Capataces and Collao (1965). Furthermore, sport facilities were also built, including Huachipato Stadium in 1961 (ERRÁZURIZ, FOTUNATTI and BUSTAMANTE, 1989).

7. CAP's iron activities, 1959-1980

Iron production in Chile increased significantly from the 1910s, thanks to the exploitation of El Tofo by the Bethlehem, which exported most of its output to the US, and sold the remaining amount to AHC and subsequently to CAP. At the beginning of the 1950s, iron ore reserves were nearly exhausted at El Tofo, so the Bethlehem decided to invest in a new mine, El Romeral, also in Coquimbo. It began operations in 1955, with estimated reserves of 38.9 million tons, enough to ensure iron supplies for many decades (MILLÁN, 1999). Additionally, other iron mines also began operating due to increasing world demand that triggered an increase in international prices, leading to the emergence of new companies: Compañías Mineras Santa Fé (1952), exploiting the mines of El Dorado, Cerro Imán and Carmen; and Santa Barbara with its Huantemé mine (1953). Finally, CAP itself started its own iron production in Algarrobo, from 1959. There were now four iron producers in the country, greatly expanding national production (Chart 5).

Until 1952 there was a sole producer, the Bethlehem, whose operations stopped during WW2. Its production capacity was below 3 million MT. Once the other 3 producers entered the market, this increased to over 10 million MT during the mid-1960s, of which around a third was produced by Bethlehem. During the 1950s the main destination market was the US, superseded during the 1960s by Japan and Europe. By the end of that decade Australia and Brazil entered the world market, producing an oversupply of iron, which led to falling prices. This fact, together with the crisis of the 1970s in the steel industry, led to a fall in iron production in Chile.

Chart 5. Chile's iron production and exports (millions of MT), 1937-1971



Source: CAPb (1951-1980).

CAP's contribution to national iron production increased gradually. In 1959 CAP reached an agreement with the Dutch company N.V. Algarrobo Mijnen to purchase the iron mine at Algarrobo, in Atacama (near the coast), estimating the mine's ores reserves at 70 million tons. Apart from the machinery already in use, CAP decided to invest in new dock facilities at Huasco, the nearest port, as well as in 50 km of railways and housing for workers. Yet, the iron production of this mine was destined for export. CAP had to honour the agreement they had to buy the iron from El Romeral, at least until 1975. The profits from Algarrobo's operations were used to cover the investments being made there, funded with two loans: one with the seller, the second with the EXIMBANK (CAPb, 1959-1960). It ended up being a very good business for the company. Algarrobo's started producing in 1962, reaching 3 million tons by the mid-1960s. In 1965 new long-term deals were signed with Japan, so that Huasco's port capacity was increased (CAPb, 1965-1970). By this stage Japan had become perhaps the greatest ever success story in steel production: no other country increased its production so rapidly (WARREN, 1985), so that it needed to ensure the supply of vast quantities of iron continued.

From 1971 CAP's iron production increased dramatically. That year, president Salvador Allende decided to nationalize the iron industry. The Chilean state acquired El Tofo and Romeral, and a year later Santa Fe and Santa Barbara. CAP became a monopolistic iron producer (CAPb, 1970-1972). It developed a new exploitation plan for the Huasco Valley, exploiting the mines of Algarrobo and Boquerón Chañar (which had not been exploited so far) as a united complex. In particular, it was decided to make the most of the ores, by concentrating and pelletizating ores that were not good to be exported as such. A concentration plant was built at Algarrobo, while the port facilities at Guacolda were expanded. A pellets plant was also built at Huasco. The plan incorporated the improvement of the facilities at El Tofo and Romeral, all thanks to the signature of a 12-year agreement with the Japanese (CAPb, 1970-1972).

