



Accounting and financial policy at Schneider (1837-75)

Laurent Batsch

To cite this article: Laurent Batsch (1997) Accounting and financial policy at Schneider (1837-75), *Accounting, Business & Financial History*, 7:3, 281-294, DOI: [10.1080/095852097330649](https://doi.org/10.1080/095852097330649)

To link to this article: <http://dx.doi.org/10.1080/095852097330649>



Published online: 01 Oct 2010.



Submit your article to this journal [↗](#)



Article views: 27



View related articles [↗](#)

Accounting and financial policy at Schneider (1837–75)

Laurent Batsch

Abstract

This article deals with financial accounting and financial strategy at Schneider during the period of early French industrialization. The charging of all capital expenditure to net income led both to an underestimation of assets and a reduction of distributable income. Schneider managed to reconcile this accounting choice with a generous dividend policy. The means by which the company's capital was increased are also considered.

Keywords: balance sheet, corporate finance, dividends, early industrialization, Le Creusot, Schneider

Introduction

The arrival of the Schneiders to take control of Le Creusot in 1837 led to the revitalization of long-standing industrial activities. The two brothers, Adolphe and Eugène, concentrated activities into three branches: mining, iron and steel production and mechanical engineering. The coal fed the ironworks and the blast furnaces which, in turn, provided the materials for the mechanical engineering activities. The firm was thus vertically integrated. The management of financial resources was also co-ordinated, with one branch financing another through its profits or through the writing off of common fixed costs. For several years, the earnings capacity of the iron and steel works (notably, rail production) supported the growth of mechanical engineering, while shipbuilding provided the locomotive department with breathing space to develop fully.

As was common practice in the nineteenth century, for a long time, Schneider charged capital expenditure to net income, an approach which demonstrated the management's sensitivity to cash flow rather than to the evaluation of income. This has two important consequences, the first being that it leads to an underestimation of the value of the firm's assets. The higher the capital expenditure, the greater the strain on income: the balance sheet thus tends to give a reverse image of the accumulation of working capital. To obtain a true image, the balance sheet must be held up to a mirror, so to speak. The second effect is that the reduction of distributable income affects the level of dividends paid to shareholders. Shareholders, however, expect to receive regular payments, comparable to those of an annuity, and would expect to be generously compensated for any retention of dividends. The management of Schneider was able, through the strength of its arguments and its confidence in the future, to persuade shareholders to abandon the idea of immediate returns, though they did not suffer on account of this. The management, though, did not rely solely on internal financing and, when financial constraints became too great, they increased the capital of the business. On occasions, they also granted compensation to shareholders in the form of a free distribution of debenture bonds. It is perhaps worth noting that, over the long run, both the return to shareholders, in terms of dividends, and the overall profitability of Schneider were remarkable.

The balance sheet: a countercyclical image

The Schneiders chose, as was often the case in the nineteenth century (Lemarchand, 1993), to treat capital expenditure as an operating expense. The acquisition of buildings and plant was not entered so as to increase the 'property' item on the assets side of the balance sheet but was added to costs and thereby reduced the net income by the same amount. Capital expenditure was naturally deducted from cash but never appeared under fixed assets on the balance sheet.¹ Such an approach favoured the monitoring of cash over the valuation of assets. The valuation of assets was not so important, the accounting method serving, above all, to measure the financial flows.² Effectively, the imputation of the whole of an item of capital expenditure to costs in a single financial year does not allow that year's real costs to be evaluated and, in fact, one of the functions of depreciation is to spread the cost of such an item over several financial years, depending on the duration of its life. By writing off capital expenditure immediately to revenue, Schneider was saying that the purpose of the financial statement was not so much to evaluate costs and reflect the value of the assets, but rather to serve as an instrument for monitoring financial commitments. The modern term 'financial accounting' (*comptabilité financière*) is highly appropriate here.

When capital expenditure is charged to income, and thus contributes to a lowering of balance-sheet figures, a distorted image is given of the accumulation of productive capital. As long as the firm can avoid drawing on income to finance its growth, capital expenditure is imputed to the fixed assets item, which consequently increases. But if capital expenditure intensifies, acquisitions of fixed assets are allocated to operating expenses: so when capital expenditure programmes are at their height, assets stabilize at the same time that income, after the funding of fixed assets, decreases. When investment slackens, however, 'net' income and assets can resume their growth. The balance sheet thus provides an image which is practically the reverse of the firm's growth; the greater the capital expenditure, the lower the total balance.

