Chapter 9

Foreign and domestic entanglements

By 1900, as the aluminum industry began to mature and expand, two economic strategies evolved that were linked – vertical integration and cartels. In a 2001 journal essay, Clive Edwards noted that the aluminum industry depended on a raw material found in undeveloped regions, bauxite, which was transformed into alumina and then aluminum in developed regions rich in electrical power. It took a vertically integrated company to provide the enormous set-up costs, large energy requirements, and extensive research and development needs to succeed in this evolving industry, and these demands limited the number of businesses that could enter the industry successfully. At the same time, the international nature of the industry soon resulted in only a few companies basically controlling the supply and sale of needed materials. This eliminated the national identity of aluminum companies, which instead cooperated with each others as an oligopoly or cartel. [1]

Warnings about foreign entanglements in the aluminum industry can be traced back to 1884 when William Frishmuth, who supplied the aluminum for capping the Washington Monument in Washington, D.C., warned in the New York Times that "foreign capitalists" were about to control the global aluminum market. [2] Frishmuth was not alone. In 1906, as the first aluminum plant in Norway was under construction, an influential Norwegian engineer at Norsk Hydro warned that the Norwegian aluminum industry would "become controlled by a cartel who disposes bauxite." [3] The Pittsburgh Reduction Co. saw the advantages of joining with other companies to direct supply and demand by 1895 when it signed an agreement to join a cartel with a Swiss aluminum producer. The Pittsburgh Reduction Co. agreed not to sell aluminum in four specified European countries, and the Swiss company agreed not to sell aluminum in the U.S. The cartel agreement ended in July 1896. The Pittsburgh Reduction Co. also took steps to control the growing electrical industry. In 1894, the company forced the new hydroelectric utility company at Niagara Falls to impose restrictive covenants preventing the utility from selling power to any other aluminum smelting company. According to a 1941 federal court ruling, five Niagara Falls covenants were made from 1895 through 1905. All had expired or were cancelled by 1921. The Pittsburgh Reduction Co. also forced the Shawinigan Falls Power Co. in Quebec to impose restrictive covenants in 1902 preventing the utility from selling power to any other aluminum smelting company. [4]

Federal anti-trust legislation

As the second industrial revolution took hold in the U.S. and large companies gained a dominating hold over important new industries, the federal government took steps to encourage free and fair competition – even if it meant regulating certain industries. In 1887, as railways stimulated the growing U.S. economy, providing consumers with access to material goods as never before, the federal government reacted by creating the Interstate Commerce Act to regulate railroad companies. Passage of the Act came in response to a controversial court decision which found that states had no jurisdiction over interstate trade. Three years later in 1890, the federal government created the Sherman Anti-trust Act in response to general public unrest over how large and powerful U.S. businesses had become. Passed nearly unanimously, the Sherman Anti-trust Act made it illegal for companies to form a trust or conspiracy in restraint of trade or commerce. Ironically, the Act was used during the 1890s by large corporations as a way to stop unions, since strikes could be construed as a restraint in trade. [5]

Named for Sen. John Sherman of Ohio, the act became law on July 2, 1890. Section 1 made restraint of trade illegal, and Section 2 made anyone who monopolized trade or commerce guilty of a misdemeanor. In debates prior to the law's passage, Congress focused its attention on restraint of trade and left its definition of monopoly uncertain, according to Charles C. Carr's 1952 book on Alcoa. A legal understanding of restraint of trade and monopoly was expanded upon by the courts over the next 60 years. An ideological conflict existed between those who believed government should exert a close control over business, regardless of wrongdoing, and those who believed in a compromise between laissez-faire and statism. One key issue was whether a company's sheer size and share of the market was harmful to the American people. [6]

The Sherman Act was created out of common law principles in order to give the federal government the power to restrain price fixing and monopolization. The era of the robber barons at the close of the 19th century had given large businesses unwanted notoriety, according George David Smith in his 1988 corporate history of Alcoa. An unexpected result of the Sherman Act was an increase in mergers and the use of the act to attack labor associations. The issue of "trusts" dominated political debate from the 1880s through World War I, as Progressive politics supplanted Populism, and politicians like Teddy Roosevelt took on the emerging capital-intensive corporations. Roosevelt recognized the benefits of the new companies, but he cautioned that they needed to be "supervised and within reasonable limits controlled." The U.S. Supreme Court's 1911 ruling that the American Tobacco Co. and the Standard Oil Co. were monopolies set in motion the process which led to the breakup of these large corporations. Congress widened the scope of the Sherman Act in 1914 by passing the Clayton Anti-trust and

Federal Trade Commission acts to provide government the power to demand information from corporations, to issue cease-and-desist orders and to bring offending companies to trial. [7]

The Pittsburgh Reduction Co.'s initial strong economic position rested on its hold on key patent rights, but after those expired the company's monopoly continued in part because of a tolerant public, according to Smith. The company faced its first anti-trust challenge in 1911 when federal regulators assumed that Alcoa could not have reached its position without cheating. The company survived that first challenge – five years later, its monopoly on primary aluminum production in North America remained unchanged, Alcoa produced more than 63% of the world's supply. By the end of World War I, Alcoa was ranked 48th in size among U.S. industrial companies, and it continued to grow in size and strength. But as the company grew, it increasingly became a visible target for populist politicians as the "property" of one of America's best-known financiers, Andrew Mellon, according to Smith. As the U.S. economy expanded during World War I and the 1920s, creating jobs and consumer products, large corporations benefited from a new image as engines of growth and prosperity. In 1920, the U.S. Supreme Court ruled, "The law does not make mere size an offense." Alcoa faced Federal Trade Commission investigations in the 1920s and a major anti-trust case in 1937, but the company was able to maintain its monopoly position through World War II without any government regulation. The 1937 case was not considered settled until the 1950s, while other free market charges continued until the 1970s. [8]