The political instability of the country until 1973 meant that the plan advanced slowly. In 1974 the CAP board decided to stop the exploitation of Boquerón Chañar, concentrating the company's investments in the Huasco plant, and to expand the port facilities at Guacolda. During this stage, CAP received the support of the Mitsubishi Corporation, after the signature of a contract in 1974 (CAPb, 1974; ERRÁZURIZ, FORTUNATTI and BUSTAMANTE, 1989). This was complemented with the extension of a large loan in 1975 by the Mitsubishi Corporation to speed up the building of the plant (CAPa, 1975). Three years

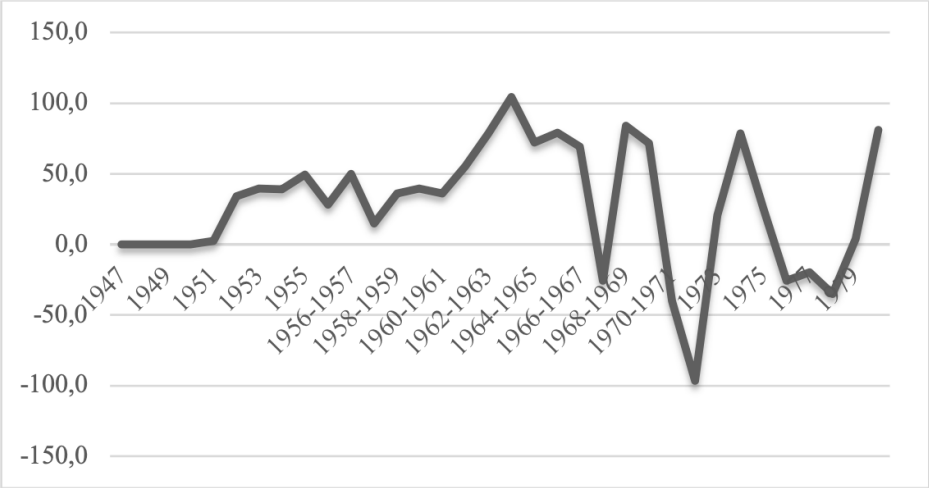
later, in 1978, the new plant was inaugurated, together with the port facilities at Guacolda. The share of pellets within total iron exports increased to 40 %, but this was not enough to provide profits for the new plant given the high costs of serving the loan. Furthermore, the international crisis meant that by the end of the 1970s the iron industry fell into a profound crisis in Chile: several mines stopped operations, while unexported stocks piled up (CAPb, 1978-1980).

8. CAP finances, 1946-1980

The aim of this section is to understand the process of financing the investments made by CAP during our period of study. Between 1946 and 1970, most financing was provided by the EXIMBANK. This international bank provided about half of the funds needed for each project, the rest being obtained via capitalization, or loans provided by the state via CORFO, the Central Bank and Banco del Estado (CAPb, 1946-1970). Next, between 1971 and 1980, when the Company was in the state's hands, unsurprisingly, the EXIMBANK stopped providing loans. The state, through the Central Bank, became the only source of financing (CAPb, 1971-1980).

Between 1951 and 1961, the company enjoyed a healthy financial situation (Chart 6), registering increasing profits every year, coming from the steel operations only. From 1961, profits/losses from iron operations (besides steel) must be considered, in particular those from Algarrobo, which nearly doubled the profits of the company. The losses of 1967-1968 were the result of the workers' strike at both Huachipato and Algarrobo. Losses during Allende's presidency have already been explained. These would have been greater had not iron operations provided profits. During 1976-1977, the international crisis hit steel operations hard, as well as iron production. Only in 1980 did steel operations start to provide healthy profits again due to a spectacular increase in local demand (CAPb, 1951-1980).

Chart 6. Chile's iron production and exports (millions of MT), 1937-1971



Source: CAPa (1951-1980).

