

De-Coding the Image of the Firm: How Balance Manipulation Changes the Perspective on Historical Company Performance (working-title)

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1. Introduction

The relation between inside and outside actors and their respective knowledge is a fundamental condition of stock market exchange. Even though prominent recent scholarship has emphasized the importance of individual expectation formation and emotions as a driving force behind stock market trading and the valuation of firms (Akerlof and Shiller 2009; Shiller 2017; Shiller 2019), information and its asymmetric distribution remain at the heart of investment decisions. The public information provided by companies in financial statements such as balance sheets and profit and loss accounts is integral within these decision-making processes, where financial ratios like the price-earnings-ratio or the price-to-book ratio are commonly used for valuing companies and investment opportunities. This information made available by companies does, however, in most cases do not display the real value of the firm, as managerial and financial accounting practices provide company executives with several means to influence the numbers communicated to the public. This influence complicates the accurate assessment of a firms' true value and potential, making information that goes beyond the "common knowledge" a demanded and precious good.

From a historical point of view, the valuation of public information about company performance becomes even more difficult. As a company's ability to influence the information given to outsider both today and in the past depended on regulatory standards, it is to assume that early joint-stock companies had a relatively large freedom when creating and publishing financial information. In Prussia, regulation was barely in place and by the end of the 19th century only slowly began to react to the at times arbitrary accounting standards practiced at different joint stock companies, leaving them with several decades to introduce and refine means of manipulating and influencing their public information (Camfferman and Detzen 2018, p. 459; Hoffmann and Detzen 2013, pp. 373–8).

As has been pointed out by past research, the creation of hidden reserves was of central importance for influencing and shaping financial statements. In order to create secret reserves (or hidden or

inner), company executives or accountants had the possibility either to exaggerate the company's liabilities by undisclosed transfers of profits to these accounts or to undervalue assets by utilizing high rates of depreciation (Arnold 1991, p. 204). Even though these two means of creating secret reserves have been identified and described for numerous case studies stretching over different industries such as banking (Capie and Billings 2001), shipping (Arnold 1999), iron and coal (Edwards and Boyns 1994) or steel (Edwards 1981), this paper will be able to make several contributions to the debate. First, the available research on accounting and hidden reserves practices has for the most part focused on British and US companies. This bias in research has certainly been influenced by the fact that in contrast to the UK or the US, *accounting history* as a field of historical or economic study does barely exist in Germany and certainly has not reached a comparable degree of institutionalisation (Boyns 2000). The lack of demand for German accounting research is, however, opposed by a potential big amount of high-quality material collected in numerous business archives. Even though German business history has in parts looked at the development of management and financial accounting, research remains scattered with a focus on "heavy industry" (Bongartz 1984; Hentschel 1977; Lindenlaub 2006).

Second, the case study presented in this paper adds a very early example of sophisticated accounting and reserve practices. While past research has hinted at companies using means to create hidden reserves as early as the 1880s, there seems to be an agreement on that they were mainly a twentieth century phenomenon among industrial companies (Edwards and Boyns 1994, p. 1164). As will be shown, German chemical companies in various ways began to create hidden reserves as early as the late 1880s, a practice that reached its preliminary peak around the year 1904.

Third, while the creation of secret reserves has, as already mentioned, been identified across companies of various industries and nations, the extent of its usage often remains unclear. The difficulty is both practical and technical, as source material does often only hint towards the fact that hidden reserves were created but lack the information about *how much* was created. This also applies to the published financial statements where companies acted very inconsistent when it came to the disclosure of the valuation of certain assets or even the depreciation rates applied. The lack of regulation and accounting standards hence do not only make the reconstruction of hidden reserve creation difficult when looking at individual companies, but even more so when trying to compare several companies within one industry (Marriner 1980, pp. 214–6).

