



Carl Frederik Tietgen and Privatbanken in Copenhagen, 1857-1896

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The Private Bank of Copenhagen, founded in 1857, was the first major Danish commercial bank. It is interesting both because of its powerful managing director, a “hero” in Danish banking history, C. F. Tietgen, and because of the company’s bylaws, apparently chosen to solve the same corporate governance problems we struggle with today. There is a close relationship between Tietgen and the development of modern banking and the formation of modern joint-stock companies in Denmark. In the many historical accounts of Tietgen and Privatbanken, no one has attempted to determine whether Tietgen was a successful manager of Privatbanken from the shareholders’ perspective. In this article, we examine the corporate governance structure of Privatbanken and estimate the returns of Privatbanken and its three main competitors based on the bank’s dividends and monthly fluctuations in share prices. We conclude that there is no evidence that Tietgen was an outstanding managing director of Privatbanken.

In this article, we deal with the first major commercial bank in Denmark and its corporate governance system, the Privatbanken i Kjøbenhavn (Private Bank of Copenhagen), founded in 1857. In Denmark’s history, there is a close link between Privatbanken and the personal history of its first managing director, Carl Frederik Tietgen, who held the position for almost forty years. Both fearing and admiring him, his contemporaries acknowledged that he and Privatbanken were of great importance to the development of modern banking in Denmark. Privatbanken remained the only major commercial bank until the early 1870s, when two new large banks were founded in Copenhagen. Tietgen established a number of major public limited companies within the communication, transportation, and industrial production sectors, and he was apparently instrumental in the introduction of modern joint-stock companies in Denmark. Tietgen was involved in an impressive number of different activities, which concentrated power in Tietgen’s hands, provoking envy and fear in other areas of Danish business.

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In 1911, Swedish economist Sven Brisman characterized Tietgen as “. . . the greatest financial genius in Denmark or possibly in all the Nordic countries.”¹ The high esteem for Tietgen as a banker and as founder of many well-known companies is an established aspect of Danish history, although many acknowledge that some of his methods were not entirely above board. There are extensive historical accounts of Tietgen’s activities. Ole Lange recently published an important biography of Tietgen, which enhances our understanding of Tietgen’s dual position as bank chief executive officer (CEO) and chair of the boards of directors of a number of public limited companies.² As in earlier research, Lange primarily deals with Tietgen’s activities as entrepreneur and pays little attention to evaluating his success as CEO of Privatbanken from the perspective of its shareholders. Danish scholars have not totally neglected this problem, but the existing research focuses on a single incident in the 1870s in which Privatbanken was almost forced to file for bankruptcy, leading to strong, though fleeting, opposition toward Tietgen. We believe that the long-run performance of Privatbanken is of greater relevance.

Although interest in good corporate governance has dominated the theoretical debate about companies for years, Danish economic historians have not investigated the function of Privatbanken’s corporate governance and the extent to which the bylaws developed by the company’s founders protected the bank from mismanagement. How do shareholders motivate management to do the best for shareholders (that is, the alignment of interests)? How can shareholders ensure that inefficient companies are closed and do not continue for years just because managing directors want to keep their jobs?

In this article, we argue that Tietgen’s reputation as a banker has always been overrated. In many ways, he was more of a gambler than a great banker. He had the good fortune to be lucky in his early years, which was an expansive period. He fared more poorly in a later period of slow growth. The Privatbanken shareholders received a return similar to the returns from other Danish banks, but with greater risk. To modern eyes, Privatbanken had an advanced corporate governance system, although founded approximately 150 years ago. In many ways, it was very close to the system chosen by contemporary equity funds, but somewhat more efficient. However, the bylaws gave the managing director a free hand to undertake jobs other than being CEO and to speculate. The large banks founded after Privatbanken chose to limit the CEO’s power, including opportunities to undertake other jobs outside the bank.

¹ Sven Brisman, “Affärsbankerna i Danmark och Norge” [The Commercial Banks in Denmark and Norway], *Ekonomisk Tidskrift* 13 (Sept. 1911): 325-50 (authors’ translation).

