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# *Strategy of external growth and group managerial tools at Alais, Froges et Camargue (Pechiney) during inter war period.*

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## Abstract

This article shows the relationship between the strategy of external growth carried out from 1921 to 1939 by the French company *Alais, Froges et Camargue* and the introduction of new management tools intended to control subsidiaries. The establishment of financial reporting in 1921 and the development in 1927 of a financial statement whose conceptual foundations were based on group accounting, were the solutions implemented by the directors to manage the Group's increasing complexity and impenetrability.

## Key words

Accounting history, reporting, control, subsidiaries, group accounts, *Alais, Froges et Camargue* (Pechiney).

## Introduction

The expansion of groups of companies during the inter-war years is one of the most profound transformations in the structure of French capitalism. The legal consequences of this transformation have been particularly well analysed in law papers focusing on the concept of a subsidiary (Gégout, 1929; Rosset, 1932; Percerou, 1933; Sainton, 1938).

More recently, studies in economic history have shown the importance of the subsidiary creation phenomenon in relation to *Compagnie Générale d'Electricité* (Bouvier, 2005), *Energie industrielle* (Vuillermont, 2001) and *Schneider* (d'Angio, 2000). By contrast, these studies are less interested in the specific arrangements for auditing subsidiaries and managing Company Groups.

Following on from studies by Cailluet (1995), this article seeks to show how and why the directors of *Alais, Froges et Camargue* established specific audit measures from the 1920s onwards. This company, born out of the merger in 1921 of the *Produits Chimiques Alais et Camargue* Company (PCAC) and *Société électrométallurgique française* (SEMF), underwent a significant and rapid expansion in its energy and electrochemistry related activities, along with activities in the production and consequent transformation of aluminium.

This research is essentially based on the company's archives<sup>1</sup> (annual reports, general organisation chart and memoranda from the general secretariat). Even if the results published in the annual reports should be treated with the utmost caution, in particular owing to the absence of regulation of accounting functions in France in the inter-war years, they remain essential for assessing the important position of subsidiaries and main shareholdings in capital assets.

The scope of the subsidiary creation phenomenon, which is behind the establishment of specific controls, is measured from the ratio (shares and shareholdings/[assets + stocks and shareholdings]). This trend, far from being linear, is strongly influenced by the economic and political situation (I).

The size of the Group's growth gave rise to two types of requirements for the directors of *Alais, Froges et Camargue*, namely to audit the subsidiaries and to measure the group's net cash flow.

The response to the need for auditing the subsidiaries was provided by the introduction of financial reporting from 1921. Faced with the increasing number of subsidiaries and main

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<sup>1</sup> The author would like to thank the 'Institut pour l'Histoire de l'Aluminium' [Institute for the History of Aluminium] (IHA) for its support of this research.

shareholdings held by *Alais, Froges et Camargue*, this control mechanism was to be strengthened in 1931. Furthermore, the necessity of measuring *the Group's net cash flow* led the directors in 1927 to draw up a financial statement whose conceptual foundations were based on those of the consolidation of accounts (II).

## **I. A policy of subsidiary creation by *Alais, Froges et Camargue* (1921-1939)**

### **1. Increase in the balance sheet item: 'Shares and Shareholdings'**

Analysis of the subsidiary creation policy conducted by the directors of *Alais, Froges and Camargue* between 1921 and 1939 was achieved from balance sheets published in the annual reports<sup>2</sup>. Conscious of the limits of this financial and accounting information in a context marked by an almost total absence of accounting regulation, analysis of the growth in Stocks and Industrial Shareholdings, which appeared on the balance sheet, gives us information about the policy of external growth operated by the directors of *Alais, Froges et Camargue*.

*Stocks and Industrial Shareholdings* comprise three headings:

- industrial shares and shareholdings;
- French government bonds;
- salt mines.

The last two items were of negligible quantity<sup>3</sup> and the analysis is based on the first item. This encompasses the subsidiaries in which AFC exercises a control and the shareholdings judged to be significant by the Company directors.

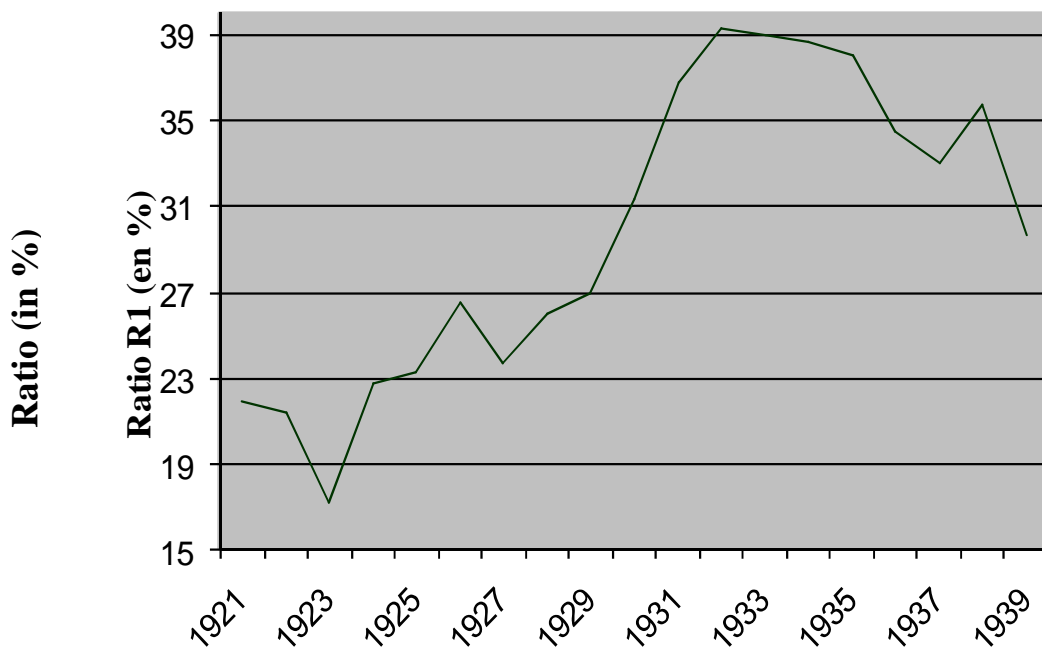
It was hardly possible to calculate the weight of the shares and industrial shareholdings in absolute stocks because of the large monetary variations characteristic of the 1920s and 30s. In order to better understand the policy of subsidiary creation, a ratio (R1) has been calculated. This latter emphasises the part that relates to shares and industrial shareholdings in capital assets (Table 1). This ratio has been calculated as follows:

$$R1 = \text{Shares and Shareholdings} / (\text{Factory assets}^4 + \text{Stocks and Industrial Shareholdings})$$

Table 1: Increase in the R1 ratio

Year	R1 Ratio (in %)
1921	21.83
1922	21.64
1923	17.43
1924	22.75
1925	23.28
1926	26.52
1927	23.64
1928	25.98
1929	26.88
1930	31.36
1931	36.78
1932	39.27
1933	39.00
1934	38.70
1935	38.05
1936	34.52
1937	32.98
1938	35.76
1939	29.69

Graph 1: Increase in the weight of shares and industrial shareholdings (1921-1939)



<sup>2</sup> Pechiney archives: Doc 4 B01 to B022, AFC Annual Reports 1921-1939.

<sup>3</sup> Between 1921 and 1939, *French government bonds* and *salt mines* represented less than 2% of *stocks and industrial holdings*.

<sup>4</sup> The balance sheet item 'factory assets' brings together the *Giraud chemical and salt factories*, *hydro-electrical and electrometallurgical plants*, *miscellaneous establishments*, *mines and quarries* as well as *property companies*.

## Year

The weight of shares and industrial shareholdings increased irregularly between 1921 and 1927. By contrast, we observe a continual increase in the R1 ratio which increased from 23% in 1927 to 39% in 1933. The arrival of the French political party, 'Front Populaire' [Popular Front], and the increasing threat of war deflected this policy of subsidiary creation between 1934 and 1939.

### 2. 'Subsidiary Fever'

Explanations for the policy of subsidiary creation conducted by the directors can partly be found in the annual reports of *Alais, Froges and Camargue*. These had an unchanging structure from 1921 to 1939. They begin with a list of members of the board of directors. A brief description of the macro-economic climate follows, then a sector-based study of the aluminium market. The shareholders are then informed of the state of progress of the company's main industrial strategies.

Financial information on the subsidiaries and main shareholdings always begins with the same introductory phase, "*Finally, we will, as we do every year, give you the key information on the subsidiaries and shareholdings that we have not had the opportunity to mention apropos our other activities*". Despite the importance of the subsidiary creation phenomenon between 1921 and 1939,<sup>5</sup> there is no list of subsidiaries.

#### ***A. The expansion of Alais, Froges et Camargue due to external factors (1921-1932)***

In 1922 the directors of *Alais, Froges and Camargue* concluded an agreement with an important group of coalmines from the North and the East in order to create two companies. This scheduled the creation of *Amonia*, which was intended to exploit coal gas with a view to producing synthetic ammonia. It also defined methods for creating and operating *Huiles, goudrons et dérivés*, formed for the purpose of distilling tar produced by the coalmining industry and extracting from that all of the derivatives that might be saleable. The reduction in the weight of shares and industrial shareholdings in the capital assets of *Alais, Froges and Camargue* in 1923 originated from the desire to liquidate a number of shareholdings which

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<sup>5</sup> The weight of shares and industrial holdings represents on average more than 31% of capital assets (cf. Table 1)

were either created during the war or immediately after the armistice and which no longer needed to appear in the Company's portfolio of activities.

The increase in shares and industrial shareholdings in AFC balance sheet assets in 1924 is explained to a large extent by the acquisition of a considerable number of shares in *Aluminio Italiano* and the creation of two 'Sociétés de Forces Motrices' (SFM) [power companies]: *SFM du Vicdessos* and *SFM de la Haute-Romanche*. Furthermore, AFC formed the *Société des produits chimiques de Roche-la-Molière* together with the *Compagnie houillère des bassins de la Loire*.

The increase recorded in 1926 was the result almost exclusively of applications for increases in capital for three important companies specialising in water flow management (*SFM de la Durance*, *SFM de la Haute-Romanche*, *SFM de Bonne et Drac*). The company also strengthened its interests in the chemicals sector by contributing to the increase in the capital of *Prodotti Chimici Napoli*.

Between 1927 and 1932 the rise in the R1 ratio is explained by the acquisition of shareholdings in *Société d'Electro-chimie d'Electro-métallurgie et des Aciéries Electriques d'Ugine*, the *Société des Produits Azotés* and in *Société Lyonnaise de Produits Benzoïques*, a large consumer of materials produced by AFC.