For the period 1852–75 (see Table 1), a succession of alternating phases (A and B) may be observed. In phase A, capital expenditure is high, but assets and income are either stable or falling, whereas, in phase B, capital expenditure is low, while both income and assets grow significantly. Paradoxically, the development of the total on the balance sheet offers a

Table 1 Growth of the balance sheet

	<i>Fixed and movable property</i>	<i>Assets Total</i>	<i>Income</i>
<i>(all figures in 000 francs)</i>			
1852–53	5,128	13,986	1,895
1853–54	6,401	21,405	3,506
1854–55	8,634	24,770	4,541
1855–56	9,174	25,171	4,272
1856–57	9,310	24,933	4,014
1857–58	9,204	23,729	3,700
1858–59	9,227	23,377	3,478
1859–60	9,377	23,541	2,607
1860–61	9,487	24,176	2,413
1861–62	9,876	25,187	2,040
1862–63	12,421	28,607	2,252
1863–64	13,868	35,683	2,589
1864–65	14,658	37,024	2,595
1865–66	13,849	36,973	3,020
1866–67	14,982	35,128	3,408
1867–68	13,548	32,766	3,419
1868–69	23,241	43,997	4,097
1869–70	21,673	41,388	4,179
1870–71	21,289	42,471	5,440
1871–72	21,193	40,716	6,154
1872–73	27,385	50,172	8,367
1873–74	25,679	61,354	12,062
1874–75	20,550	59,924	11,194

Source: Archives nationales.

mirror image of the capital expenditure drives: the more the firm invests, the more its balance sheet stagnates or regresses.

The period from 1852 to 1855 represents an example of phase B, with property rising from 5 to 9 million francs, assets from 14 to 25 million francs and income increasing from less than 2 to over 4 million francs. Thus, in some three or four years, balance-sheet values doubled. It was then that the firm really took off, thanks to the economic recovery and Eugène's commitment to the service of the Second Empire. Schneider financed its growth during this period through the issue in 1853 of common stock, and without reducing book profits.

From 1855 to 1862 (an example of phase A), property stagnated at a little over 9 million francs, assets fluctuated between 23 and 24 million francs and income, net of capital expenditure, apparently fell from 4 to 2 million francs. During this period, however, capital expenditure was charged to income. Between 1862 and 1864, assets increased rapidly and then remained at the new level until 1867, property remained at around 14 million francs while total assets were in the order of 36 million francs. This growth was financed by the issue of stock in 1863, which allowed income to rise to 3.4 million francs by 1866/7.

Between 1868 and 1872, property reached a new plateau of around 22 million francs while total assets held at around 42 million francs: once again an external source of funding, namely the 1867–70 bond loan made this growth possible.

‘Working capital’: modern approach and financial constraint

The term ‘working capital’ was used by the management in their annual reports from the outset. At the time it was used as a synonym for the financial resources (capital and debts) needed to cover the financing of property and operating needs (supplies and credit). The term then came to mean more specifically the financing of operational needs. For example, in 1854, Eugène explained that ‘share capital came to be represented in almost equal sums, on the one hand by property, mineral concessions, etc. and, on the other, by working capital, that is to say securities, supplies, credit, etc.’ Investments in property were not the only thing to absorb financial resources, capital was also tied up in stock and credit. Where resources were insufficient, financial balance was ensured by cash advances.

The data available for the period 1843–53 allow us to measure the pressure which existed to finance operating requirements. In effect, income which was neither invested in fixed assets nor distributed as dividends were available to cover the requirements of working capital. The capacity of the firm to finance increases in its working capital needs can thus be measured using the following relations (see also Table 2):

(1) Gross income–Capital expenditure = Net income

The net income (distributable) was then distributed according to the following formula:³

(2) Net income = Dividends (70%) + Remuneration of + reserve
(distributable) management (15%) (15%)

(3) Dividends = Dividends paid in cash + Dividends transferred to
current accounts

In terms of cash flow, the only payments made correspond to capital expenditure, the remuneration of management and that proportion of the dividends actually paid (see penultimate column of Table 2).⁴ That part of income not paid out for these purposes was retained and used either to finance the growth of stocks and trade credit, or to boost cash (see final