The early cartel agreements

In economic terms, a cartel is an agreement between competing firms to control prices or exclude new competitors in a market. It is a formal organization of sellers or buyers that agree to establish sale prices, purchase prices or reduce production. Cartels typically arise in an oligopolistic industry, where the number of sellers is small or sales are highly concentrated and the traded products are often commodities. The aim of such collusion is to increase individual members' profits by reducing competition. Instead of cartels, tariffs and duties provide a legal mechanism to protect domestic industries – in the case of the aluminum industry, from European competitors. By 1909, European aluminum companies produced 60% of the world's primary aluminum, while the U.S. was the world's leading aluminum consumer. European companies benefited from nearby deposits of high-grade bauxite, cheap labor and well-located sources of hydroelectric power, but aluminum prices in Europe also were low because of competition and over-production at smelters, according to Smith. The Pittsburgh Reduction Co. was protected from European competition in 1890 by a 15-cent per

pound tariff. The tariff was lowered to 8 cents per pound in 1897 and to 7 cents per pound by 1909. Duties also existed on fabricated aluminum goods. [9]

In 1901, the Pittsburgh Reduction Co. entered into a cartel agreement with aluminum producers in France, England and Switzerland through its new foreign subsidiary in Canada, the Northern Aluminium Co. The company's investment in hydroelectric power and new plants allowed the Pittsburgh Reduction Co. to make an end run around the Sherman Act, according to Smith. The cartel essentially turned each producer's country into a closed market, with prices set one cent per pound higher than in remaining areas – the open market. The U.S. was treated as a closed market for Northern Aluminium, but in practice it was the Pittsburgh Reduction Co.'s closed market, and the company considered its actions proper and legal. A major effect of the cartel was to maintain high prices for aluminum, which helped all aluminum producers expand capacity. The cartel also helped Alcoa strengthen its monopoly position in the U.S. The 1901 cartel eventually collapsed under economic pressures. First, a shortage of aluminum in 1906 through 1907 led to a boom in construction of new aluminum smelters. Overproduction and an economic depression in 1907 through 1908, however, caused aluminum prices to plummet, and the cartel disbanded. Within months, foreign aluminum began entering the U.S. market at 10 cents per pound below Alcoa's quoted price. Then, to compound the problem, the duty on foreign aluminum was reduced to only 2 cents per pound by the Underwood Tariff Act in 1913. [10]

The 1901 cartel agreement the Pittsburgh Reduction Co. made with one Swiss company, one British and two French, which allocated markets, fixed prices and fixed aluminum production, expired in 1906. The Pittsburgh Reduction Co. renewed the cartel agreement in 1906. The cartel was dissolved by consent of its members on Oct. 1, 1908. The Pittsburgh Reduction Co. then joined a cartel with a Swiss aluminum company in 1908 which also allocated markets, fixed prices and fixed aluminum production. The cartel, which was dissolved by consent of its members on Feb. 17, 1912, was ruled to be in violation of the Sherman Act in a court-ordered decree made in 1912. Alcoa also joined a cartel with one Swiss company, one British, two French, one Norwegian and one Italian in 1912. The cartel fixed prices and sales of aluminum outside the U.S. The cartel ended in August 1914 with the outbreak of World War I. [11] According to court records, Alcoa Chairman Arthur Davis traveled to Paris in December 1911 to set up a cartel between his company and European aluminum producers. His original plan was to create a corporation in which all members of the cartel would own shares. When this idea was abandoned, French interests in the cartel formed the Southern Aluminium Co., which worked in conjunction with Alcoa in the U.S. until Alcoa eventually absorbed the remains of the French company's hydroelectric plant in Badin, N.C. shortly after the start of World War I. The federal government, in its 1937 anti-trust lawsuit against

Alcoa, argued that the Southern Aluminium Co. was a façade created to appease the government after Alcoa lost its 1912 anti-trust case. [12]

The 1912 federal case

Alcoa's involvement with these foreign cartels was investigated by the federal government, and a complaint was filed on May 6, 1912. Alcoa was charged with participating in foreign cartels, making restrictive covenants in the bauxite and alumina markets, and using unfair competitive practices in its downstream fabricating markets. [13] The government's first charge had to do with restrictive covenants made between the Pittsburgh Reduction Co. and producers of bauxite and alumina. In 1905, the Pittsburgh Reduction Co. bought valuable bauxite deposits in Arkansas and Georgia from the General Bauxite Co. During the transaction, the Pittsburgh Reduction Co. made a mutual covenant with General Bauxite's parent company, the General Chemical Co., stating that the Pittsburgh Reduction Co. would not make alumina from the bauxite and General Chemical would not make aluminum from alumina. In 1907, Alcoa made a mutual covenant with the Pennsylvania Salt Manufacturing Co. wherein Alcoa promised to continue purchasing alumina from Pennsylvania Salt and Pennsylvania Salt agreed not to make aluminum. In 1909, Alcoa made a similar mutual covenant with the Norton Co. regarding purchases of bauxite. Norton and General Chemical signed 40- and 50-year contracts to purchase mined bauxite from Alcoa at favorable prices. [14]

The second charge by the Justice Department involved a long list of allegations that Alcoa engaged in unfair trade practices, including delayed shipments, price discrimination and requiring purchasers not to compete with Alcoa-made products. None of the allegations were ever proved by the government. [15] During court testimony, Alfred Cowles of the Cowles Electric Smelting Co. said he decided against entering the aluminum smelting business once the Hall and Bradley patents expired because of Alcoa's firm control over the bauxite and alumina supply. [16] The third charge involved Alcoa's participation in foreign cartels, particularly the cartel of 1908, which still existed at the time the U.S. government filed its complaint. Alcoa felt that the cartel was legal since it involved a foreign subsidiary and was carried out in foreign countries, according to Carr. The government's position on foreign cartels was subsequently sustained by the courts. [17]

A settlement to the government's complaint was reached quickly by consent decree. Officials from Alcoa signed the decree and agreed to discontinue doing the things alleged by the government – but without agreeing to the validity of the charges. [18] To avoid a long-lasting confrontation, Alcoa management had ordered complete cooperation with the government, and the matter was settled within a year, according

to Smith. Although Alcoa was not found to have established its monopoly position illegally, the company was nonetheless enjoined from certain business practices. Judge James M. Young of the U.S. District Court of Western Pennsylvania set the terms of the consent decree on June 7, 1912. Alcoa was forbidden from entering into any cartel arrangements through a subsidiary company or agent that would restrain imports of bauxite, alumina or aluminum. The company also was forbidden from entering into exclusionary agreements with any bauxite or alumina producing companies in the U.S. that prevented those companies from selling bauxite or alumina to third parties. The decree also included a long list of injunctions involving the kitchen utensil business. [19]