During 1951-1970 CAP devoted most of its profits to financing its investment plans to increase both steel and iron production. The law that created the company allowed that profits could be allocated to: a reserve fund, investments, dividends, or capitalization. Most profits were used to finance capital increases, providing shares that were traded in the stock exchange. From 1959, dividends were also paid in cash, at

a rate of 3 % per annum, on the nominal value of the share (CAPb, 1959-1960). Subsequently, from 1963 CAP gave the option to shareholders of paying dividends with shares, rather than in cash, to accelerate the investment plans of the firm (CAPb, 1963-1964). This option was enthusiastically taken up by investors. Until 1970 they mostly preferred to receive their dividends in shares rather than in cash. 90 % of dividends were paid this way, thus fostering CAP capitalization (CAPb, 1963-1970).

Table 2. CAP's external loans, 1951-1973

Lender	Year	Purpose of the loan	Amount, US$2019 (millons)
EXIMBANK	1951	Huachipato's expansion, 1951-1955	98.3
EXIMBANK	1956	Huachipato's expansion, 1957-1959	33.4
EXIMBANK	1957	Huachipato's expansion, 1957-1960	145.6
N. V. AlgarroboMijnen	1959	Algarroboacquisiton	193.4
EXIMBANK	1960	Investments in Algarrobo	134.6
EXIMBANK	1962	Huachipato's expansion, 1962-1965	70.3
EXIMBANK	1967	Huachipato's expansion, 1965-70	191.3
Le Banque de Paris et des Pays Bas	1968	Huachipato's expansion, 1965-70	94.4
Lazard Brothers and Co. Ltd	1969	Huachipato's expansion, 1965-70	83.3
CORFO – French Govermment	1969	Huachipato's expansion, 1965-70	28.4
CORFO – French Govermment	1969	Huachipato's expansion, 1965-70	12.5
Bethelehem Iron Mines	1972	Acquisiton of El Tofo	136.8
Lazard Brothers and Co. Ltd.	1973	Huachipato's expansion, 1965-70	137.8
Banque de Bruselles	1973	Huachipato's expansion, 1965-71	7.2
TOTAL			**1367.2**

Source: CAPa (1951-173).

Until 1970, the capitalization system above described worked according to plan. However, CAP's nationalization by Allende's government changed things. Allende's economic program relied on the creation of a "Social Area" of the economy. For this sector the creation of a "Steel Mining Complex" was envisaged, consisting of iron mining (CAP), steel production (CAP), and the main metallurgic companies of the country. This policy, in turn, was based around CAP's activities. The CAP board took all key strategic decisions for steel production, but also for iron and metallurgic activities. First, iron and steel production were nationalised. Second: the metallurgic companies of the country also passed to the state's hands, after CAP started a process of acquisitions. To manage them, CAP created a new unit: CAP Companies Management, which before the military coup managed 23 companies (CAPb, 1973). The management of these companies,

besides CAP's regular operations, plus frozen steel prices, led CAP to a severe financial crisis. This led Allende's government to request several loans from the Central Bank, which in September 1973 amounted to US$1.409 million (in US$ of 2019).

After the military coup, the government decided to revert the nationalization process undertaken by Allende, privatising CAP's subsidiary companies. The loans taken from the Central Bank were capitalised, which dramatically increased the capital of the firm (CAPb, 1974). But this was not enough to sort out CAP's financial problems. CORFO and Banco Estado provided additional loans between 1974 and 1977, for a total of US$436.4 million (in US$ of 2019), which were subsequently also capitalised (CAPb, 1974-1977). This was a similar situation to that of Brazil, where public steel firms ended up heavily indebted and dependant on the state's financial support (MONTERO, 1998).