Table 2 Allocation of income, 1843–53

Year	Gross income	Capital expenditure	Management	Cash dividends	Income	
					distributed	retained
<i>(All figures in 000 francs)</i>						
1843–44	1,428	725	106	240	1,071	357
1844–45	1,600	737	129	320	1,186	414
1845–46	1,799	776	153	400	1,329	470
1846–47	1,921	592	199	400	1,191	730
1847–48	2,285	996	193	930	2,119	166
1848–49	1,193	316	132	900	1,348	– 155
1849–50	1,308	433	144	600	1,177	131
1850–51	1,023	324	114	600	1,038	– 15
1851–52	1,798	476	198	480	1,154	644
1852–53	2,356	753	240	720	1,713	643
Total	16,711	6,128	1,608	5,590	13,326	3,385

column of Table 2). Retained income thus represented the fraction of the income available for financing operating needs and, in the 1840s, the pressure of these needs played a determining role in the financial policy of Schneider. In fact, between 1844 and 1874, although turnover doubled, that part of net income available to finance ‘operating needs’ began to dry up. During these years, however, the retention of part of the dividends in specific accounts reduced some of the pressure that growth placed on the company’s financial resources, but this action could only be a temporary solution to an on-going problem. Furthermore, the management wished to possess resources which were sufficiently stable to finance the stocks and credit of an expanding business. In 1845, anticipating the consequences of a growth in activity on their working capital, the management justified an issue of stock in the following manner:

The size of our working capital is far from being in proportion to our operations We have, until now, been able to meet these deficiencies through various deposits of funds and possible bank loans, which with commission never cost less than 6%, but prudence dictates that we think of the future and of the more difficult times which may be in store. As early as last year we drew your attention to the deficiency of working capital and you provided for it, in so much as it depended on you, by leaving in the current account all your earnings above 6%, but since the deficit amounts to at least 2 million and this resource is precarious, the supervisory board felt, as indeed we ourselves did, that in view of the railways at present under construction, and those in the planning stage, and of orders which may require even greater advances, and because of the present favourable circumstances, it would be more appropriate to meet our needs to the value of one million by issuing 20 new 50,000 F shares which would benefit from the same rights and privileges as the 80 shares of the first issue.

(General Meeting, December 1844)

This refrain was taken up again two years later. In an admirably clear demonstration in his annual report for the year 1847–8, Eugène reminded the shareholders that, while a permanent recourse should not be made to them, loans should remain a flexible instrument, particularly given that the financing of operations was subject to large fluctuations:

In an operation as vast and as variable as ours, it is impossible not to be exposed to wide fluctuations in the use of working capital. Loans should be used sparingly in ordinary times so that they can be used momentarily to cover excess needs.

This explanation was supported by a valuation of the shortage of the working capital:

Portion of capital available as working capital ⁵	1,500,000
Debts:	
'Mortgage loans'	525,000
Loans from shareholders	1,920,000
Loans from the Bank of France	1,250,000
Money orders due	550,000
Loan from Mr Seillière on current account	650,000
Creditors' accounts for supplies	200,000
Presumed income for the year 1848–9 in progress	1,000,000
Total of the 'working capital in all forms'	7,945,000

This sum of 8 million francs ensured the balancing of the inventory in that it corresponded to the level of resources necessary to cover the operating assets. But out of this total, only 5 million francs were stable

enough to withstand operating risks. The latter amount included the fixed capital (the 1.5 million francs ‘available’) and certain variable resources which might be considered permanent, such as ‘mortgage loans, deposit accounts and suppliers’ credit’. Eugène concluded by calling for an increase in share capital of 3 million francs. The recession, which began in 1848–9, however, relieved operating pressures and was less favourable to a new call to shareholders, all the more so since they found part of their dividends frozen in current accounts.

In the following period, 1852–75, other characteristics were displayed. The financing of capital spending required the mobilization of external resources (22 million francs in twenty years). Investment is important, but its financing from annual income represents a reduction in dividends which is keenly felt by shareholders. The three share issues (1853, 1863, 1873) which punctuated the ‘twenty glorious years’, however, relieved the pressure placed on the shareholders.