The case study of the German chemical industry does, however, deliver a unique opportunity to shed some light upon the "black box" of hidden reserve creation. The industry's history from its

establishment in in the 1860s until the mid-1920s can be described as a history of cooperation and concentration to different degrees that eventually led to the foundation of the famous *I.G.-Farben Aktiengesellschaft* in 1925 (Plumpe 1990). The establishment of this conglomerate was preceded by two major waves of concentration in the years 1904 and 1916. In 1904, the major players *BASF* and *Bayer* formed the so-called “Dreibund” together with the much smaller company *AGFA*.¹ In the Dreibund-negotiations, *BASF*, *Bayer* and *AGFA* agreed on disclosing their entire financial information, also presenting the amount of hidden reserves in detail. As the companies’ executives were aware of the impossibility to compare their individual financial statements due to their lack of standardisation, they further agreed to re-calculate all their assets from 1881 onwards using consistent valuations and depreciation rates.

When in 1916 the Dreibund, the Dreiverband and the two outside firms *Chemische Werke Griesheim Elektron* and *Weiler-ter Meer* established the “große Interessengemeinschaft”, the valuation practices were repeated. This undisclosed information does not only provide us with the precise amount of hidden reserves created between the years 1881 and 1916 for the most important companies of the German chemical industry at that time, it even allows for a comparison of the internal, undisclosed financial information and the financial statements that were presented to the public. Drawing on this comparison, the paper aims to understand to which extent companies used hidden reserves and other means of internal financing. It further aims to analyse how these means influenced the information presented in financial statements and to trace possible usage of dividend and profit smoothing.

Lastly, it should be pointed out that the fact that companies were able to influence and manipulate the information flow to the public was not only problematic for contemporary outside actors such as investors and shareholders, but even so for scholars dealing with historical financial data today. When interpreting this data, the large scope of decision-making that companies had regarding their public information can often lead to false conclusions not only about the performance of individual firms, but even so – on an aggregated level – of entire stock markets. This warning is, however, not new, as past research has repeatedly pointed out the limited meaningfulness of historical financial statements (Marriner 1980, p. 203) and “serious deficiencies” that can result from the interpretation of aggregated financial statements collected in yearbooks or newspapers (Arnold

¹ The third big player in the market, the *Farbwerke Hoechst*, in turn founded the so-called “Zweibund” with the smaller firm *Cassella*. In 1907, the “Zweibund” was expanded by adding the *Chemische Farbbik Kalle* and was renamed into “Dreiverband”.

1999, pp. 45–6). This paper will add to this debate by comparing the undisclosed financial information to the numbers presented in the public financial statements.

2. Creating Hidden Reserves

From the second half of the 1880s onwards, the management of the German chemical company Bayer developed accounting methods which became leading within the chemical industry. The company had begun to collect and process quantitative information as a reaction to a severe company crisis around the year 1885. As the means to overcome this crisis by adjusting the production were very limited, the company executives instead focussed on rationalising the firm using cost cutting measures, eventually putting the potentials management accounting offered into the spotlight. By switching its focus to the internal efficiency of the company, Bayer acted in line with what was later described as one of the central moments of company transformation to “big businesses” and the refinement of management accounting practices that goes in hand (Chandler 1962; Johnson and Kaplan 1987; Kocka 1969). For Bayer, establishing a detailed management accounting was of central importance to overcome the company crisis, as cost cutting measures enabled the firm to increase margins despite fixed product prices that are found on highly competitive markets.

This increasing amount of quantitative information not only made it possible to record internal processes in detail, but also led to innovative balancing practices. These innovations were expressed in the company’s reserve policy. This policy had initially been influenced by the first major regulation imposed by the Prussian government. In 1884, the government adopted the amendment to stock corporation law which obliged German stock corporations – which Bayer had been since 1883 – to create public reserves. For this purpose, five percent of the net profit had to be transferred annually to a statutory reserve fund until the amount of the fund reached ten percent of the company’s equity. The law also determined that stock companies should use the reserve fund exclusively to avert corporate losses and not to their free disposal.² As a result of these restrictions, a large number of companies set up an additional voluntary reserve fund, the allocation and use of which they themselves could determine. Here, Bayer proved to be inferior to its direct competitors: While the reserves of BASF, one of the major competitors, already complied with the legal requirement in 1885, Bayer was only able to allocate funds to the reserve fund from 1887 onwards due to the economic trouble the company had faced in the aftermath of its 1885 crisis

² Allgemeines Deutsches Handelsgesetzbuch, Artikel 185b. Fassung vom 18. Juli 1884.