In 1927 and 1928 AFC continued to invest heavily in power companies (*Vicdessos*, *Durance*, *Haute-Romanche* and *Bonne et Drac*) within the energy sector. The prospect of profits in the nascent petroleum industry prompted the directors of AFC to form a partnership with the directors of *Saint-Gobain* to create the *Société des Produits Chimiques et Raffineries de Berre* in 1928. Owing to differences of opinion with the directors of *Saint-Gobain*, AFC's experiment came to a sudden end as it sold its shares again the following year. Nevertheless, AFC retained its investments in the petroleum industry with the *Compagnie française des Pétroles*:

*"In short, not wanting to remain strangers to the industries that are involved in the treatment of petroleum oils and its by-products, we have taken advantage of the recent increase in capital by Compagnie française des pétroles to acquire an interest in this large concern"* (AFC Annual Report, 1930: 8).

The large increase in 'Shares and Shareholdings' is also explained by the acquisition of stakes in *Minorga* (specialist consultants in the storing of chemical products) and *Studal* (specialists in the promotion and sale of aluminium products) in 1931. In the chemical production sector, investments focussed on the Spanish company *Potassas Ibericas* and the *Société Générale du Magnésium* for which the directors of the company anticipated making substantial profits.

Finally, in 1932 *Alais, Froges et Camargue* approved the twofold increase in the capital of its subsidiary, *l'Aluminium Français*.

### ***B. The Economy Slows Down (1933-1939)***

This increase in 'Shares and Industrial Shareholdings' was interrupted in 1933. The shock wave of the American economic crisis at the end of the 1920s had spread to France. From 1933 to 1939 'Shares and Industrial Shareholdings' were reduced by 2% per annum on average, although this decline was not evenly distributed throughout the period. It was relatively small between 1933 and 1936, by contrast, increasing when the 'Front populaire' political party came to power.

This decline is explained in terms of the disposal of some subsidiaries whose presence in the portfolio of businesses could no longer be justified. For example, this was the case with the *Société de Production et de Distribution d'Énergie du Sud-Est* that was sold in 1937. The imminent war led the directors of AFC to draw up a balance sheet for the period to 31<sup>st</sup> August 1939. In this, 'Shares and Shareholdings' showed a decline of around a million francs. There were two reasons for this decrease. On the one hand, the small prospects for growth in Haute Maurienne prompted the directors of AFC to sell their shareholdings in *Société des Forces Motrices de Bonne et Drac* in 1939. On the other hand, exceptional circumstances required the downward revision of the value of some shareholdings.

The second explanation for the decline in the R1 ratio is found in modifications to accounting methods and valuation rules. Thus, in 1934 AFC directors decided to transfer *French government bonds and funds* into an available account, which appeared under the heading of stocks and industrial shareholdings, on the grounds that real opportunities for mobilisation existed. Furthermore, the partly paid-up shares were accounted for afterwards at the value that had actually been paid and the subscribed capital liabilities were then recorded in a contingent liabilities account. In 1936 the auditors (Pol Aubriot, Paul Savigny and Olry Terquem) justified a decrease of nearly 21.5 million francs in 'Shares and Industrial Shareholdings' with their valuation being conducted under the *rules of rigour and prudence*.

In 1939 thirty-three out of a total of fifty-one 'subsidiaries and main shareholdings' were considered as second category subsidiaries.<sup>6</sup> Classification of these companies by sector (Table 2) enabled the directors of AFC to identify the major strategic priorities<sup>7</sup>.

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<sup>6</sup> The distinction between primary and secondary subsidiaries appeared in the policies and procedures of 1921. The first category contains those subsidiaries in which: "*The Company has almost all the shares and the board of directors is made up almost entirely of AFC representatives*". Secondary subsidiaries are defined in the



Table 2: Distribution of subsidiaries by category and activity as of 31/12/1939

Activity	Primary	Secondary	Total	Percentage
Energy	5	7	12	24%
Chemical production	4	5	9	18%
Miscellaneous activities	3	5	8	16%
Raw materials	1	6	7	14%
Conversion of raw materials and WIP	2	4	6	11%
Factory assets	0	4	4	7%
Electrolysis	2	1	3	6%
Electrochemistry	1	1	2	4%
<b>Total</b>	<b>18</b>	<b>33</b>	<b>51</b>	<b>100%</b>

(Taken from studying the monthly and quarterly monitoring of subsidiaries, 1939)

We can thus state that the strategy of external growth concentrated largely on two activities, namely energy supply and chemical production. For the former, investment was essentially more consistent in power companies, those companies involved in energy supply and hydro-electric companies. The acquisition of shareholdings in the chemical production sector demonstrated AFC's desire to strengthen its presence in this sector. This was the case for the *Société Chimique de Ribecourt* and the *Société Chimique de Voorheide* acquired in 1934 and 1937 respectively.

In conclusion, analysis of the growth in 'shares and industrial shareholdings' led to two principal lessons being learned. Despite large variations, the weight of equity shares in capital assets increased. For the period 1921 to 1932, the share of subsidiaries and shareholdings in capital assets represented on average nearly 27% of capital assets. It would exceed 35% between 1933 and 1939. This subsidiary creation was carried out in the strategic sectors before aluminium was produced (energy supply and chemical production).

There were repercussions of this strategy of external growth on the introduction of new mechanisms for auditing the subsidiaries and managing the group. On the one hand, financial reporting was established from 1921. On the other, the necessity of measuring the group's net cash flow led AFC's directors to draw up financial statements in 1927 and 1932 whose conceptual foundations were those of the consolidation of accounts.