The speed with which the settlement was reached indicated to some observers that the whole affair had been arranged ahead of time, and that Alcoa was trying to make a record of its position, according to Carr. In subsequent anti-trust proceedings, Alcoa argued that it could easily have defended itself against the 1912 charges. Restrictive covenants were common in business, and the meaning of the Sherman Act had not been made clear by that time in history, the company claimed. The charges also needed to be looked at in the context of the newly evolving aluminum industry, with Alcoa competing against steel and other nonferrous metals. It was unlikely that another company would have willingly entered the aluminum industry in the three years between the end of Alcoa's patent-assured monopoly in 1909 and the filing of the government's complaint in 1912 – and no company had ever lodged such a claim, the company pointed out. For Alcoa, the legacy of the 1912 Consent Decree was that it forced the company to be more cautious and stay away from entangling foreign cartels, and Alcoa began to submit acquisition plans to the government ahead of time. [20]

Alcoa took the position that its subsidiary in Canada, the Northern Aluminium Co., was free to enter into cartels with foreign aluminum producers so long as the U.S. market was unaffected. In 1913, after prior consultation with the U.S. Justice Department, Northern Aluminium joined an international trading group called the Aluminium Association. The association fell apart in 1915. After that, Alcoa relied on tariffs to protect its control over the North American aluminum market. [21] Alcoa held a monopoly on aluminum production in the U.S. from 1912 to 1917 and produced more than 63% of the aluminum in the world. [22] The Underwood Tariff Act in 1913 was a setback, as the duty on foreign aluminum fell to 2 cents per pound. But the outbreak of World War I helped Alcoa survive what could have otherwise turned into a deluge of cheap imported aluminum. The war also put a stop to construction of a large state-of-the-art French-owned smelter at Badin, N.C., as financing dried up and French industry focused on winning the war. [23]

Foreign plants and cartels

The company benefited from a policy of economic nationalism under President Warren Harding, who appointed Andrew Mellon as Secretary of the Treasury in 1921, a post he held until President Franklin Roosevelt took office in 1933. Critics accused Mellon of using his Treasury Department position to further his business interests – including Alcoa. Mellon favored strong protection against foreign competition, but he wasn't alone, according to Smith. Congress passed the Fordney-McCumber Act in 1922, which raised tariffs on aluminum ingot from 2 cents to 5 cents per pound and on aluminum sheet from 5 cents to 9 cents per pound. Between 1920 and 1928, Alcoa's overseas expansion plans benefited from the U.S. government's support in the form of tax breaks, diplomatic aid and even foreign intelligence. In Europe, steep tariffs, building nationalism and the aluminum industry's over-capacity created a difficult market for new companies to enter. Alcoa adopted the strategy of locating manufacturing facilities in those countries where it wanted to increase foreign sales, and soon the company was buying foreign plants or entering joint ventures. [24]

Alcoa already held rights to bauxite deposits in Southern France from 1912, operating as Bauxites du Midi, and in 1921 it purchased rights to bauxite deposits in Yugoslavia and Italy. During the 1920s, Alcoa acquired hydroelectric power sites in Norway and France, half the stock in the Norsk Aluminium Co., a one-third interest in Det Norske Nitrid in Norway, a one-third interest in Aluminio Espagnol of Spain, and a one-half interest in Societa dell'Alluminio Italiano. Altogether, Alcoa purchased 10,500 tons per year in primary aluminum capacity in Europe. [25] Alcoa applied for a modification of its 1912 court-ordered consent decree on Oct. 25, 1922, so it could acquire Norsk Aluminium and Det Norske Nitrid. By 1923, total European aluminum production was 155,000 tons, of which 32,000 were exported to the U.S. Nearly half of U.S. aluminum imports came from Norway. For the time period 1919 through 1928, a total of 278,000 tons of aluminum was exported from Europe to the U.S., of which 103,000 came from Norway. The Norwegian companies were interested in joining with Alcoa and began negotiating with Alcoa beginning in 1920. Both Norwegian companies had faced financial problems, and the Det Norske Nitrid facility had been closed for a time. [26]

According to court records, cartel arrangements were discussed and implemented through the Great Depression and nearly up to the start of World War II. In 1927 or 1928, Arthur Vining Davis was approached by Louis Marlio, head of the French Aluminum Co., and Murray Morrison, head of the British Aluminum Co., in hopes of convincing Davis to join their cartel and limit imports of aluminum to the U.S. Davis later testified in a 1937 anti-trust lawsuit that he had flatly refused to join the cartel. The trend prior to World War II was that European companies could produce aluminum

more cheaply than American companies, and that European companies tended to operate in cartels. According to allegations made by the Justice Department in the anti-trust case, Alcoa engaged in five foreign cartels from 1928 through 1937. The first cartel allegedly existed from June 4, 1928 through July 2, 1931. The second cartel, called the Alliance, allegedly existed from July 3, 1931 through Dec. 31, 1935. The third cartel allegedly existed from Jan. 1, 1936 through March 31, 1938. Members of the third cartel included Aluminium Ltd. – the Canadian aluminum company formed by Alcoa in 1928 when company management split the company in two – and aluminum producers in England, Norway, France and Switzerland. The third cartel's market was in India, Japan, Russia, Czechoslovakia and the Balkan States. The fourth cartel allegedly began April 1, 1938 and was considered part of the preparation for World War II. The fifth cartel, not related to the previous four, allegedly existed from 1929 through 1937 and related to marketing agreements. [27]