Several comments made by the management concerning the firm’s financial situation considered this issue, commonly known today as the ‘cash relationship’: if the permanent resources do not cover both capital expenditure and operating costs, then, in the short term, financial balance becomes dependent on financial indebtedness. The analysis of Schneider’s management is a modern one in that it treats working capital (stocks, trade credit) as an investment, in the same way as ‘property’.

It is modern too, in that it introduces a distinction between available working capital and required working capital. To uncover the modern idea of ‘working capital requirements’, widely used by financial analysts, it is enough to subtract the operating debts from the Schneiderian definition of ‘working capital’. Eugène explained, for example, that the necessary working capital may be affected by movements in payment dates. ‘It is prudent, necessary even, to the future of the firm, for it to comprise largely of fixed capital, in order to withstand the dual possibility of an increase in costs due to delays in receiving payments, and restrictions on credit limits.’ In another annual report, he extols the merits of industrial integration since it allows a firm to build up only the stocks it needs:

by always using the same materials, and taking them almost always from within the company on a day to day basis, we will, in future, be able to restrict the working capital necessary to run our industries, despite the growth of production.

(General Meeting, 30 November 1866)

Distribution of dividends and return on equity

The shareholders too were equally concerned with the policy of charging capital expenditure to income, because this led to a reduction in the distributable profit. They may well have regretted that Schneider’s

accounting choice resulted simultaneously in the underestimating of the firm's assets and a reduction in dividends: if the development of the firm could not be seen in its assets, nor in the dividends, where could it be seen? The substance of the management's reply was that it could be observed in the growth of the business and the winning of markets. In their view, the value of a firm derives from the income generated by its future markets, which will be won as a result of its capital expenditure policy. Thus, capital expenditure cannot be measured in terms of assets, but in terms of (future) profit generation and, this being so, it is of little importance that it does not appear in the assets. This approach seems very 'modern' in terms of financial theory: it is the 'cash-flows' generated by a firm which constitute its value, even if the shareholders are not receiving these 'cash-flows' in the form of dividends, because the value of their shares is closely linked to the firm's capacity to generate 'cash'. This was the lesson the management was trying to teach its shareholders.

Not only did the Schneiders charge capital expenditure to profits, thereby reducing the amount of income distributable, but they also tried to ensure that dividends 'earned' were not actually paid out. Over several years, for example, dividends were not paid in full, but partly retained in 'current accounts' (*comptes courants*), on which the company paid interest at 5 per cent, and which constituted a debt on the part of the firm towards its shareholders. In addition, when Schneider disposed of the Montchanin coalfield in 1839, they were paid in shares of the acquirer, these shares subsequently being allotted to the Schneider shareholders in the form of dividends held in the *comptes courants*.⁶ In April 1849 there remained around 750,000 francs in the *comptes courants*, compared with a capital contribution of 4 million francs.

The dividend per share was usually a figure rounded off to the nearest ten (or, for three years, to the nearest five) francs. This means that the net income was adjusted in such a way that the distributable proportion corresponded to the dividend per share multiplied by the number of shares. So policy with regard to the shareholders determined the level of net income, within the limits of the year's performance. There was never a year, however, not even 1871, when the shareholders did not receive some income as cash. Even when they left part of their dividends in current accounts, they never collected less than 4 per cent of their capital contribution. Schneider's shares thus resembled an annuity where the income, though variable in amount, never fell below a given minimum level.

The management's report to the general meeting on 25 April 1849 included an evaluation of the return on equity over the eleven years following the founding of the company. The return on Schneider's shares was compared to the 6 per cent likely to be earned by saving with a bank:

Shares in the new series have thus earned an annual average of $14\frac{1}{2}\%$ for 11 years, and those in the second series $13\frac{3}{4}\%$ for four years, so that this year should give similar results, and one can say that, even without taking the accumulation of interest into account, shareholders should earn, over and above the sum representing interest at 6% a year, an income supplement equivalent for the first series to the totality of the capital paid, and for the second series, to half the capital.

(General Meeting, 25 April 1849)

Calculations of the return on equity for the period 1875–1900, for which are known both the annual dividend and the official average price of Schneiders' shares on the Stock Market, reveal that Schneider was able to achieve a remarkably high average return for its shareholders over a long period. Between 1874 and 1900, the average annual rate of return was 6.8 per cent, though this rate had been adversely affected by the company's poor performance in the late 1890s (Batsch, 1995). The average annual rate of return between 1874 and the early 1890s had exceeded 8 per cent per annum. The shareholder's confidence in the management's ability to maintain the return was largely repaid, and hence the loyalty of the shareholders to the company can be easily understood.