² Ole Lange: *C. F. Tietgen—en finansmand, hans imperium og hans tid, 1829-1901* [C. F. Tietgen—A Financier, His Empire and His Time, 1829-1901] (Copenhagen, 2006).

Danish Banks, 1856-1900

A brief introduction is required to understand the economic environment in which Privatbanken was established. It is important to note that a large agricultural sector still dominated the Danish economy of the 1850s. Manufacturing industry was rather insignificant, and one-person businesses or partnerships constituted most industrial undertakings. There had been public limited companies in Denmark since the eighteenth century, but only fourteen such companies existed in 1850, with a total share capital of 37 million Danish kroner (DKK). Nationalbanken (the Danish Central Bank) was by far the largest company with a total share capital of 27 million DKK.³ Investment of the remaining 10 million DKK included 4 million in insurance companies and an additional 3 million in the first Danish railway. There were only three industrial enterprises organized as public limited companies, and the total share capital amounted to less than one million DKK.⁴

The backwardness of the Danish economy prior to 1850 gave no room for the development of a credit market of any significance. The great merchant houses or Nationalbanken Credit primarily supplied credit privately. At that time, Nationalbanken was the most important Danish credit institution serving the business community. There was only a single case in which the government granted permission to establish a minor private commercial bank; a bank founded as a public limited company with a share capital of 0.3 million DKK in a provincial town in 1846. Continental banking practice influenced the founders of the bank, which primarily discounted bills of exchange based on a relatively large share of capital. In addition to the two banks, there were thirty-five savings banks.⁵

Svend Aage Hansen has pointed out that a boom in the Danish economy in the 1850s laid the foundation for the Danish private bank system.⁶ The business community's need for credit increased rapidly, and Nationalbanken and the merchant houses could not meet the demand. During the first half of the century, a number of restrictions impeded the use of the joint-stock form. When a new liberal government came into power in 1849, however, attitudes

³ Denmark had a bank that could issue notes established in the eighteenth century by a royal charter and with private stockholders. The creation of a new Danish Central Bank (Nationalbanken) occurred after a national crash in 1813. Most of the population, as property owners, became (forced) shareholders: a free market did not create these banks.

⁴ Knud Erik Svendsen and Svend Aage Hansen, *Dansk pengehistorie, 1700-1914* [Danish Monetary History, 1700-1914] (Copenhagen, 1968), 272. For comparison, the Danish Gross Domestic Product in 1850 was 315 million DKK.

⁵ Per H. Hansen, "From Growth to Crisis: The Danish Banking System from 1850 to the Interwar Years," *Scandinavian Economic History Review* 39 (Fall 1991): 20-40. The savings banks supplied mortgage loans on a considerable scale.

⁶ Svend Aage Hansen, "The Transformation of Bank Structures in the Industrial Period: The Case of Denmark," *Journal of European Economic History* 11 (Fall 1982): 586-87.

toward joint-stock companies became more positive. The next decades saw a number of industrial companies founded as public limited companies, and the corporate form was employed for establishing banks.

Between 1854 and 1857, thirteen minor private provincial banks were established as public limited companies with an average share capital equaling 0.3 million DKK. The new banks did begin to accept deposits and grant sophisticated types of loans, but the discounting of bills of exchange remained their primary field of activity. However, the founding of Privatbanken in Copenhagen in 1857 reinforced the new attitudes toward banking.

Privatbanken became the first real credit-creating Danish bank. Because of its sheer size, it immediately became the most important Danish bank after Nationalbanken.⁷ The bank had a share capital of 4 million DKK, approximately equal to the total share capital of all of the other banks in Denmark (except Nationalbanken) combined. Privatbanken attracted deposits from the public by offering interest on both time deposits and demand deposits. Furthermore, Privatbanken introduced checking in Denmark, thereby providing an opportunity to expand credit and to meet the demand for financing in the growing economy. The bank's main area of activity was the discounting of foreign and domestic bills of exchange and lending against securities or goods.