The chief allegation for the government in the anti-trust case involved the Alliance Aluminium Compagnie, the second cartel, which included Canadian Aluminium Ltd., British Aluminium Co. Ltd., Aluminium Francais, Aluminium Industrie Aktiengesellschaft Neuhausen of Switzerland and Vereinigte Aluminium Werke A.G. of Germany. The Alliance set quotas for maximum production by its members and set prices at which Alliance members could buy unsold aluminum from other members in excess of the cartel quota. During the 1937 anti-trust trial, Edward K. Davis, Arthur Vining Davis' brother and head of Aluminium Ltd., testified that he had rejected advances to join the first cartel in 1928. He also testified that, following the collapse of the stock market in 1929 and the general economic decline which followed, he felt it was necessary in 1931 for Aluminium Ltd. to join the Alliance cartel in order to successfully compete in the global aluminum market. U.S. Judge Francis G. Caffey ruled in 1941 that Alcoa was not involved in any of the five cartels as charged by the Justice Department. [28]

According to court records, Edward Davis met in Canada with representatives of the foreign aluminum companies on July 3, 1931, and began to organize the Alliance. Formed as a Swiss corporation, the Alliance consisted of one French company, two German, one Swiss, one British and Aluminum Ltd. Members agreed to set aluminum production quotas and that the Alliance would purchase any part of a member's quota which did not sell at a set price. No member was allowed to "buy, borrow, fabricate or sell" aluminum produced by companies which were not members of the Alliance. The rules of the Alliance were never applied to imports of aluminum ingot to the U.S., and the rules were changed in 1936. Members agreed to pay a royalty on any aluminum produced beyond their agreed upon quota, and imports of aluminum ingot to the U.S. were considered part of the quotas. By March 1938, it became clear to the cartel members that the Alliance was no longer of service to them – especially the German

companies on the eve of World War II. Nonetheless, by 1945 the Alliance still existed on the books. The Alliance posed two different legal questions in the 1937 anti-trust lawsuit: Do actions by foreign companies which have repercussions inside the U.S. fall within the jurisdiction, or at least the interest, of U.S. courts? And, more particular to the case, did the Alliance in fact affect imports of aluminum inside the U.S.? In 1945, Justice Learned Hand believed the latter question to be the determining one and ruled that the 1936 agreement violated the Sherman Anti-Trust Act. [29]

Alcoa's anti-trust allegations

The U.S. government was not only concerned about Alcoa's foreign entanglements but also business activities that violated the Sherman anti-trust act. An early case involved the expanding American kitchen utensil market – Alcoa controlled more than 75% of the market by 1912. Alcoa had organized several competing aluminum foundries in Ohio, Michigan and New York into the Aluminum Castings Co., which soon dominated the castings industry. The new company was investigated by the U.S. government when the Michigan Aluminum Foundry Co. accused Alcoa of unfair practices. The small castings company had initially refused to sell out to Alcoa, and the Michigan company accused Alcoa of delaying ingot shipments, material thefts and stealing away crucial employees. The allegations were never adjudicated. [30] Alcoa also took on large corporations in an attempt to maintain its monopoly. During the winter of 1920 through 1921, the Ford Motor Co. attempted to secure an independent source of aluminum and began indirect negotiations with a Norwegian aluminum company. Word of an impending deal reached the ear of Alcoa Chairman Arthur Davis, and by July 1921 Alcoa had purchased a half interest in the Norwegian company. Alcoa bought the Norwegian company outright in October 1922 after receiving permission from the U.S. Attorney General, as required according to the rules of the decree of the anti-trust lawsuit Alcoa had conceded to in 1912. [31]

Anti-trust allegations also involved technology. In 1922, Alcoa owned 45 out of 53 design patents held by a close group for manufacturing aluminum alloy engine pistons. The patents were pooled together and then Alcoa was given an exclusive license to control the patent rights, including the right to sub-license the rights. Alcoa issued the sub-licenses to three companies with conditions which limited the number of pistons each company could make. One of the three companies was also forced by contract to purchase its aluminum ingot from Alcoa. [32] Two types of patents applied to the manufacturing of aluminum pistons – process patents and structural patents. Alcoa owned most of the process patents essential to the manufacture of aluminum pistons, but other companies owned some structural patents. The Piston Patent Estate was formed to end disputes between these patent holders. [33]

The U.S. government stepped in again in 1922 in a case involving a small Ohio rolling mill. The Cleveland Metal Products Co. found itself in financial problems resulting from government actions during World War I. Alcoa helped bail out the company by forming a new company called the Aluminum Rolling Mill Co., with the stock split between Alcoa and Cleveland Metal's proprietors. The Federal Trade Commission sued to compel Alcoa to divest itself of the stock it had received from Cleveland Metal. The case was settled on appeal in the Third Circuit Court of Appeals in 1922. The court agreed with the FTC, and Alcoa was left with a substantial debt owed to Cleveland Metal. [34]

That was the start of an eight-year long investigation of Alcoa after the FTC had received complaints from several companies in the U.S. aluminum industry, including the Charles B. Bohn Foundry Co. of Detroit, Mich. In 1925, the FTC filed a full complaint against Alcoa focused mainly on the kitchen utensil business. Alcoa was accused of price discrimination and monopolization of portions of the aluminum industry. At the time, the FTC was a weak agency whose responsibility was to subpoena documents and take testimony in order to develop cases that were referred to the U.S. Justice Department for further investigation and prosecution. By 1930, the FTC was unable to produce a case against Alcoa and the case was dismissed, with the result that the FTC lost face and Alcoa never got a clean bill of health, according to Smith. [35]

The Federal Trade Commission's investigations did little to slow down Alcoa's dominating growth in the U.S. aluminum industry. Between 1925 and 1932, Alcoa was suspected by the federal government of attempting to put competing aluminum sheet manufacturers out of business by manipulating prices, specifically by lowering prices for its sheet product and raising prices for its ingot aluminum. Alcoa was the sole source of aluminum ingot for sheet fabricators, and they brought this problem to the attention of the government. By 1932, however, Alcoa had succeeded in eliminating four of the eight competing sheet fabricators. Soon after the government began to investigate Alcoa, the company lowered its price for aluminum ingot, and sheet manufacturers began to recover by 1933. [36]