Table 3. CAP's external loans, 1951-1973

Lender	Year	Purpose of the loan	In US$2019 (millons)
Mitsubishi Coporation	1975	Algarrobo'spellets plant	17
Mitsubishi Coporation	1975	Algarrobo's pellets plant	400
J Henry Schroder	1976	Working capital	18
Several international banks, small loans each	1976	Working capital	91
Bankers Trust Company	1977	Algarrobo's pellets plant	232
Bankers Trust Company	1978	Algarrobo's pellets plant	176
Lazard Brothers and Co. Ldt.	1978	Algarrobo's pellets plant	52
Wells Fargo Bank	1978	Working capital	118
Several international banks, small loans each	1978	Working capital	130
Chase Manhatan Bank y City Bank	1979	Loan renegotiation	598
GrindlayBrandts Ltd.	1979	Working capital	148
Several international banks, small loans each	1980	Working capital	136
TOTAL			**2116**

Source: CAPa (1975-1980).

Apart from the capitalization strategy as a means to fund investments, external loans proved crucial. Between 1946 and 1967 CAP obtained all external loans from EXIMBANK, except for the loan taken from the sellers of Algarrobo's iron mine. The first loans were taken through CORFO, but from 1951 they were taken directly by CAP. The strategy adopted was to ask EXIMBANK for 50 % of the funds needed to finance a particular project (CAPb, 1951-1970). Table 2 provides a summary. Subsequently, other lenders became important as a source of borrowing, including an agreement with the Bethlehem to pay for the acquisition of El Romeral and El Tofo (CAPb, 1972-1974). From 1975 CAP's borrowing strategy was aimed at finishing the Algarrobo plant, which was important for iron concentrates and pellets, to weather the impact of the international steel crisis, and to improve the financial deficit of the company, so as to be able to privatise it. New sources of borrowing were explored (Table 3). CAP borrowed from Mitsubishi Corporation in 1975. The Japanese giant provided two loans, but in exchange CAP had to sell the production of the Algarrobo plant to Mitsubishi (CAPa, 1975). The rest of the loans obtained from the international banking system were facilitated by the new neoliberal economic policy adopted by Pinochet, which stopped the funding of state companies, seeking instead loans from the international markets, making the most of the availability of capital flowing to developing countries. (BÉRTOLA and OCAMPO, 2010)

9. Conclusions

The creation of CAP was a direct result of the economic policies that started to be implemented in most Latin American countries after the Great Depression: nationalism, protectionism, and state-led industrialisation. In this particular case they sought self-sufficiency in steel, and the exploitation of related raw materials. At the same time, by reducing steel imports, Chilean governments were looking to save foreign currency for the country in the face of a severe balance of payments crisis. After a few years of operations, CAP became hegemonic within the industry, which was unusual within Latin America. The steel industry has often been highly concentrated in many countries, but not to the extent of the Chilean industry during our period of study.

But it was not all about the state. In the creation of the CAP the state, through CORFO, and the private sector converged. There was a high degree of cooperation between the CAP, other state agencies and private firms. This high level of cooperation lasted until 1970 and signalled the most prosperous time within CAP's history. Yet, state support was crucial. From its creation CAP enjoyed substantial tax benefits. It was also protected from foreign competition due to high import duties on steel, and also benefited from high internal prices fixed by the state, and by the state's support in borrowing.

Another factor contributing to CAP's successful performance during most of its existence was the perdurability of the senior directors and managers, who managed to survive different governments with contrasting ideological beliefs, and to have good relationships with the directors and managers appointed by these governments. The "technical teams" led by Levine managed to implement most of the expansionary plans of the company, including the expansion of the production capacity of Huachipato and of the iron mines in Algarrobo, which ended up being a profitable business for the company.

However, the period between 1971 and 1980 was not good for CAP, which had to face some difficult challenges. First, despite Allende's social change agenda, and the good intentions his government may have had regarding the population's overall welfare, the actions taken regarding the steel and iron sectors led to a severe economic and financial crisis for CAP. Particularly damaging was the policy of freezing CAP's steel prices under severe inflation, as well as the creation and poor management of the "Steel Mining Complex". Pinochet's era was no better. From 1975 CAP had to deal with an international crisis in the steel and iron sectors. In response, Pinochet's advisors decided to borrow heavily on the international financial markets, while the eventual privatisation process was underway, ending the state's involvement with this firm.

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