In addition to receiving a high average rate of return in the last quarter of the nineteenth century, Schneider's shareholders were also rewarded for their sacrifices during the earlier period through the distribution of a bonus issue of debenture bonds. In 1853, 4,762 bonds of 1,000 francs were issued, with interest at 5 per cent payable every six months as from 30 April 1853. They were redeemable through an annual drawing of bonds by regular payments (277,000 francs) over five years, at 1,250 francs per bond. The bonds were written into the company statutes, in which Article 8 stated:

these fully paid-up bonds belong to the first shareholders. They are allotted at a rate of 1,050 F each, forming a sum of 5 million to be shared out in proportion to the number of shares already held. This allotment has been made to compensate long-standing shareholders for the sacrifices made annually by the company to enlarge and improve buildings in all manner of ways, in addition to normal maintenance, by means of the retention of profits and by the direct charging of expenses to overheads. The result of this is an increase in tangible assets which cannot be evaluated at less than 5 million francs.

The formulation of the Statutes clearly suggests that the bonds were presented as a bonus to shareholders rather than being offered for subscription. Thus the sum of 5 million francs was not additional capital supplied by the shareholders, but merely represented dividends previously retained by the company. Furthermore, analysis of the liabilities of the company does not show any trace of these bonds, thus confirming that they were treated as a sort of off-balance-sheet commitment. They were indeed

allotted and subsequently redeemed (from 32 in 1855 to 80 in 1878 and 3,465 in advance in 1879 in full settlement).

From 1853 onwards the firm recognized that it had an additional obligation towards its shareholders, which consisted of paying them a collective annuity over fifty years, in addition to their regular dividends. The annual payment of 277,000 F (capital and interest) was added to the shareholders' income. The fifty-year period allowed for amortizing this self-imposed debt doubtless relieved the financial strain on the company, but it also provided shareholders with an important guarantee at a time when they were being asked to subscribe to an 8 million francs issue of common stock, bringing capital up to 14 million francs. By recognizing a debt to its shareholders of 5 million francs-worth of bonds, the company guaranteed them a return of at least part of their investment: 277,000 F was almost 2 per cent of the capital. The bonds allotted to the shareholders in 1853 were, in the final analysis, a guaranteed form of minimum dividend, in the manner of statutory interest.

Capital operations

Schneider's capital operations can be considered from two points of view. On the one hand, they were part of a growth trajectory and were an element in the financial policy combining internal financing, loans and capital contributions. On the other hand, the variety of these operations illustrates the financial 'engineering' likely to be implemented by a major firm in the nineteenth century.

When the company was founded in 1836, its capital comprised a cash contribution of 4 million francs from 80 shares of 50,000 francs each. Changes to the capital over the next forty years or so occurred in 1845, 1847, 1853, 1863 and 1873 as follows (see also the summary in Table 3):

Table 3 Summary of share capital operations, 1836-75

<i>Year</i>	<i>Cash contribution (francs)</i>	<i>Share capital (francs)</i>	<i>Composition of share capital</i>
1836	4,000,000	4,000,000	80 × 50,000F
1845	1,000,000	5,000,000	100 × 50,000F
1847		6,000,000 ¹	2,000 × 3,000F
1853	8,000,000	14,000,000	28,000 × 500F
1863	5,200,000	18,000,000 ²	36,000 × 500F
1873	9,000,000	27,000,000 ³	75,000 × 300F

Notes

1 Comprised of the capitalization of 1 million francs of reserves

2 The share premium of 1,200,000 francs was placed to special reserve

3 Includes share premium of 4,500,000 francs

1845: cash injection

When Schneider could not, at one and the same time, meet its financial requirements for investments in fixed assets and in working assets, and when the activity was about to grow rapidly, it mobilized its shareholders: retaining dividends on the one hand and issuing stock on the other.