Privatbanken immediately established close business relations with the important sectors of industry in Copenhagen, although the bank's purpose was not to serve specific industrial objectives. As Svend Aage Hansen pointed out, it never became a truly mixed bank of the German type. Though Privatbanken became actively engaged in the development of large-scale business and manufacturing, the founding and funding functions were never the predominant activity.⁸ Conversely, Privatbanken did provide services in a number of cases in which individuals with close connections to the bank established public limited companies. C. F. Tietgen was a key person behind the establishment of the new companies while he served as managing director of Privatbanken. Sven Brisman carefully summarizes the special relationship between Privatbanken and Tietgen; he noted in 1911:

[Privatbanken] . . . occupies a special place in Denmark's banking history, as it was managed from the very start [and] for forty years by the greatest financial genius in Denmark or maybe in all of the Nordic countries, C. F. Tietgen. Its history is mainly coincident with his. To be sure, he rarely employed his bank directly when establishing the grandiose business enterprises that are now regarded as pillars in the Danish economical structure. . . . It was, however, upon Privatbanken that his activities rested, and its

⁷ Hansen, "The Transformation of Bank Structures in the Industrial Period," 582-83.

⁸ *Ibid.*, 586-87.

interests came to correspond with . . . [the interests] of the companies that he had founded.⁹

Privatbanken maintained its position as the leading Danish commercial bank for almost fifteen years. From 1857 to 1871, the bank's activities grew steadily in line with small provincial banks. The nominal dividend on the bank's shares was between 6 and 11 percent, which was comparable to the dividend paid by Nationalbanken and somewhat higher than the average dividend offered by the provincial banks. The growth in business activities made it necessary to increase the share capital from 4 to 8 million DKK in 1864. In 1871, the bank added an additional 4 million DKK in share capital. On both occasions, Privatbanken issued shares at a price above par and transferred the surplus to the reserve fund.¹⁰ Privatbanken was not the only bank to expand during this period, however; the smaller provincial banks gained market share and increased their share capital at the same rate throughout the period.

A major development occurred in the early 1870s, with the establishment of two new large commercial banks in Copenhagen. Landmandsbanken, established in 1871, began operations in 1872, with a share capital of 4.8 million DKK. The share capital had already increased to 12 million DKK by 1875 and to 24 million DKK in 1884, making Landmandsbanken the largest bank in Denmark.¹¹ The second new large commercial bank, Handelsbanken, came into existence in 1873. By 1875, its share capital was 12 million DKK. The business activities of the two new banks largely duplicated the activities carried out by Privatbanken; however, there were a number of important differences. Both Landmandsbanken and Handelsbanken expanded by opening branch offices outside Copenhagen, and both banks competed actively to obtain a share of the more stable, long-term funds normally deposited in savings banks. This was quite the opposite of Privatbanken, and ultimately proved to be an advantage for the two new banks. Industrialization gathered its most pronounced momentum in the 1890s outside Copenhagen. The higher share of stable deposits left the two banks better equipped to offer the long-term lending facilities required by industry.¹²

Within a remarkably short period, Landmandsbanken and Handelsbanken became influential players in the financial market. At that time, an

⁹ Brisman, "Affärsbankerna i Danmark och Norge," 333 (authors' translation).

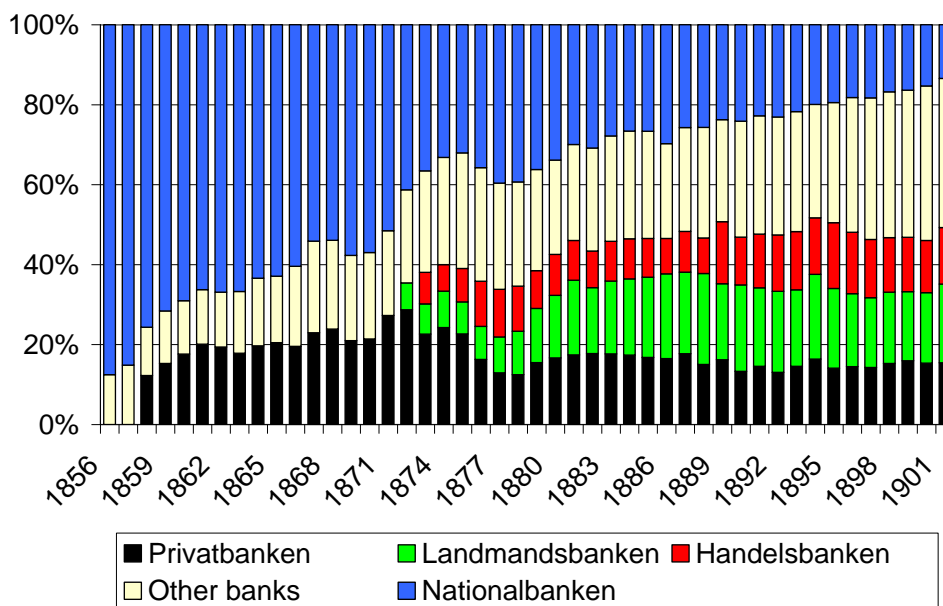
¹⁰ In 1871, the reserve fund reached the maximum allowed by the Privatbanken bylaws, and paid out part of the surplus from increasing the share capital as a dividend to the shareholders.