(see Table 1). The level of the reserve fund specified by the law was not reached until 1889 when Bayer increased its equity from 7.5 to 9 million Marks and transferred the premium generated by the capital increase to the reserve fund.

	Legal Reserve Fund		Voluntary Reserve Fund		Special Depreciation		Equity	
	Bayer	BASF	Bayer	BASF	Bayer	BASF	Bayer	BASF
1885	312,427	1,650,000	-	1,111,859	-	-	7,500,000	16,500,000
1886	312,427	1,650,000	-	1,758,064		-	7,500,000	16,500,000
1887	375,000	1,650,000	215,000	2,008,677	300,000	-	7,500,000	16,500,000
1888	434,123	1,650,000	350,000	2,297,006	800,000	-	7,500,000	16,500,000
1889	1,122,098	1,650,000	350,000	2,857,809	1,150,000	-	9,000,000	16,500,000
1890	1,122,098	1,650,000	350,000	3,230,240	1,650,000	-	9,000,000	16,500,000

Table 1: Overview of legal and voluntary reserves, as well as special depreciation and company equity of Bayer and BASF between 1885 and 1887 (in Marks).³

The capital increase at the same time led to a greater distribution of the company's holdings to shareholders outside the founding families. Even though the number of shares held by outsiders to the company was small, the increase in equity meant a turning point in the way the company treated its finances. While BASF assigned most of its reserves directly into the voluntary reserve fund whose amount was published in the company's balance sheet, Bayer's management in 1887 began with the practice of "special depreciation". These depreciations primarily served to create hidden reserves, a process that was perceived by management as equivalent to the creation of public reserves.⁴ In accordance to this logic, Bayer's management did not allocate further capital to the voluntary reserve fund from 1888 onwards; the amount of the fund remained unchanged at 350,000 marks until 1902. The special depreciation had to be approved by the shareholders' meeting, as they were deducted directly from the company's annual profit. Here, the supervisory board repeatedly justified the special depreciation with the necessity of "strengthening the working capital."⁵ Although in this way, the amount of hidden reserves could directly be calculated by outsiders, the lack of secrecy did not pose an obstacle to the company's management. This was for two reasons: On the one hand, in the contemporary perception, hidden reserves were in any case regarded as an "evidence of sound accounting" and as a legitimate means of financing the company and were therefore little criticised (Spoerer 1996, p. 67). On the other hand, during the second half

³ Numbers taken from BAL, Annual Reports and BASF UA, Annual Reports.

⁴ This is also proven by a later dispute with the tax authorities. Briefly summarized, the Bayer management argued that for the company's balance, it would not matter whether the reserves were accounted publicly or via the "special depreciation", as both were part of the public balance sheet. See BAL Annual Report 1901.

⁵ See BAL Annual Reports between 1886 and 1890.

of the 1880s, the company's management repeatedly formulated that it would prefer to delay a capital increase for as long as possible.⁶ The solution of raising capital by forming hidden reserves was desirable in so far as part of the dividend payment could be dispensed. The payment of dividends would sooner or later have made a capital increase necessary. Therefore, in bypassing the payment of dividends by allocating parts of the net profits into hidden reserves, the Bayer management was able to postpone potential capital increases (Spoerer 1995, p. 161).⁷

At the beginning of the 1890s, Bayer developed a further, comparatively innovative accounting strategy in which the executive board transferred profits into provision accounts even before the balance was presented at the shareholders' meetings. The purpose of these provisions was not communicated to the public and even the tax authorities did not know about the massive balance sheet contractions conducted by Bayer management. In this process, the balance sheet values were first reduced and then further depreciated using regular depreciation and the instrument of special depreciation. In 1895, for instance, Bayer reported a gross profit of around Mark 4.8 million on its balance sheet. Of these Mark 4.8 million, regular depreciation was charged, and the shareholders' meeting also approved the by then already usual special depreciation.⁸ After costs, regular depreciation and royalties, the company's official net income finally amounted to approximately 2.7 million Marks. What remained hidden from shareholders was the fact that the executive as well as the supervisory board had already reduced the gross profit by a total of 3.2 million marks before presenting the numbers to the shareholders. While the executive board carried out further "depreciations and impairments" totalling almost 2.5 million Marks, the supervisory board created provisions of around 700,000 Marks (see Chart 1). The capital from these provisions was then distributed into, among others, funds for potential legal costs or for unexpected losses within the company's current assets.⁹