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following way: "AFC only has a part of the shares and the board of directors only includes a certain number of AFC representatives". (From the Pechiney archives: 00-10-10018, AFC Policies and Procedures: 17).

<sup>7</sup> The author would like to thank M. Maurice Laparra, director of the 'Institut pour l'Histoire de l'Aluminium' for his valuable contribution to this categorisation.

## **II. From the audit of subsidiaries and measurement of *the Group's net cash flow* to the beginnings of financial reporting and the consolidation of accounts at AFC.**

### **1. The establishment of *financial reporting***

#### ***A. Classification and monitoring of subsidiaries in accordance with the Policies and Procedures of 1921***

The increasing number of subsidiaries and shareholdings was making it necessary for the directors of *Alais, Froges et Camargue* to examine the question of monitoring and auditing. Even in 1921 (the year that AFC was incorporated), elements of a financial reporting system were already contained in the Policies and Procedures.

This document shows that two categories of subsidiaries were defined (cf. note 6). Even though the concept of *shareholdings* was not made explicit, it would appear (based on the clear distinction from subsidiaries) to include those companies where the number of shares owned did not allow AFC to exercise control or any AFC representative to sit on the board of directors.

The audit rules that were defined are different depending on the category of subsidiary. For primary subsidiaries, they were limited during the 1920s to the mere presence of members of the *Alais, Froges et Camargue* board of directors on the subsidiaries' executive committees. This control was easier to operate than the subsidiaries' business affairs being handled directly by AFC's executive committee.

The job of monitoring secondary subsidiaries was assigned to a managing director or a division manager. His or her task was to inform the AFC directors about the subsidiary board of directors' work and to hand over any useful files, statistics, statements or reports to AFC's special secretariat service. The mission statement also explained that "*Company representatives must, as far as possible, ensure that the AFC executive committee is in agreement with all the important measures that have to be decided upon within the committee groups of which the representatives are members, in particular where these measures have an impact on the financial position of the Company*".<sup>8</sup>

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<sup>8</sup> Pechiney archives: 00-10-10018, AFC Policies and Procedures: 18.

### ***B. Reinforcement of the control of subsidiaries and shareholdings (November 1931)***

The control exercised over the subsidiaries only intensified from the beginning of the 1930s under the combined effect of the large increase in the number of subsidiaries and the financial difficulties born out of the global economic crisis.

It was in the meeting of 26<sup>th</sup> October 1931 that the board of directors defined new methods for auditing and monitoring subsidiaries. One memorandum dated 4<sup>th</sup> November 1931 explained this new organisation very clearly.<sup>9</sup>

The Company directors tasked with the general control of the subsidiaries and shareholdings (Jean Dupin<sup>10</sup> and Raoul de Vitry<sup>11</sup>) had to submit a general report to the board of directors once a year.

This report relied on the conclusions arising from the monthly monitoring of every primary subsidiary and sub-subsidiary. In fact, “a single officer responsible for managing the business” must submit a monthly report on the progress of that subsidiary. On the subject of secondary subsidiaries, the single officer responsible for defending the interests of AFC must submit a report on the subsidiary’s activities every three months.

Where there is a monthly report (primary subsidiary) or (secondary subsidiary) the executive committee specified the same structure. The principal points revolved around:

- issues examined in the annual general meeting;
- issues raised by the board of directors;
- contentious national issues;
- main agreements and contracts;
- the sale and purchase of shares and various other transactions.

The memorandum also emphasised the accounting and financial monitoring of subsidiaries, since their directors had to submit details to the Managing Directors on the cash flow position, comparative accounting situations (monthly or quarterly), trading accounts, details of the main financial programmes and expenditure, and consequently any commercial and technical

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<sup>9</sup> Pechiney archives: 00-10-10018, General Organisation: Memorandum.

<sup>10</sup> Jean Dupin (1892-1976) Bachelor of Law, graduate of the prestigious engineering École polytechnique and engineer in the association of bridges and highways, he was engaged as an engineer with Aluminium Français in 1927. Deputy Managing Director in 1930, he then became a director of the Company. In 1939 he became an AFC director and the AFC’s representative in numerous metallurgic subsidiaries. (From Cailluet, *Stratégies, structures d’organisation et pratiques de gestion de Pechiney des années 1880 à 1971*, thesis on contemporary history, Université Lyon II, 1995: 771).

<sup>11</sup> Raoul de Vitry (1895-1977) Mining engineer, he joined AFC in 1928 and became Deputy Managing Director from 1930. He was made a director of the Company in 1931 and became Director General in 1938. (From Cailluet, *op. cit.*: 784).

information selected from those company activities that are most typical of it. Table 3 shows that the financial reporting frequency did not follow the specified rules.

Table 3: Financial Reporting Intervals (1931)

Intervals	Subsidiaries (21)			Shareholdings (94)			
	Primary	Secondary		Large		2 <sup>nd</sup> tier	
	Subsidiaries	Subsidiaries	Sub-subsidiaries	Direct	Indirect	Direct	Indirect
Monthly (22)	8	5	3	4	2	0	0
Quarterly (17)	0	2	3	11	1	0	0
No report (76)	0	0	0	16	1	55	4
<b>Total</b>	<b>8</b>	<b>7</b>	<b>6</b>	<b>31</b>	<b>4</b>	<b>55</b>	<b>4</b>

Source: from Pechiney archives: 00-10-10018

In fact, the number of reports submitted largely exceeds the total for the only subsidiaries in the first category (twenty-two reports were produced [Table 4]). It demonstrated the desire of the AFC directors to exercise a tighter control over the activities of the subsidiaries and some shareholdings. Furthermore, even if the note stipulated that the officers responsible for monitoring the shareholdings ought to limit themselves *to devoting their time to collecting the maximum information possible*, we can see that six companies (in the ‘shareholdings’ category) were closely monitored.