The big break-up

Government investigations and lawsuits combined with other business decisions to drive Alcoa to a revolutionary decision in 1928. By that time, Alcoa owned more than half the world's capacity to produce aluminum metal – about 90,000 tons in the U.S., 45,000 tons in Canada and 15,000 tons in Europe. [37] The company held interests in 32 aluminum operations in 11 different countries. At the same time, the company had vertically integrated and grown to control the U.S. aluminum industry. As Charles W. Parry, the CEO of Alcoa in 1985, explained it, "For more than half our life, we were the

most successful business monopoly in American history. We had the power to make decisions about aluminum that were largely independent of direct competitive pressures. We acquired bauxite reserves and hydroelectric sites to strengthen our solitary role. Alcoa expanded rapidly, achieving economies of scale that made it difficult as well as less attractive for potential competitors to enter the aluminum business. And we were financially successful." To hold off potential anti-trust suits, Alcoa reorganized its business by transferring all of its foreign holdings, except for bauxite properties in Dutch Guiana, to a Canadian subsidiary company, Aluminium Ltd. of Canada. Alcoa Chairman Arthur Davis said he felt at the time that the company could not competently conduct foreign and domestic business at the same time, especially in light of a rising tide of nationalism and tariff barriers worldwide. A Canadian company, Davis said, could do better than Alcoa inside the British Commonwealth market. Davis' brother, Edward Davis, became president of Aluminium Ltd., and for a time Aluminium Ltd. served as a foreign arm for the joint stockholders. [38]

On June 4, 1928, Alcoa transferred ownership of 29 of its 34 foreign companies or properties to Aluminium Ltd. The foreign interests had been acquired by Alcoa between 1920 and 1928, and Alcoa was paid by issuance of Aluminium Ltd.'s common stock. Three more foreign companies were transferred to Aluminium Ltd. after June 4, 1928. According to Alcoa executives testifying in the 1937 anti-trust lawsuit, the company initially viewed expansion into foreign operations as a way to supplement its growing domestic operations, but gradually that viewpoint had changed. Alcoa's top executives believed they were not giving the company's foreign operations enough attention, and that they could develop properly if segregated into a separate grouping. Furthermore, worldwide growth in protectionism and nationalism posed a problem to aluminum facilities owned and operated by Americans. The most significant example of this was the "Buy British" campaign inside the British Empire. At another level was a personnel problem at Alcoa – Arthur Davis needed to find a place for his younger brother Edward and for Roy Hunt, son of Alcoa's first president. [39]

The creation of a new and independent company in Canada solved all these problems. The creation of another subsidiary, according to Alcoa executives, would not help. The U.S. government in its anti-trust case viewed the creation of Aluminium Ltd. in a different way – as a way for Alcoa to shield itself from charges of joining foreign cartels and practicing unfair competition inside and outside of the U.S. The fact that all of Aluminium Ltd.'s original common stock went to Alcoa indicated to the U.S. government that the two companies were tied together in a conspiracy to defy the Sherman Act. On June 4, 1928, when Aluminium Ltd. was created, three stockholders held 51.3% of Alcoa's stock and thus became owners of 51.3% of Aluminium Ltd.'s stock. [40]

In 1931, a major transaction in common shares began between Alcoa and Aluminium Ltd. By the time the transfers were completed and the two companies had been virtually separated, a slim majority of Alcoa's common stock was held by three people: Andrew Mellon, his brother Richard B. Mellon and Arthur Davis. Eight years later in 1939, eleven descendants of these three collectively held 48.9% of Alcoa and 48.5% of Aluminum Ltd. [41] In his 1941 ruling in the anti-trust case, Judge Francis Caffey wrote that ownership of Alcoa had been diluted by 1939 – the 11 largest stockholders together barely owned more than 50% of Alcoa's stock, and the overlap between Alcoa and Aluminium Ltd. stocks had been diversified. Among the top Alcoa stockholders were descendants of Arthur Davis and the Mellon family. Judge Caffey argued that "usually time does away, or can and is almost certain to do away, with control of a corporation by any small group of stockholders" as a result of voluntary sales, insolvencies or deaths. [42]

The U.S. government charged in the 1937 anti-trust lawsuit that Aluminium Ltd. produced large quantities of ingot aluminum in Canada and Norway but didn't ship any of that aluminum to the U.S., thereby protecting the parent organization, Alcoa. From the viewpoint of Aluminium Ltd. itself, under the helm of Edward Davis, the company faced an uphill battle from its inception in 1928, Judge Caffey noted. The foreign properties acquired from Alcoa were extremely valuable and included bauxite deposits in British Guiana as well as processing facilities. The largest and most valuable properties were in Canada and included two aluminum smelters and an alumina refinery, all in Quebec. On the other hand, Aluminium Ltd. lacked any fabricating plants and the alumina refinery was solely dependent on an experimental dry process which was abandoned by 1930 in favor of the Bayer process. As a result, Aluminium Ltd. was forced to process its South American bauxite at Alcoa's East St. Louis alumina refinery through a tolling contract, or purchase alumina from European suppliers. Aluminium Ltd. also set up tolling contracts with Alcoa for rolling its aluminum at Alcoa's U.S. plants. [43]

Aluminium Ltd. started out short of working capital, and its constituent companies all owed money – much of it to Alcoa. In order to assure repayment of its debts, it made sense for Alcoa to assist Aluminium Ltd., and that argument was presented in the 1937 anti-trust lawsuit. At the time of its creation, Aluminium Ltd. owed $25 million, but by 1941 it had paid off all its debts, including a $20 million bond to Alcoa. In 1928, about 4,000 employees worked for Aluminium Ltd. By 1939, there were more than 12,000 employees. In 1928, the Arvida smelter in Quebec produced 30,000 tons of aluminum per year. By 1938, Arvida produced 75,000 tons per year. The capacity at the Shawinigan Falls smelter was about 16,500 tons per year. The Canadian company's business increased three-fold from 1928 to 1939, and Aluminium Ltd. established a complete system of vertically-integrated facilities, from alumina refining to fabrication. Of

particular benefit to Aluminium Ltd. was a preferential tariff system, created at the Ottawa Conference in 1932. Aluminium Ltd. was able to use the tariff system to sell its products to the United Kingdom, Australia, New Zealand and India, as well as other members of the British Empire. Aluminium Ltd.'s management developed a business strategy focused on selling aluminum to undeveloped regions with high populations, such as India, China and Japan. The company chose to avoid the U.S., with its 5 cents per pound duty on raw aluminum imports. Over time, the company expanded into Argentina, Brazil, Italy – and Japan in the years leading up to World War II. [44]