⁶ See eg. BAL Annual Report 1887.

⁷ The capital increase in 1889 shown in Table 1 was used for the one-time repayment of loans and the purchase of a supplier company and was therefore not directly used for the company's cash-flow.

⁸ BAL Annual Report 1895.

⁹ BAL 11/3, Minutes of the Supervisory Board No. 52, April 7, 1886.

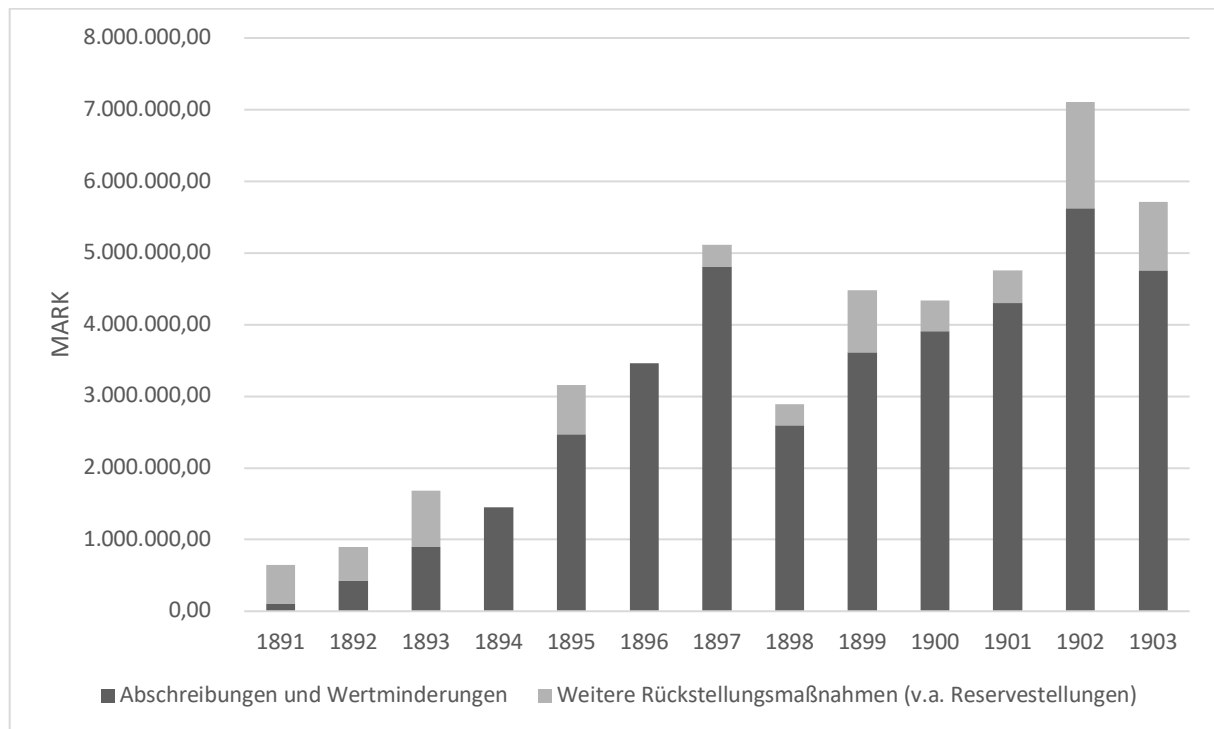


Chart 1: Relation of pre-balance depreciation to total pre-balance provisions “above the line”, 1891-1903 (reductions and depreciation in dark grey, further reserves in light grey).¹⁰