¹¹ Landmandsbanken: "Den Danske Landmandsbank, Hypothek—og Vekselbank i København" [The Danish Farmers' Bank, Mortgage and Exchange Bank of Copenhagen] founded in 1871. The name indicated that the bank was both a commercial bank and a separate mortgage bank providing mortgage loans in more or less the same manner as credit associations. Handelsbanken: "Kjøbenhavns Handelsbank" [The Commercial Bank of Copenhagen].

¹² Svend Aage Hansen, *Early Industrialization in Denmark* (Copenhagen, 1970), 41-46.

increasing number of small commercial banks were established in Denmark. In Figure 1, we illustrate the consequences of this development. Before 1857, Nationalbanken supplied 88 percent of all bank lending. All of the private banks together provided only 12 percent of the total bank lending. Over the course of the next half century, however, Nationalbanken steadily lost market share. From 1857 to 1871, the importance of Privatbanken and the other private banks rapidly increased. In 1871, Privatbanken supplied slightly more than 20 percent of all lending; the other private banks combined provided another 20 percent, with the Danish Central Bank maintaining a market share of 60 percent. The creation of two new large banks in the beginning of the 1870s changed the picture for years to come, with Privatbanken losing out. Privatbanken's market share fell and stabilized somewhat below 20 percent of the market. The new banks quickly gained market share, but only at the expense of Nationalbanken and Privatbanken. The number of smaller banks continued to grow and were able to maintain their market share. Landmandsbanken ultimately overtook Privatbanken as the largest "normal" bank.