Continuing anti-trust lawsuits

Alcoa's creation of Aluminium Ltd. in 1928 didn't stop U.S. government investigators. On Dec. 16, 1929, a U.S. court examiner issued his findings in a lawsuit brought by the Federal Trade Commission against Alcoa involving cases since 1925. The FTC's lawsuit included 10,000 pages of testimony and numerous exhibits. The FTC accused Alcoa of violating the Federal Trade Commission Act and the Clayton Act. The findings of the examiner were affirmed by the FTC and favored Alcoa. The findings included: 1) Alcoa never attempted to monopolize the aluminum scrap market; 2) Alcoa had no monopoly on bauxite; 3) Alcoa had no monopoly on water power; 4) Alcoa did not control the Aluminum Goods Manufacturing Co.; 5) Alcoa did not control the market for aluminum imported into the U.S.; 6) imported aluminum competed with domestic aluminum; 7) the purchase price for scrap aluminum was controlled by supply and demand; and 8) Alcoa never had a monopoly on the sand casting industry in the U.S. [45]

Alcoa also faced private anti-trust lawsuits. In 1928, one of Alcoa's competitors in the sheet aluminum business, the Baush Machine Tool Co. of Springfield, Mass., sued Alcoa claiming that Alcoa had violated anti-trust laws. [46] Baush had entered the sheet aluminum fabricating business in 1919 after it located a source of foreign aluminum at 1 to 2 cents per pound below Alcoa's asking price. Baush also developed an aluminum alloy called 2S that was similar in properties to Duralumin. With a huge market emerging in the aircraft industry, Baush posed a threat to Alcoa's unchallenged aluminum sheet business, according to Smith. Although Alcoa's mills operated at much higher volumes, Baush's product was of high quality and enjoyed respect among automobile and aircraft manufacturers. Nonetheless, Baush's sales peaked in 1925 and began to fall off by 1927. [47] The case was moved from Massachusetts to Connecticut and tried there twice in two different cities, New Haven and Hartford. Baush won one and Alcoa won one, and an appeals court reversed both trial courts. In 1929, the Third Circuit Court of Appeals issued a ruling in Perkins v. Haskell, in which Haskell, the president of Baush Machine Tool Co., claimed his company was hurt by unfair

competition. The appeals court reversed the decision of the trial court and ruled there was insufficient evidence to show that Alcoa hurt Baush. [48]

By 1931, Baush had only 7.3% of the market for the Duralumin-type 18-inch sheet used primarily in aircraft construction. By 1935, the company abandoned the business altogether, and its story became the focus of private litigation between 1931 and 1935. Suspicion was cast on Alcoa for manipulating prices and controlling the market illegally, but according to Smith, many analysts believed Baush was guilty of poor planning and poor management of a great market opportunity. Furthermore, Alcoa's advantage in economies of scale simply overwhelmed the smaller company. In 1931, shortly after the company's aluminum plant closed down, Baush brought a private anti-trust lawsuit against Alcoa in Connecticut District Court seeking $3 million in damages. This was Baush's fourth lawsuit against Alcoa. Baush had lost its first three lawsuits, which were based on the company's claim that it had been unfairly excluded from participation in a hydroelectric power project on the Saguenay River in Canada that was being developed by Alcoa and Duke family interests. In the new lawsuit, Baush accused Alcoa of price squeezing and of conspiring with Aluminium Ltd. to set high prices for independent producers. The case went to trial in the fall of 1933, and after 10 weeks Alcoa was cleared of the charges. A U.S. court ordered a second trial, which took place in 1935 and resulted in a victory for Baush and more than $2.8 million in treble damages. Alcoa won an appeal on technical grounds, although the case was arguing new case law in the matter of vertically-integrated businesses. When it appeared that Baush might start a new round of litigation, Alcoa decided to settle out of court on the condition that the settlement could not be used as a basis for future anti-trust action. [49]

The aluminum business was tempting to some large companies despite Alcoa's firm grip on natural resources, processes and markets. Several major U.S. firms contemplated entering the aluminum smelting business, including General Electric, DuPont and Ford, but they all decided it was too risky, according to Smith. In 1932, the Bohn Aluminum and Brass Corporation explored the use of alternatives to bauxite for alumina production but backed out because of the collapsed economy. [50] By 1939, Alcoa's production had increased almost eightfold to about 163,500 tons, with five smelting plants operating in the U.S. – two in New York State, which had been expanded, and one each in Tennessee, North Carolina and Washington. During this entire time, not a single pound of aluminum ingot was produced by any other company inside the U.S. [51]
Alumina output in the U.S. followed the same pattern. From 1928 through 1937, Alcoa produced about 2.15 million tons of alumina, about 98% of the total U.S. output, through its wholly-owned subsidiary the Aluminum Ore Co. The remaining 2% was produced by the Pennsylvania Salt Co. Alcoa used only 78% of the alumina it produced and sold the remainder for uses other than the production of primary aluminum, such

as paint and grinding compounds. Despite a ruling by the District Court of New York in an earlier anti-trust case, Alcoa had a nearly perfect monopoly in the U.S. alumina business. [52]

The 1937 anti-trust case

The Federal Trade Commission had issued a report criticizing Alcoa's practices in 1924, and additional complaints were filed and investigations were started. [53] The U.S. Justice Department finally put everything together in one big case and filed an anti-trust lawsuit against Alcoa on April 23, 1937. The lawsuit named 63 defendants and accused them of monopolizing interstate and foreign commerce in more than 15 markets and commodities and engaging in conspiracies with foreign producers, particularly in the manufacture and sale of virgin aluminum ingot. The government asked that Alcoa be dissolved. Among the charges was a claim that Alcoa bought up bauxite deposits in Arkansas, Dutch Guiana and British Guiana far in excess of the company's future needs. A similar claim was made over Alcoa's purchase of water power rights in order to prevent competition. The government also charged that Alcoa tried to stop competition by purchasing interests in two Norwegian aluminum smelting companies. [54]