As a result of this balance policy, the Bayer management was able to shape the company’s net profits almost as it pleased. Instead of a fluctuation that would have corresponded to the actual sales development of the company, the management officially reported constantly increasing earnings (Chart 2). In the years 1898 and 1903, for example, the company reported increasing profits, although they in fact declined. To issue a corporate balance was perceived by management as a burden rather than a necessity. In this sense, Carl Duisberg, who later became CEO of the company, stated in 1903: “Wir machen am Ende des Jahres unsere öffentliche Bilanz auf, wie es uns passt; wir verteilen Dividende nach unserem Ermessen [At the end of the year, we define our public balance as we please; we distribute dividends at our discretion [...]]” (Plumpe 2016, p. 245). By controlling the flow of information, the Bayer management at the same time controlled the knowledge of its shareholders (Burhop 2006, p. 4).

¹⁰ Numbers collected from the yearly balance proposals presented by the supervisory board to the executive board, BAL 11/3.

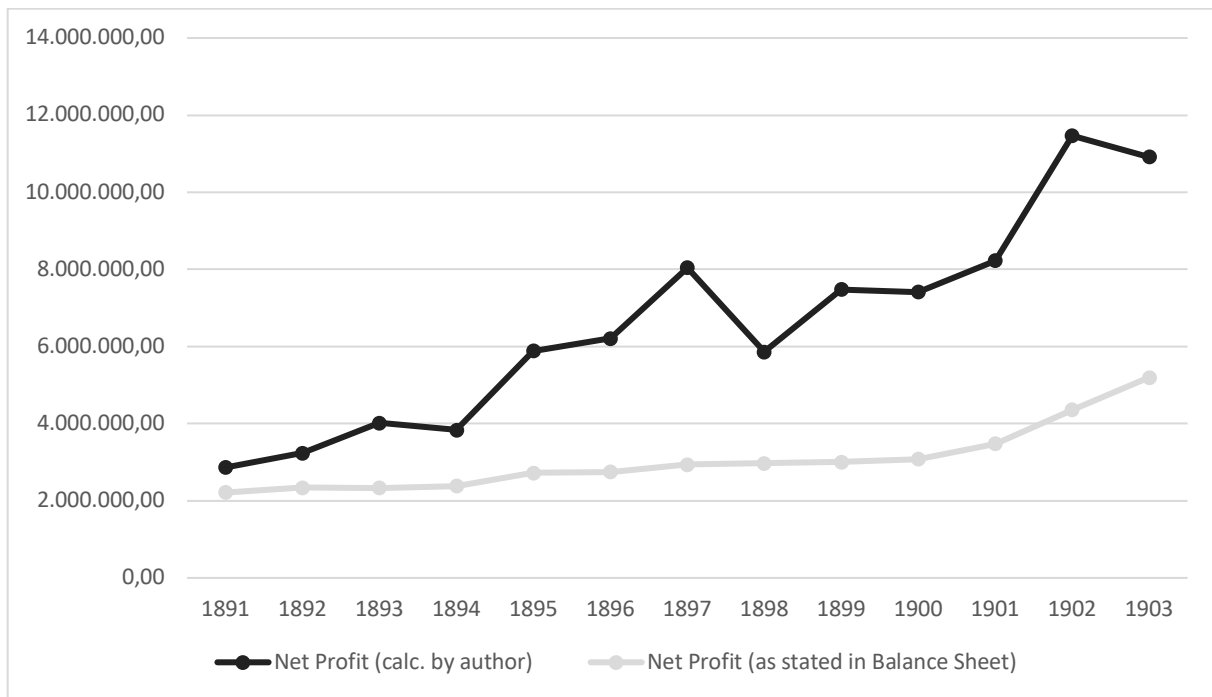


Chart 2: Development of Bayer's net profits. Numbers from annual reports vs. calculated numbers including balance sheet contraction, 1891-1903.¹¹

Besides the decisive influence the management would wield on the release of company numbers in general, Duisberg even pointed out the important effect the manipulation of the balance sheet had on dividend payments to shareholders. As the company executives were able to smooth the yearly earnings published (again, Chart 2, light grey graph), they at the same time controlled the dividends the company had to pay. Paralleling the almost barely increasing profits, Bayer paid a constant 18 % in dividends between 1891 and 1900. Taking this dividend smoothing into account, it becomes obvious that past research on Bayer's company history that focussed on dividend payments as an indicator for economic prosperity has drawn wrong conclusions when picturing Bayer as an economically underperforming company (Wetzel 1991, p. 231).