Table 4: Subsidiaries and shareholdings closely monitored in 1931

Subsidiaries and Shareholdings	Companies
Primary subsidiaries (8)	<i>Société des Forces Motrices du Vicdessos, Société Hydroélectrique de Bissorte, Société Nouvelle du Quartz Fondu, Minorga, Société Générale des Bauxites, Société Nouvelle des Bauxites du Sud-Est, Société Immobilière Balzac- Saint-Honoré, Société Auxiliaire d'Approvisionnement</i>
Secondary subsidiaries and sub-branches (8)	<i>Aluminium Français, Société du Duralumin, Société Nouvelle des Etablissements Silvestre, STIMA, Société Générale du Magnésium, Alumium du Sud Ouest, Italienne du Duralumin and l'Aluminium Espagnol</i>
Shareholdings (6)	<i>Société des Forces Motrices de Bonne et Drac, Union pour l'Industrie et l'Electricité, Société Norvégienne des Nitrures, Société des produits Chimiques Saponifiés, Société de Fonderie de Précision and Manufacture Métallurgique de Tournus</i>

Source: from Pechiney archives: 00-10-10018

The same memorandum specified that occasional or repeated administrative and accountancy audits of the thirteen principal subsidiaries would be carried out. These inspections applied to: *Société des Forces Motrices du Vicdessos, Société Hydroélectrique de Bissorte, Société Nouvelle du Quartz Fondu, Minorga, Société Générale des Bauxites, Société Nouvelles des Bauxites du Sud-Est, Société immobilière Balzac-Saint-Honoré, Société Auxiliaire d'Approvisionnement, Société du Duralumin, Société Nouvelle des Etablissements Silvestre, Société Générale du Magnésium, Aluminium du Sud-Ouest and Aluminium Espagnol.*

The archiving within the general secretariat of a complete collection of documents on the progress of subsidiaries and shareholdings was implemented. The archives were to contain the company's articles of incorporation, the notice of meetings and the minutes of ordinary and extraordinary general meetings, balance sheets and profit and loss accounts, minutes of board meetings, copies of large contracts, the complete set of annual reports and various other reports (especially those affecting financial programmes) for the subsidiaries.

Financial liabilities by *Alais, Froges et Camargue* were also closely monitored. Organisational memo No. 1 of 10<sup>th</sup> November 1933 stipulated that a half-yearly statement should be specified and include the name and capital of the company guaranteed, interest rate, tax regulations, repayment period of the loan, amount outstanding as at 30<sup>th</sup> June and 31<sup>st</sup> December and a brief assessment of the position of the company owing the money (*unchanged, good, bad, doubtful, in receivership*). Finally, in the event of a solid guarantee, a list of co-guarantors should be submitted accompanied by a brief assessment of each<sup>12</sup>.

The information provided from the financial reporting did not however allow an overview of the whole of the net cash flow within the Group. In order to use an additional tool for managing the Company, the directors of *Alais, Froges et Camargue* employed certain accounting principles that were accepted in the United States, but that were completely unknown in France: the consolidation of accounts.

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<sup>12</sup> Pechiney archives: 00-10-10019: the whole general secretariat organisation 1933-1939, section 'Filiales et participations' (Subsidiaries and shareholdings).

## 2. Using the principles of the consolidation of accounts for measuring the Group's net cash flow.

### A. *Funding for the Alais, Froges et Camargue Group 1923-1927*

AFC directors very quickly aimed to carry out the measurement of the parent company's financial commitment to its subsidiaries and to value its net cash flow. A paper dated 19<sup>th</sup> November 1927 (Document 1) detailed the sums invested over the previous four financial years. The choice of period was due to a vast alumina and aluminium production programme that began in 1923. This study, entitled *L'effort financier du groupe Alais, Froges et Camargue de 1923 à 1927*<sup>13</sup> is of great interest because it expresses the directors' concerns with regard to managing the Group and the perception they had of the economic entity. The use of the word 'groupe' in the document title might be a surprise because AFC alone and only three of the thirteen primary subsidiaries were taken into account in defining the overall scope of the Group. An examination of the activities of the subsidiaries revealed two electricity supply companies (*Société des Forces Motrices de la Durance* and *Société des Forces Motrices du Vicdessos*) and one property company, *Société immobilière Balzac Saint-Honoré*. The balance sheet items analysed relate to assets, new capital acquisitions, the movement of working capital<sup>14</sup> and exceptional gains.

The assets consolidate those investments that clearly *correspond to improvements or expansions*.<sup>15</sup> Exceptional gains include funds from increases in capital, issuing bonds invested in the State and the disposal of property or shares.

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<sup>13</sup> Pechiney archives: 001-10-20530, English: Financial outlay for the Alais, Froges and Camargue Group from 1923 to 1927.

<sup>14</sup> The concept of working capital that has been shown is not one we recognise as being specified as a surplus of stable resources over stable requirements. It is more similar to the concept of *working capital liquidity* that was specified in the accounting standards of 1957 and that corresponds to the excess of available funds in the short-term over liabilities payable in the short-term.