FIGURE 1
Total Lending from Danish Private Banks and Nationalbanken, 1857-1903

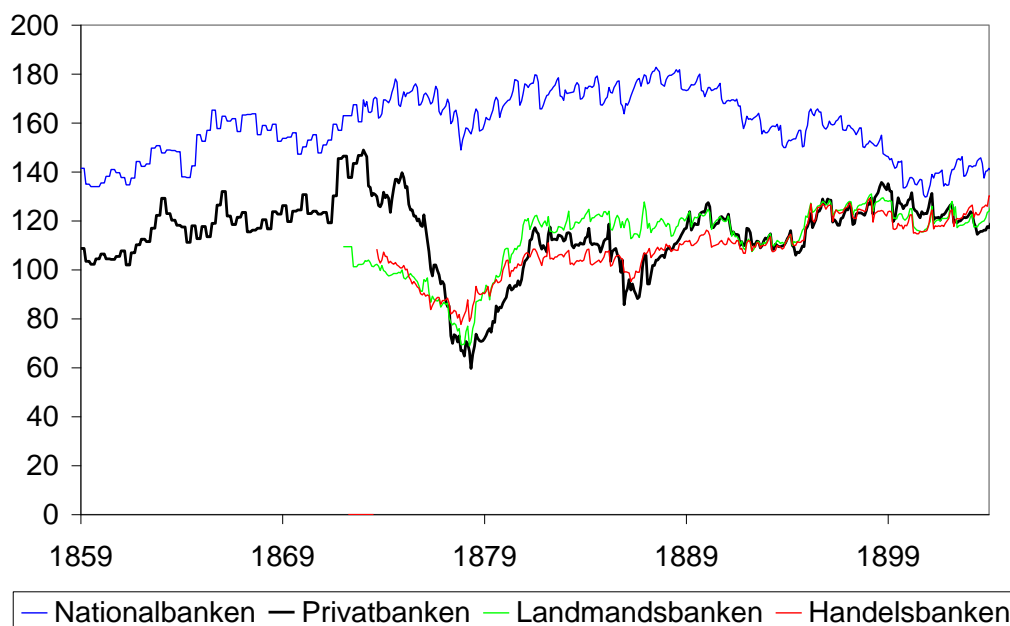


Source: *Kreditmarkedsstatistik, Statistiske undersøgelser nr. 24* [Credit Market Statistics, Statistical Investigation no. 24] (Copenhagen, 1968).

In light of its robust position in 1870, it is somewhat surprising that Privatbanken was unable to benefit from the steady decline in Nationalbanken's market share over the next thirty years. External factors can explain the decline in Privatbanken's own market share somewhat, including the

restructuring of the Danish economy and increasing competition from new banks and other financial institutions, such as the savings banks and credit associations. However, a more fundamental problem was that the market lost confidence in Privatbanken in the 1870s, with the knowledge that the bank was heavily involved in Tietgen's investment projects outside the bank. The market response prompted a sharp fall in the share price from about 135 in January 1875 to 60 in May 1878, as indicated in Figure 2. The decline resulted in part from the general recession in the Danish and international economies, as the share prices of Landmandsbanken, Handelsbanken, and Nationalbanken also fell, although far less than the share price of Privatbanken.

FIGURE 2
Share Prices (quarterly 1859-1873, monthly 1873-1904)



Sources: *Statistiske Oplysninger om København* [Statistical Information on Copenhagen] (Copenhagen, various years); *Statistisk Aarvog* [Statistical Yearbook] (Copenhagen, various years).

C. F. Tietgen

When he was only 28 years old, Privatbanken appointed Carl Frederik Tietgen as one of its two managing directors.¹³ The decision of the bank founders to entrust him with the management of the new large bank was somewhat surprising, as he had no bank training and limited experience as an independent businessman.

¹³ C. F. Tietgen and the rather unknown Justitsraad N. U. Fugl were the first two managing directors, both serving for many years.

C. F. Tietgen (1828-1901) received his basic commercial training at a drapery in his hometown of Odense. E. Hald & Rahr, a Danish commission merchant company trading with Denmark, Norway, and Sweden, offered him employment in Manchester, England, in 1848. Tietgen remained with the company for six years as a commercial agent, traveling mostly in the Scandinavian countries. He established himself as a wholesale dealer in Copenhagen in 1855, while maintaining close relations with his old firm and acting as their Danish agent.¹⁴

During the next two years, Tietgen created a respectable, but not exceptionally successful business based on the import and export of goods. At the same time, Tietgen first demonstrated his entrepreneurial abilities. French scientist Henri Sainte-Claire Deville had discovered the use of cryolite to produce the new precious metal, aluminum, and Tietgen was asked in 1856 to provide enough cryolite to begin French production of aluminum. The expedition to extract cryolite from ore in Greenland was rather disastrous for Tietgen, as demand for cryolite had fallen by the time the ship returned to Europe.¹⁵ Nevertheless, the adventure demonstrated Tietgen's readiness to undertake projects of great uncertainty and his ability to raise capital by persuading a group of close associates to invest substantial sums in this extremely risky business. Finally, this case demonstrated that Tietgen did not give up easily. Over the next ten years, he became heavily involved in trying to make a commercial success of the mining in Greenland and with the manufacture of various chemical products in cryolite factories in Europe and the United States.