3. Comparing Hidden Reserves

When the saturation of the markets relevant to the German chemical industry became apparent at the beginning of the 20th century, the companies entered various forms of cooperation. In 1904, Bayer joined forces with BASF and the much smaller tar dye company AGFA to form what was

¹¹ Official numbers taken from the respective annual reports, BAL Annual Reports 1891-1903. Balance sheet contraction numbers calculated from the individual balance discussions between the executive and supervisory board, BAL 11/3, Minutes of the Supervisory Board.

known as the “Dreibund” (Haber 1958, pp. 177–9). The companies remained independent in their organization, but allocated their profits to a profit pool, which was distributed among the three companies based on a previously negotiated distribution quota. BASF entered the negotiations on the quota with the self-understanding that it was the by far most successful company within the entire industry. When Bayer and BASF disclosed their balance sheets to one another, including the hidden reserves, this picture changed entirely. While BASF’s public balance sheets for 1903 totalled about 78 million marks, Bayer’s public balance sheet total for the same year was just under 47 million marks (see Table 2).

	BASF		Bayer	
	Official Sheet	Balance	Dreibund Sheet	Balance
Total Fixed Assets	31,085,293.47	42,357,767.14	9,894,376.36	38,939,539.74
Total Current Assets	47,011,517.14	51,190,979.16	36,968,072.47	55,914,258.01
Total Assets	78,096,810.61	93,548,746.30	46,862,448.83	94,853,797.75

Table 2: Asset evaluation in official and Dreibund Balance for the fiscal year 1903 (in Marks)¹²

Taking the hidden reserves into account, however, Bayer had a balance sheet total of 94.5 million marks, making the company twice as valuable as assumed by the BASF. Although the inclusion of hidden reserves also increased BASF's balance sheet total, it only amounted to 93.5 million marks. The detailed comparison of assets was achieved by an entire revaluation using consistent rates of depreciation from 1881 onwards. Equipment and machinery were depreciated by a rate 10 percent p.a., property by a rate of 5 percent p.a. The framework and guidelines for the standardisation of the balance sheets were quickly accepted by the BASF leadership as the knowledge Bayer executives and accountants had accumulated since the company’s crisis in the mid-1880s was acknowledged as superior. Indeed, the negotiations even revealed that the BASF’s accounting practices were rudimentary at best. The BASF executives and accountants had little to no knowledge of the actual production costs of their products and as it turned out, several departments charged overhead costs multiple times. The first years of the “Dreibund” were therefore characterized by a transfer of accounting knowledge from Bayer to BASF.

The formation of the Dreibund correlated with a decreasing scope of action for the Bayer management regarding the range of possible balance manipulation. The reason for this decrease

¹² Numbers taken from BAL 4/A.11, IG: Verträge über die geschlossene Interessengemeinschaft der deutschen Teerfarben Fabriken [Contracts about the concluded syndicate of German Coal Tar Factories]

was technical: As mentioned before, Bayer’s large hidden reserves were mainly brought about by the massive depreciation of fixed assets. In the beginning of the 1900s, however, most of the company’s assets such as buildings and machinery were entirely written off, resulting in so-called “Erinnerungsposten” (reminder post/assets, (Passow 1923, p. 70)) that appeared in the books with the total amount of one Mark (Table 3).