The 13-month trial began in June 1938 in U.S. District Court for the Southern District in New York and concluded in August 1940. Judge Caffey found the defendants not guilty on every one of the 130 counts in March 1942. [55] The record of the case ran to 58,000 pages, including 41,722 pages of minutes, another 15,000 pages of exhibits and 1,500 pages of answers to interrogatories. There were 155 witnesses and 1,803 exhibits. The 63 defendants were divided into four groups: 1) those connected with Alcoa, 2) those connected with Aluminium Ltd., 3) Aluminum Manufactures Inc. and 4) the Aluminum Goods Manufacturing Co. The lawsuit covered three broad topics: 1) monopolization, 2) conspiracy and 3) other misconduct. The monopolization charge was broken up by Judge Caffey into three historical periods: 1) from Sept. 1, 1888 to Feb. 2, 1909, from the start of the Pittsburgh Reduction Co. to the expiration of its Hall and Bradley patents, when the company possessed a legal monopoly based on exclusive patents; 2) from Feb. 2, 1909 to June 4, 1928, when Alcoa divested itself of nearly all its foreign holdings to Aluminium Ltd.; and 3) from June 4, 1928 to 1941, the time of the federal anti-trust lawsuit. [56]

The monopolization charges covered bauxite, water power, alumina, primary aluminum, castings, cooking utensils, pistons, extrusions, foil, sheet, electrical cable and miscellaneous aluminum products. In each case, Judge Caffey found the government's charges to be unproven. [57] Judge Caffey ruled that in a case such as U.S. v. Alcoa, it was necessary to prove intent to monopolize and/or the actual commission of an unlawful

act, and he found in charge after charge that Alcoa's success came from sound business practices, according to Smith. In fact, Caffey found that in most cases no monopoly existed – Alcoa only controlled 50% of the bauxite business in the U.S., and its hydroelectric power amounted to only 0.0003% of the entire U.S. capacity. Alcoa's purported monopolization in the fabrication of cooking utensils, foil, pistons and other products could not be proven to Judge Caffey's satisfaction. In foil, for example, Reynolds Metals surpassed Alcoa in production. [58] One of Judge Caffey's central premises was that since the Hall and Bradley patents for the process used to smelt aluminum and the Bayer patent to process alumina had each expired, all any company needed to enter the aluminum smelting business was bauxite and water power, and Judge Caffey decided some of the monopolization charges on that basis. [59]

In reply to the government's accusations regarding monopolization, Alcoa admitted that "it does produce and sell all the alumina used for the production of aluminum in the United States, and it does produce all the virgin aluminum manufactured in the United States." [60] But Judge Caffey ruled that unless the government could specifically prove that Alcoa sought to exclude competition in these materials, then no illegal monopolization took place, according to Smith. Furthermore, Judge Caffey said, if the secondary aluminum scrap market was considered, and the part of Alcoa's primary aluminum that it used for fabrication in its own plants was excluded from the total market numbers, then Alcoa only produced about 33% of the primary aluminum in the U.S. Judge Caffey also dismissed old allegations and charges of Alcoa's involvement in foreign cartels, as well as hearsay testimony about Alcoa's ongoing market manipulations. With regard to Alcoa's relations with Aluminium Ltd., Judge Caffey was largely unconcerned about the fact that the two companies shared many of the same owners, and he ruled that specific instances of conspiracy between the two companies had not been shown by the government, according to Smith. [61] Judge Caffey described Aluminium Ltd. President Edward Davis as a man with "a mind of his own" who "is entitled to the chief credit for the success of the Aluminium enterprise under quite difficult conditions." [62]

By the end of 1939, Alcoa's capitalization had grown to $242 million and Alcoa averaged 10% profits. Judge Caffey summarized Alcoa's business history by saying, "While perhaps not of great moment, one of the government's witnesses, who was quite antagonistic to Alcoa, said that, after studying its balance sheets, he thought that Alcoa 'had never made an extortionate profit but a very reasonable profit.' He also expressed hearty approval of Alcoa's practice of plowing back its earnings because, as he said, of 'unusual obsolescence, in the discoveries in the art of aluminum production.'" [63] It was readily apparent from Judge Caffey's words that he held unabashed admiration for Alcoa, and in particular Arthur Davis. The government never produced a witness as

powerful or impressive as Davis, who spent 30 days on the stand, all the time demonstrating his command of detail and complex concepts. Irving Lipkowitz, a New Deal economist who helped the Justice Department prosecute its case, took the position that business practices in a monopoly were irrelevant – monopolies were wrong, period. The fundamental point that monopolies were a social evil was lost in the complex arguments and piles of evidence, and essentially the government handled the case ineptly, according to Smith. [64]

The Justice Department appealed, but the case couldn't be reviewed by the U.S. Supreme Court because four of the sitting justices had been involved in prior anti-trust lawsuits against Alcoa. A special act of Congress in 1944 was needed to give the Second Circuit Court of Appeals the weight of a Supreme Court opinion in ruling on the case. The appellate court found that Alcoa controlled more than 90% of the U.S. market for aluminum ingot. This proportion was sufficient to support the case that Alcoa had violated the Sherman Act, regardless of its intent to monopolize. In one of the longest trials in U.S. history, Alcoa came close to being dissolved if not for its role in World War II. [65]

The 1937 lawsuit cost Alcoa $2 million in legal fees to defend and cost the U.S. government about $500,000 to prosecute. Considerable publicity was given to the case by the press as it went to trial – Alcoa's press management was negligible while the Justice Department successfully portrayed Alcoa as a villain. Many forces in American culture were opposed to size and power, according to Smith. Driving that was a traditional fear of large institutions, hostility toward concentrated power, populist politics and support for free-market ideologies. Alcoa had become a symbol of corporate America and was painted as a "Mellon Company." The Mellon family was one of the richest in the world, and Andrew Mellon had drawn considerable heat from the U.S. Senate when he was Treasury Secretary. By 1937, America was still recovering from the Great Depression, and it hurt the Mellons when statistics showed that the nation's 60,000 wealthiest families had as much money as the 25 million poorest, according to Smith. Sen. George Norris, a populist from Nebraska, called Andrew Mellon the "head and front of the aluminum trust." On top of that, Arthur Davis had become openly arrogant about his business success – he was known to publicly brag about Alcoa's complete control of the U.S. aluminum industry. At the same time, the Roosevelt administration looked at anti-trust law as another way to control industrial corporations and help the country climb out of the Great Depression. The administration also saw a need to restore free markets and price competition to help small businessmen, farmers and workers. The administration argued that big business prolonged the Great Depression by setting high prices and withholding investment. [66]