<sup>15</sup> Pechiney archives: 001-10-20530, Financial outlay for the Alais, Froges and Camargue Group from 1923 to 1927.

Document 1: Financial outlay by the *Alais, Froges et Camargue*  
Group from 1923 to 1927 in thousands of francs

- Expenditure on new work by AFC .....	200,792
- Expenditure on new work by 3 subsidiaries .....	<u>83,367</u>
<b>Total.....</b>	<b>284,159</b>
- New shareholdings.....	<u>43,160</u>
<b>Total.....</b>	<b>327,319</b>
- Increase in working capital by the Company and 3 subsidiaries .....	<u>189,642</u>
<b>Total.....</b>	<b>516,961</b>
- To be deducted: Exceptional gains .....	- 183,892
<b>Net cash flow .....</b>	<b>333,069</b>

Thus, for the 4 year period from 30<sup>th</sup> September 1923 to 30<sup>th</sup> September 1927, AFC has achieved (and retained in order to expand) profits amounting to 333,069,000 francs, that is, a total of approximately 83 million francs on average per annum.

During the same period it has also distributed in dividends and directors' remuneration 73,323,000 francs, which brings total net cash flow to 406,392,000 francs, in other words, approximately 102 million on average per annum.

*Source: Pechiney archives: 001-10-20530*

As their intentions were on being thorough, the directors drew up an identical document for the *Aluminium Français* Group consisting of *Aluminium Français*, *Société du Duralumin* and *Société de l'Aluminium du Sud-Ouest (ASO)*. By following the same calculation rules, the *Aluminium Français* group's share of the AFC Group's net cash flow increased to 39,854 (thousand francs).

In total, the overall flow shows more than 446 million francs. The detailed account of purchases and sales of shareholdings provides information about the corporate name, the number of companies, the proportion of subscribed and paid-up capital, but never about the percentage of shareholdings held in subsidiaries. There were some hydro-electric companies amongst the subsidiaries cited, as well as mining companies (bauxite, lignite and potash) and companies concerned with chemical production (*Société des Engrais Azotés*, *Société des Huiles, Goudrons et Dérivés*).

The justification for the calculation of movements of working capital shows that internal transactions within the group were removed for certain items. This is the case for the 'Member Loan Capital' entry, for which one note explains,

*“After deducting 8,826,000 francs owed by Société immobilière Balzac Saint-Honoré (antichresis contract), 6,237,000 francs owing to the Société des Forces Motrices de la Durance and 1,726,000 francs owed by the Société Barlet Langea; the first two of these sums have been taken into account within the expenses for new work undertaken by subsidiaries and the third in expenditure relating to the acquisition of shareholdings”<sup>16</sup>.*

<sup>16</sup> Pechiney archives: 001-10-20530, Financial outlay for the Alais, Froges and Camargue Group from 1923 to 1927.

In their search to specify the overall limits for the entity, both by removing intercompany transactions between the parent company and its subsidiaries, and by identifying the share of minority shareholders, AFC's directors did nothing other than employ the principles of consolidation of accounts to measure the group's net cash flow.

### ***B. Financial outlay by the Alais, Froges et Camargue Group 1927-1932***

The desire to gain an overall knowledge of the Group again occurred in 1932 when a second internal study of AFC's financial outlay was carried out (Document 2). It is interesting to analyse it in order to identify any potential differences in its structure. The definitions of balance sheet items are identical. Expenditure on new work is either the result of a growth in new activities or an increase in power or even of exceptional improvements. The introductory remarks for the financial results in the study have much to say about the selection of companies included and the permanency of accounting methods:

*“As before, we have incorporated the assets of some subsidiaries in those of the Company. In order not to overly complicate matters, we have restricted ourselves only to those companies that have had a notable growth in activities during the period in question. These companies are Aluminium Français, Société du Duralumin, Société des Forces Motrices du Vicdessos and Aluminium du Sud-Ouest. After examination we have decided to include the totality of the activity for each subsidiary, despite the fact that third parties (usually from Electrochemistry) own a share that is equal to 8% for Aluminium Français, 12% for Duralumin and 29% for Aluminium du Sud-Ouest. In fact, we only handle issues of liquidity and surplus, and the figures for those subsidiaries are such that the results of the study are not modified to an appreciable measure by the adoption of any other agreement on this point. The other subsidiaries, even where the Company owns a large share, have simply been included at the value of their shares on the holding company's Register of Members.”<sup>17</sup>*

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<sup>17</sup> Pechiney archives: 001-10-20530, Financial outlay for the Alais, Froges and Camargue group from 1927 to 1931.



Document 2: Financial outlay for *Alais, Froges et Camargue*  
From 1927 to 1931 in thousands of francs