	Elberfeld	Barmen	Leverkusen	Schelploh	Moskau	Flers	Summe
Properties	723.443,98		1.692.029,48	7525,-	84.423,68	77.588,19	2.585.010,33
Buildings	49.981,50	1,-	3.339.825,45	1,-	1,-	1,-	3.389.810,95
Machinery	10.000,-	3000,-	2.739.302,56	1,-	1,-	1,-	2.752.305,56

Table 3: Bayer assets in at different production sites, 1902 (in Mark).¹³

With the decreasing scope for depreciation, Bayer lost its most important means to influence and adjust the company’s yearly earnings and dividend payments. In consequence, the company’s earnings published in the balance sheet that had barely moved during the entire decade of the 1890s almost doubled between the years 1900 and 1902 (see again Chart 2). To the outside shareholders, the rapid increase in profits was communicated as a rise in demand for the company’s products. Apparently, this unspecific reasoning convinced investors. Between 1901 and 1904, Bayer’s stock price almost doubled from 300 to 536 Marks, paralleling the increase of the company’s profits. Even in 1903/04 when the entire industry was affected by a minor crisis caused by both an unexpected decline in global demand for cotton products and the outbreak of the Russo-Japanese War, Bayer’s shares performed extraordinary well. In contrast, the shares price of Bayer’s main competitors stagnated. While Bayer was able to compensate the decrease in profits by adjusting its reserve policy, other important German chemical companies such as BASF and Hoechst had to report losses. By reducing hidden reserves in times of bad economic performance, Bayer was apparently able to directly influence investor decisions and sentiments, not only convincing new investors to invest into the company, but possibly even pulling and transferring investors from competitors. These assumptions correlate with observations made for UK companies, even though it is stressed that the evidence there is thin and especially the magnitude of smoothing the decrease in profits during bad years is “almost impossible to guess” (Arnold 1999, p. 50).

¹³ Table taken from BAL 15/F.1, Finanzen: Bilanzprüfung durch Beauftragte des Aufsichtsrats der Farbenfabriken Bayer: Bilanz-Conto pr. 31. Decbr. 1902.

4. Interpreting the image of the firm

The standardisation of asset valuation utilised during the foundation of the “Dreibund” was also applied in the establishment of the “große Interessengemeinschaft” in 1916. During the negotiations, all the eight companies involved in the foundation, namely BASF, Bayer, Hoechst and the smaller firms AGFA, Cassella, Kalle, Griesheim Elektron and Weiler-ter Meer, undisclosed their hidden reserves.

Bayer yet again determined the modes of standardising the individual companies’ balance practices and the guidelines were applied that already had been used in the Dreibund negotiations. The share of hidden reserves in total reserves varied little between the individual companies. This is surprising as the companies of the “Dreibund” (Bayer, BASF and AGFA) and the “Zweibund” (Hoechst and Cassella) established back in 1904 developed their accounting practices and means of creating hidden reserves independently from one another. Compared to 1904, regulation and accounting standards on the one hand as well as scholarship in accounting on the other hand had barely evolved (Camfferman and Detzen 2018, p. 460). Yet, all companies presented a very similar proportion of secret to total reserves (Table 4).

Company	Official Reserves	Hidden Reserves	Total Reserves	Ratio Hidden/Total	Official Value ¹⁴	Book
BASF	41.740.498,82	92.873.680,99	134.614.479,81	69 %	161.741.584,60	
Bayer	46.895.530,37	115.422.538,93	162.318.069,30	71 %	155.242.435,00	
AGFA	16.156.768,66	36.638.258,56	52.795.027,22	70 %	54.845.410,00	
Hoechst	33.245.785,37	68.540.933,37	101.786.718,74	67 %	134.702.970,00	
Cassella	11.712.114,67	30.052.561,96	41.764.676,63	72 %		N/A ¹⁵

Table 4: List of total, official and hidden reserves at the end of the year 1915 of companies BASF, Bayer, AGFA (former Dreibund, in grey) and Hoechst, Cassella (former Zweibund).¹⁶

Comparing the calculations used in the internal accounts with the numbers presented in the official balance sheets taken from the yearbook *Saling’s Börsenjahrbuch* yet again reveal the big impact hidden reserves had on the internal financing of the German chemical industry. All former Dreibund and Zweibund companies accumulated vast amounts of hidden reserves and the total amount of reserves often amounted to numbers close to the companies’ official book value presented to

¹⁴ Numbers taken from Saling’s *Börsen-Jahrbuch* für 1916/1917.