1847: capitalization of reserves

The capitalization of 1 million francs from reserves brought the capital of the company up to 6 million francs: a simple accounting entry increasing the nominal value of each of the 100 shares from 50,000 to 60,000 francs. Simultaneously, each share of 60,000 francs was divided into twenty shares with a nominal value of 3,000 F, and held by the shareholders according to their former participation. While this double financial operation (capitalization of reserves and the splitting of the shares into smaller denominations) did not itself increase the company's financial resources, it did prepare the way for an issue of additional shares, since the increase in the number of shares encouraged their circulation, while the reduction in their nominal value made their purchase easier. Increased mobility of the shares was facilitated in consequence and the management gained room to manoeuvre.

1853: division of the nominal value and cash injection

In the midst of an economic upturn, and at a time when the firm was taking off, a call for additional capital was made to the shareholders. The nominal value of the shares was divided once again, each share of 3,000 francs being converted into six shares of 500 francs each. Simultaneously, the capital was increased by 8 million francs through the issue of extra shares at 500 F. It is worth noting that this share issue, occurring as it did more than fifteen years after the firm was founded, and despite unquestionable growth, was made at par: each share (taking into account the division of the nominal value) being sold at the same price as had been the original shares in 1836. The lack of any premium could reflect a number of factors, such as the fact that the methods of valuing a company were still rudimentary, or too recent to win the support of the shareholders, or that the Schneider management may have wished to grant a preferential price to its loyal and understanding shareholders. It is worth noting, however, that in none of the share issues mentioned in this study were existing shareholders given preferential allotment rights.

1863: cash injection

A new injection of cash, the third since the company was founded, occurred in 1863, in order to support the intense investment drive which marked the 1860s: 5.2 million francs was raised by the company, through the issue of 8,000 shares of 500 francs each. For the first time, the price of the issue (650 francs) exceeded the nominal value, and the 150-franc premium on each share was placed to a special reserve account.

1873: division of the nominal value and cash injection

Twenty years after it had first done so, Schneider repeated the dual actions of dividing the nominal value of its shares and issuing new share capital. The 36,000 existing shares of 500 francs each were replaced on a basis of three for five, by creating 60,000 'new' shares ($36,000 \times 3/5$), each with a nominal value of 300 francs ($500 \times 3/5$). Simultaneously, 15,000 additional shares of 300 francs each were issued at a price of 600 francs (an issue premium of 300 francs per share), raising a total of 9 million francs. This time, the premium was not separately recorded in the share capital account.

Although it is true that the growth of Le Creusot during the first ten years, with the exception of the contribution of 1 million francs in 1845, was largely self-financed (Beaud, 1977), during the years 1853–73 the shareholders contributed 22 million francs of additional capital. To these contributions in equity capital must be added a debenture loan. Authorized by the shareholders as early as 1864, to finance a project for a shipbuilding yard in Berre, it was deferred at the same time as the project which had motivated it. The authorization for the loan was taken up again in 1867. Expected to reach 5.1 million francs (17,000 bonds at 300 francs each, redeemable at par by drawing, at a rate of 1,000 bonds a year, from 1870 onwards), it suffered from the 'unrest with Germany' before attaining its objective. If this loan is added to the extra share capital raised, we find that Schneider, during its twenty years of high growth between 1853 and 1873, was supported by 27 million francs of external resources, equivalent to 1.35 million francs a year.

Conclusion

In the second half of the nineteenth century, the Schneider shareholders expected their dividends to be in the form of a regular income, like statutory interest, and judged their earnings by the amount of dividend received, rather than by any paper profits. Methods for valuing companies

at the time were in their infancy, and the stock market had a low degree of liquidity, the transfer of securities remaining fundamentally an over-the-counter operation. In this way, the shareholder called for a regular flow of income with rather the same attitude as a person of private means. Management, however, had a somewhat different viewpoint, and the speeches made by the Schneider brothers to their shareholders are revealing. They regularly admitted that shareholders could legitimately lay claim to all the profits, and declared that any deviation in practice from this fundamental principle was only a temporary departure. As is often the case, however, statements of respect for the principle often preceded the justification of alternative practices. Although the dividends paid out by Schneider were reduced below the maximum possible, the shareholders accepted such reductions in the early years, being convinced by the argument that today's investments were tomorrow's dividends. Indeed, the Schneider company generated a dividend stream throughout the second half of the nineteenth century which provided a regular, healthy income stream for its shareholders.