Expenditure on major improvements and expansions in the factories of the Company and incorporated subsidiaries	
For the Company .....	285,296
For incorporated subsidiaries, we principally find:	
Vicdessos (end of the collapse of Sabart) .....	48,343
Duralumin (Couzon plant) .....	35,900
Aluminium Français and ASO .....	<u>4,066</u>
<b>Total .....</b>	<b>373,605</b>
Total purchases and stock applications have reached 195,797,000 francs (realisation sales, totalling 36,293,000 francs, were recovered in exceptional gains).	
AFC .....	135,924
Aluminium Français .....	49,873*
Duralumin and ASO .....	<u>10,000</u>
<b>Total .....</b>	<b>195,797</b>
For <u>Aluminium Français</u> we find:	
Alliance .....	37,186
Aluminium espagnol .....	7,012
Fairmont .....	2,547
Tournus .....	2,209
Miscellaneous .....	<u>919</u>
<b>Total .....</b>	<b>49,873*</b>
Analysis of the increase of working capital:	
Available or realisable .....	523,449
<i>To be deducted:</i>	
Liability accounts .....	<u>100,928</u>
<b>Working capital .....</b>	<b>422,521</b>
Opening balance - working capital as at 31 <sup>st</sup> December 1926, .....	253,702
<b>i.e. an increase of .....</b>	<b>168,819</b>
But subsidiaries' working capital accounts that have been generally eroded during the same period must be taken into account. After studying the position of each one, we arrive at the following movements	
Aluminium Français .....	- 43,745
Duralumin .....	+ 1,855
ASO .....	- 2,062
Vicdessos .....	<u>- 12,093</u>
<b>Total .....</b>	<b>- 56,045</b>
In total, an increase in overall working capital is thus recorded between the beginning of 1927 and the end of 1931 that reached.....	
	<b>112,774</b>
Combining the turnover for five Group companies, excluding internal accounts, we are led to assess our overall working capital to be 370 million:	
AFC .....	422,521
Subsidiaries .....	<u>- 53,126</u>
<b>Total .....</b>	<b>369,395</b>
i.e. ....	370,000
Dividends received by the Company from its subsidiaries or paid by subsidiaries between themselves have been eliminated. ....	
	188,000
<u>Analysis of exceptional gains</u>	
Increase in AFC capital increase in 1929 .....	152,870
Increase in Duralumin capital increase in 1930 .....	<u>1,000</u>
<b>Total .....</b>	<b>153,870</b>
Net proceeds for transactions representing issues and bond conversions .....	205,990
Sale of factories/plant .....	500
Sale of shares .....	36,293
Miscellaneous exceptional inflows .....	<u>7,560</u>

<b>Total exceptional gains .....</b>	<b>404,213</b>
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*Sources: Pechiney archives: 001-10-20530*

A comparison of the structure of the two documents has revealed few differences since the financial outlay by AFC and its subsidiaries is assessed using the following calculation:

<p>Expenditure on assets by the Company and its subsidiaries</p> <p>+ Acquisition of new shareholdings by the Company and its subsidiaries</p> <p>+ Movement of working capital</p> <p>+ Payment of dividends and directors' remuneration</p> <p>- Exceptional gains (increases in capital, bonds and debentures, sale of factories, sales of shares, miscellaneous)</p> <p><b>= <i>Net of cash flow for the Company and its subsidiaries.</i></b></p>
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As this deals with non-deflated data, it is difficult to carry out comparisons for periods characterised by large currency fluctuations. Nevertheless, from one period to another, net cash flow is relatively stable. By contrast, gross financial outlay (investments in assets + acquisition of shareholdings + increase in working capital + distribution of dividends and directors' remunerations) underwent a notable increase from 630,000,000 francs in 1927 to 870,000,000 in 1932. 'Acquisition of Shareholdings' increased the most (+353%). Furthermore, we can see the policy of external growth followed by the directors of *Alais, Froges et Camargue* translated into facts and figures within these documents. In fact, the share of net cash flow devoted to the acquisition of new shareholdings moved from 10% of the group's net cash flow for the period 1923-1927 to 42% between 1927 and 1931.

By contrast, if we compare this with incorporated subsidiaries, we can see that the appearance of the Group changed. Although they were still part of *Alais, Froges et Camargue's* portfolio of shares, the two power companies and the property company had disappeared from the calculation of net cash flow. In this way, the Group's structure integrated the companies involved in the aluminium production process more than those companies specialising in supply.

Here we have the first consolidated statements prepared by *Alais, Froges et Camargue*. They are not a balance sheet or a profit and loss account, but financial statements intended to measure *the Group's net cash flow*. The concept of consolidation in accounting terms is at the heart of the documents that include the parent company and some of its subsidiaries. Defining

the scope of the Group obliged the directors to think about the structure of a group composed in this way. The accompanying development in scope reinforced AFC's role in the production of aluminium. In fact, whereas some energy supply companies and one property company used to appear in the document dated 1927, another dated 1932 only mentioned companies directly involved in aluminium production i.e. *Aluminium Français* and its industrial subsidiaries, *Société du Duralumin* and *Aluminium du Sud-Ouest*.

Furthermore, these financial statements were not simple accumulations. Their designers eliminated internal group transactions where possible.

Finally, the issue was raised as to what share of minority companies should be included, but in the absence of a thorough understanding of all the principles of the consolidation of accounts, the only solutions open to the directors were to include its subsidiaries in their entirety in the calculation of financial outlay.

## **Conclusion**

The large expansion that *Alais, Froges et Camargue* experienced in the inter-war years led the directors of this company to specify auditing and monitoring procedures for its subsidiaries and shareholdings from 1921 onwards. These would be strengthened in 1931 in order to exercise tighter control over those companies. An analysis of the frequency of financial reporting shows that the directors wanted to have access to accounting and financial information which went well beyond that expected in the general notes and general organisation chart.

Faced with increased shareholdings, as of 1927 the directors expressed the need to measure financial outlay within the Group. From then on they were faced with the problem of preparing Group accounts and they had to answer essential questions on how to choose which companies to retain and which intercompany transactions to remove and also how to value the minority shareholders' share.