The cartel legacies

The idea of forming cartels never quite went away – whether for philosophical, economic or selfish interests. On Nov. 15, 1961, the Aluminum Association announced a plan to establish an "orderly pattern" of sales and expansion in the global aluminum market through a voluntary system of government-negotiated trade. The plan, proposed to begin in 1963, was described as the first of its kind ever developed by a major industry. It would maintain a fixed share of the U.S. aluminum market for foreign aluminum producers in exchange for a reduction in tariffs in Europe and other areas. The goal was to stop U.S. producers from fighting each other for a larger share of the U.S. market and instead allow them to focus on increasing their share in the international aluminum market. This would be accomplished by helping other countries increase their use of aluminum. When the proposal was compared to a cartel, Aluminum Association President Irving Lipkowitz, chairman of Reynolds Metals Co., said the plan was in effect the opposite because the government was actively involved and because the plan sought to increase general consumption rather than set up market restrictions. The U.S. aluminum industry was suffering from overcapacity and smaller earnings, which affected new research and development, he said. At the same time, Common Market nations were eliminating tariffs between themselves while maintaining high tariffs for outsiders. [67]

In August 1968, the Jamaican government raised the idea of creating an economic group representing bauxite-producing nations in South America and the Caribbean, including Suriname, Guyana and the Dominican Republic. By 1972, Jamaica, Suriname and Guyana had signed an agreement to share information on the bauxite industry. The 1970s were a difficult period for all industries, with cyclical economic fluctuations, repetitive oil price hikes and shortages, and the emergence of resource nationalism – the demand by countries to maximize the benefits of its natural resources by controlling their development, according to a 1982 study by Rhea Berk, Howard Lax, William Prast and Jack Scott. In March 1974, representatives from Australia, Guinea, Guyana, Jamaica, Sierra Leone, Suriname and Yugoslavia met in Conarky, Guinea, to discuss forming a bauxite cartel, and on July 29, 1975, the International Bauxite Association was formally established. The Dominican Republic, Ghana, Haiti and Indonesia subsequently joined the association. By 1980, there were 11 member nations, accounting for 85% of the bauxite traded in the international market and 100% of American imports. Despite this apparent lock-tight grip on the market, the association did not function as effective as other resource cartels, such as the Organization of the Petroleum Exporting Countries (OPEC), the authors noted. Some members of the association had enormous reserves, while others had very little. Brazil, with enormous reserves, was expected to become a full-time member in 1982. [68]

In January 1994, representatives from 17 nations met in Brussels to discuss the collapse of global aluminum prices as a result of huge exports of aluminum from the former Soviet Union. Also present were three anti-trust lawyers from the U.S. Justice Department, who watched as the representatives created what the Wall Street Journal called "the world's newest cartel." The cheap Soviet aluminum had undercut prices of Western aluminum by as much as 50%, and ingots began to stack up on docks in Rotterdam in The Netherlands until no one was sure of the stockpile's size. The European Union had imposed a quota in August 1993 limiting imports of Russian aluminum to 180,000 tons per year, but while the quota did little to bolster aluminum prices, it did galvanize U.S. aluminum companies into seeking help from their government. In September 1993, the Aluminum Association met at the Greenbrier resort in West Virginia and called on the U.S. government to pursue negotiations with the Russians. Negotiations, however, were hamstrung by Justice Department anti-trust attorneys who hovered over the meetings. Price-fixing was not allowed by the U.S. government, but production quotas reportedly were OK. Participants in the 1994 Brussels meeting insisted the arrangement was not a cartel but a two-year memorandum of understanding between companies that operated independently. By June 1994, three months after the pact was put into action, there were signs it was not working perfectly – Moscow was not sending monthly production data, and some believed Moscow was having trouble controlling its own smelters. [69]

In 1994, government officials from the U.S., European Union, Norway, Australia, Russia and Canada agreed to make a two-year voluntary limited production cut of primary aluminum by 1.5 million to 2 million tons in hopes of shoring up declining prices. At the time, inventories of primary aluminum were at 2.5 million tons, several times above normal. Less than 1 million tons was eventually taken out of the world market, but prices fell just the same. Alcoa Chairman and CEO Paul O'Neill was a key player in forming the cartel-like arrangement. By 2001, he was President Bush's Secretary of the Treasury, and aluminum was one of the most profitable metal commodities in the world. [70]

From 1994 through 1997, the U.S. Justice Department investigated a memorandum of understanding between various aluminum-producing nations and found no evidence of cartels or other anti-competitive behavior. In September 1999, Joel Klein, the top U.S. anti-trust official, announced that the Justice Department was stepping up its investigation of global price-fixing and market allocation conspiracies, including the possible existence of a $750 million metals cartel and a conspiracy among manufacturers doing $1 billion in U.S. sales. Klein told the media the cartel had raised metals prices by 20% and the manufacturers had raised prices by 60%. The identity of the metals cartel and the manufacturers involved in the conspiracy was not revealed by

Klein, but inside sources suspected the cartel involved nickel alloys. [71] On May 15, 1997, the Aluminum Association and its member companies received notification from the Justice Department that it was closing its anti-trust investigation of primary aluminum producers. The investigation began in August 1994 when a memorandum of understanding was signed between the governments of the United States, Australia, Canada, the European Union, Norway and Russia to restrict production of primary aluminum. [72]

By the close of the 1990s, however, aluminum cartels were being replaced by mega-mergers. In October 1999, aluminum producers involved in two giant worldwide mergers were receiving requests for more information from the Justice Department, in accordance with the Hart-Scott-Rodino Act concerning fair competition. The Alcoa-Reynolds merger was awaiting both Department of Justice review and approval by Reynolds stockholders. Spokesmen for Alcan said the company expected to complete its merger with Pechiney and Alusuisse by early 2000.

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