¹⁵ As Cassella did not operate as a joint stock company, the firm’s shares were not traded on any stock exchange and thus not included in the “*Börsen-Jahrbuch*”.

¹⁶ Numbers from BAL 15/4 Finanzwesen, Normen für die Verteilung der Generalspesen.

shareholders and other outside actors in the financial statements. At Bayer, the total amount of reserves even exceeded the official book value of all the company's assets, e.g. the sum of official equity, reserves, liabilities, dividends and profits transferred to the following year. All companies used several means in order to create hidden reserves. Besides depreciation, the internal comparison revealed that all firms used numerous secret provision accounts to hedge the potential costs of court proceedings, outstanding money from potentially insolvent debtors, strike, etc. During the founding period of the "große Interessengemeinschaft" around 1916, several firms even created war-related provisions that should prepare for the potential loss of production sites abroad and the payment of war taxes. Despite the big amount of provision accounts, however, the depreciation of assets remained the central means of reserve creation for all companies.

As has been shown, starting with Bayer in the late 1880s, the companies of the German chemical industry established various means to create hidden reserves. By applying innovative and creative, from a today's perspective even illegal means to influence the company's balance sheet, the Bayer management above all other companies was able to communicate almost arbitrary company results and dividend payments. Especially during the 1890s, large amounts of the earnings were kept in the company by applying vast amounts of depreciation, the creation of provision accounts and profit cutting. By the beginning of the 1900s, the company's public book value amounted to just the half of its real value calculated within the firm. This trend apparently endured until the formation of the so called "große Interessengemeinschaft", where the amount of hidden reserves still added up to more than two-thirds of the company's official book value.

The information asymmetry between company insiders and outsiders was enormous and barely reduced by government regulation. It is obvious that the Bayer management did not feel responsible for increasing the shareholder value and perceived capital raised at the stock market as a necessary evil that had to be accepted in order to secure the company's well-being. The published balances were adjusted to fit the expectations of the outside shareholders and dividend payments were fixed on a level that seemed acceptable to them. The strong asymmetry in information did, however, not end with the relation between company and shareholders, but was even so present within the relation between Bayer and its competitors. In years where profits decreased, the earlier withholding of large parts of the company's profits enabled Bayer to financially compensate these setbacks and still communicate an increase in profits. This profit was, however, merely generated by increased by the liquidation of hidden reserves, so rather fictional than real. This communication could lead to increased investment into the company's shares, especially in times when the entire industry faced economic stagnation and competitors were forced to publish disappointing results.

The Bayer case study reveals that scholars today can still fall for the pitfalls of asymmetrical information contained in historical financial information. Historical balance sheets have in recent years often been subject to analysis of both economic historians and maybe even more so by economists working with aggregated historical datasets where financial information is compiled, for example the widely used “Saling’s Börsenpapiere” (Burhop 2010; Burhop, Chambers and Cheffins 2018; Lehmann-Hasemeyer and Streb 2016). The case presented in this paper illustrates how careful this data should be treated and how quickly wrong assumptions can be made. By drawing conclusions on the information provided in the historical financial statements, even today’s research will not be able to understand the actual performance of firms, but rather interpret the image of the company intentionally created by the companies’ decision makers.

5. Conclusion

The paper was able to provide in-detail information about the establishment of hidden reserve practices within the German chemical industry. It was shown that the company Bayer became a pioneer in developing and applying several means of balance manipulation, namely vast depreciation, profit cutting and relocation into provision accounts, as well as dividend and profit smoothing. While research has identified these measures at companies and industries in various national settings, the case study presented in this paper was able to offer unique perspectives on the creation and maintaining of hidden reserves by presenting detailed quantitative information about the amount of hidden reserves for a comparatively early case. Lastly, the paper discussed the problems that arise from interpreting financial statements that potentially include hidden reserves. These problems did, however, not only affect actors of that time, but should even be a warning for contemporary scholars using historical financial statements.

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