The drawing up financial statements intended to value the net cash flow by *Alais, Froges et Camargue* directors in 1927 shows that the consolidation of accounts was initially a tool used for managing the Group. It was many years later that this accounting technique would, under pressure from the financial markets, become the preferred medium for accounting and financial information for Groups.

## Archives

### Archives Alais, Froges et Camargue (Pechiney) :

- Doc 4 B01 à B022 : rapports annuels d'AFC, 1921-1939
- 00-10-10018 : Organisation, notes et schémas d'organisation générale, 1921 à 1934.
- 00-10-10019 : Organisation, notes et schémas d'organisation générale, 1935 à 1948.
- 001-10-20530 : L'effort financier du groupe Alais, Froges et Camargue de 1923 à 1927.
- 001-10-20530 : L'effort financier du groupe Alais, Froges et Camargue de 1927 à 1931.
- 072-11-70111 : Secrétariat général (SG), Département Administration Générale (DAG), Comptes rendus trimestriels des filiales 1932 à 1935.
- 072-11-70112 : SG, DAG, comptes rendus trimestriels des filiales 1936 à 1938.
- 072-11-70113 : SG, DAG, comptes rendus mensuels des filiales 1932 et 1933.
- 072-11-70114 : SG, DAG, comptes rendus mensuels des filiales 1934 et 1935.
- 072-11-70115 : SG, DAG, comptes rendus mensuels des filiales 1936 et 1937.
- 072-11-70116 : SG, DAG, comptes rendus mensuels des filiales 1938 et 1939.

## Bibliography

- N. Berland, *L'histoire du contrôle budgétaire en France : les fonctions du contrôle budgétaire, influences de l'idéologie, de l'environnement et du management stratégique*, Thèse de doctorat en sciences de gestion, Université Paris-Dauphine, 1999.
- Y. Bouvier, *La Compagnie générale d'électricité : un grand groupe industriel et l'Etat : Technologies, hommes et marchés (1898-1992)*, Thèse de doctorat en histoire, Paris, Université Paris IV, 2005.
- L. Cailluet, *Stratégies, structures d'organisation et pratiques de gestion de Pechiney des années 1880 à 1971*, Thèse de doctorat en histoire, Lyon, Université Lyon II, 1995.
- L. Cailluet, "Accounting and accountants as essential elements in the development of central administration during the inter-war period management ideology and technology at Alais, Froges et Camargue", *Accounting, Business & Financial History*, vol. 7, n° 3, p. 295-314, 1997.
- A. D'Angio, *Schneider et Cie et la naissance de l'ingénierie : des pratiques internes à l'aventure internationale (1836-1949)*, CNRS éditions, Paris, 2000.
- L. G. Franko, "The Origins of Multinational Manufacturing by Continental European Firms ", *The Business History Review*, vol. 48, n° 3, p. 277-302, 1974.
- P. Fridenson, "France : the relatively slow development of big business in the twentieth century ", In A. D. Chandler Jr, F. Amatori and T. Hikino (eds.), *Big business and the wealth of nations*, Cambridge, Cambridge University Press, p. 207-245, 1997.
- P. Fridenson, et A. Straus, A. (dir.), *Le capitalisme français au XIX<sup>e</sup> et XX<sup>e</sup> siècle : blocages et dynamismes d'une croissance*, Fayard, Paris, 1987.
- M. Gégout, *Filiales et groupements de sociétés*, Thèse de droit, Université de Paris, 1929.
- P-C. Hautcoeur, *Le marché boursier et le financement des entreprises françaises (1890-1939)*, Thèse de doctorat en sciences économiques, Université Paris I Panthéon-Sorbonne, 1994.
- B. Kogut, "Evolution of the large firm in France in comparative perspective", *Entreprises et histoire*, n°19, p. 113-152, 1998.
- R. Lesclous, *Genèse et évolution des sites producteurs d'aluminium, essai d'interprétation des choix stratégiques de Pechiney et de leur mise en oeuvre 1893-1972*, Thèse de doctorat d'histoire, Ecoles des hautes études en sciences sociales, 1999.

M. Lévy-Leboyer (dir.), *Histoire de la France industrielle*, Larousse, Paris, 1996.

M. Margairaz, *L'Etat, les finances et l'économie: Histoire d'une conversion 1932-1952*, CHEFF, Paris, 1991.

A. Percerou, *Lois actuelles et projets récents en matière de sociétés par actions (Allemagne, Angleterre, Italie)*, Thèse de doctorat en droit, Université de Paris, 1932.

A. Pezet, *Les fonctions des instruments de la décision d'investir: contribution à une technologie de l'investissement*, Thèse de doctorat en sciences de gestion, Université Paris-Dauphine, 1998.

N. Praquin, *Comptabilité et protection des créanciers: une analyse de la fonction technico-sociale de la comptabilité (1807-1942)*, Thèse de doctorat en sciences de gestion, Université Paris-Dauphine, 2003.

P-R. Rosset, *Traité théorique et pratique des sociétés financières : "holdings companies et investment trusts"*, Thèse de doctorat en droit, Université de Paris, 1933.

P. Sainton, *Sociétés mères et filiales : contribution à l'étude du régime juridique des sociétés de capitaux*, Thèse de doctorat en droit, Université de Paris, 1938.

C. Vuillermot, *Pierre-Marie Durand et l'Energie industrielle : l'histoire d'un groupe électrique 1906-1945*, CNRS éditions, Paris, 2001.

H. Zimnovitch, *Les calculs du prix de revient dans la seconde industrialisation en France*, Thèse de doctorat en sciences de gestion, Université de Poitiers, 1997.