This dynamic capitalism thus progressed with the help of the shareholders/persons of private means. And their role in the way the company progressed is significant: all internal financing was deducted from potential dividends, and capital investment was comparable to a 'negative dividend'. This representation accords with that of the neo-classical economists for whom the normal profit of a company is zero after taking into account the return on factors (labour and capital).

Paris

Notes

1 From an accounting point of view, this practice means writing off capital expenditure completely during the year it is incurred.

2 It is perhaps of interest to note that the French slang term for money, *pognon*, is derived from the surname of the one-time Schneider accountant, Jules Pognon.

3 From 1853 onwards, this formula became 80:10:10. The reserve fund was at first limited to 500,000 francs, but then extended to 5 million francs in 1867 and to 12 million francs in 1873.

4 Dividends due for the year were not paid until the following year – Table 2 takes account of this difference.

5 That is to say, the excess of capital over the 'property'.

6 'As you know, Gentlemen, this transaction, on which we could, and had to, count was mostly carried out in shares and instead of allocating the entire sum to the termination of our buildings and improvements section, it was decided last year that shareholders would receive their quota of the shares in kind' (Annual Report, 1839–1840).

References

Batsch, L. (1995) 'Le "décollage" de Schneider (1837–1875): stratégie industrielle et politique financière', *Cahier de recherche du CEREG*, no. 9514, Université de Paris-Dauphine.

Beaud, C. (1977) 'Profit, investissement, et croissance chez Schneider et Cie au Creusot (1837–1853)', *Revue d'histoire économique et sociale*, 55(3–4): 452–63.

Lemarchand, Y. (1993) *Du dépérissement à l'amortissement*, Nantes: Ouest éditions.

The following material, not directly quoted in the text, has been used in preparation of this article:

Beaud, C. (1975) 'Schneider, de Wendel et les brevets Thomas, le tournant technique de la sidérurgie française', *Cahiers d'histoire*, 20(3): 363–78.

Belhoste, J. -F. and H. Rouquette (1977) *La Maison Seillière et Demachy*, Paris.

Caron, F. (1983) *Entreprises et entrepreneurs XIX-XX^e siècle*, Paris: Presses de l'Université Paris IV.

Chadeau, E. (1988) *L'économie du risque, les entrepreneurs (1850–1980)*, Paris: Orban.

Chadeau, E. (1993) 'The large family firm in twentieth century France', *Business History*, 35(3): 184–205

Crouzet, F. (1974a) 'Recherches sur la production d'armements en France (1815–1913)', *Revue historique*, 251: 45–84.

Crouzet, F. (1974b) 'Remarques sur l'industrie des armements en France (du milieu du XIX^e s'ecle à 1914)', *Revue Historique*, 251: 409–22.

Gille, B. (1947) *Les origines de la grande industrie métallurgique en France*, Paris: Domat Montchrestien.

Gille, B. (1959) *Recherches sur la formation de la grande entreprise capitaliste (1815–1848)*, Paris: SEVPEN.

Gille, B. (1961) 'Le financement de l'industrie métallurgique en France au XIX^e siècle', *Revue d'histoire de la sidérurgie*.

Hilaire, J. (1986) *Introduction historique au droit commercial*, Paris: PUF.

Musée d'Orsay (1995) *Les Schneider, Le Creusot, une famille, une entreprise, une ville (1836–1960)*, Paris: éditions Fayard.

Nikitin, M. (1992) 'La naissance de la comptabilité industrielle', Thèse de l'université Paris IX Dauphine.

Roy, J. -A. (1962) *Histoire de la famille Schneider et du Creusot*, Paris: éditions Marcel Rivière.

Silly, J. -B. (1969) 'La reprise du Creusot, 1830–1848', *Revue d'histoire des mines et de la métallurgie*, 1(2): 233–78.

Verley, P. (1994) *Entreprises et entrepreneurs du XVIII^e siècle au XX^e siècle*, Paris: Hachette.

Viandier, A. and J. Hilaire (eds) (1983) *La société en commandite, entre son passé et son avenir*, Paris: Librairies techniques.

Woronoff, D. (1984) *L'industrie sidérurgique en France pendant la Révolution et l'Empire*, Paris: EHESS.

Woronoff, D. (1994) *Histoire de l'industrie en France*, Paris: Le Seuil.