By the time the cryolite industry became a commercial success, Tietgen was a respected managing director in Copenhagen. Privatbanken quickly established itself as the major Danish commercial bank. Although the Privatbanken management consisted of two directors, Tietgen dominated the bank, and information about his co-director is almost nonexistent. However, the number of independent personal recollections regarding Tietgen's actual performance as a managing director are also limited; most researchers rely heavily on various jubilee publications and Tietgen's own brief memoirs. The general impression is that Tietgen was able to shoulder an incredible workload and to absorb even complicated business accounts quickly.¹⁶ These skills appear to have been the basis for the founders' entrusting him with a managing director position, though another reason was that the board found it difficult to agree on one of the other potential candidates.

¹⁴ Julius Schovelin, *Privatbanken i Kjøbenhavn, 1857-1907* [The Private Bank of Copenhagen, 1857-1907] (Copenhagen, 1907); Lange, *C. F. Tietgen*.

¹⁵ Niels-Henrik Topp, *Kryolitindustriens historie, 1847-1990* [The History of the Cryolite Industry, 1847-1990] (Copenhagen, 1991), 49-91.

¹⁶ Einar Cohn, *Privatbanken i Kjøbenhavn gennem Hundrede Aar* [The Private Bank of Copenhagen through a Hundred Years] (Copenhagen, 1957), 106-22; C. F. Tietgen, *Erindringer og Optegnelser udgivet af O. C. Molbech* [Memoirs and Notes Published by O. C. Molbech] (Copenhagen, 1904).

Tietgen quickly earned a reputation as a banker as the result of a crisis that occurred a few months after Privatbanken started operations. In late 1857, a severe credit crunch, resulting from the threatened failure of a major Hamburg merchant house that provided much of the Danish economy's credit, confronted the financial markets. The situation became so aggravated that the Danish government intervened and took the extraordinary step of providing 6 million DKK in securities to alleviate the problems. When Nationalbanken declined to discount the securities, Tietgen was asked if Privatbanken could undertake this business. Surprisingly, he responded that the bank could provide 2 million DKK tomorrow, one million the day after, and the rest after Christmas. Tietgen evidently had a very clear understanding of the fact that banks could create credit. In his memoirs, Tietgen recalls that Privatbanken did not have access to that much liquidity, but he took the calculated risk that it would take some time to carry out the transactions and that part of the increase in liquidity would return in the meantime as deposits in his own bank. Tietgen's guarantee that the newly created bank was able to provide the liquidity necessary to meet the demand calmed the market, and the signs of panic disappeared.

The handling of the 1857 crisis created confidence in the new bank and its young managing director. Privatbanken had already become involved in the subscriptions for a major public loan in the first years of its operations. To the public, Tietgen was a highly successful bank director. The published records of his taxable income from 1862 reinforced this image. In 1862, the city of Copenhagen introduced an income tax on citizens with an income in excess of 1,600 DKK. In Table 1, we use these data to compare Tietgen's annual income in selected years with the average annual income for all taxpayers and with the average income of taxpayers earning more than 20,000 DKK. The official statistics do not include the majority of citizens with an income below the threshold for taxable income, but Marcus Rubin estimated that the average annual income for all breadwinners was close to 1,000 DKK in 1863 and 1893.¹⁷ Even compared to the scant number of taxpayers with high incomes, Tietgen's income was quite remarkable. Furthermore, these data do not display his full capacity to earn money. In 1872-1874 and in 1882, his annual income reached an impressive 400,000 DKK.

The tax records of the day provide a problematic source of information, as they did not systematically assess taxpayers' own self-declarations of income. Some have argued that Tietgen possibly exaggerated his income to obtain a higher ranking on the published list of taxpayers.¹⁸ Although this might be

¹⁷ Marcus Rubin, *Indkomstforholdene i København* [Income Distribution in Copenhagen] (Copenhagen, 1894), 18-20. Marcus Rubin estimated the number of breadwinners to be 78,000 in 1863, of which only 18,000 paid income tax. In 1893, the number of breadwinners was 104,000, and the number of taxpayers had increased to 45,000.

¹⁸ Cohn, *Privatbanken i Kjøbenhavn*, 283-84.

TABLE 1
Average Incomes in Copenhagen, 1865-1895 (in DKK)

Year	All Taxpayers	Taxpayers with Income > 20,000 (#)	Tietgen's Income
1865	2,562	37,738 (192)	60,000
1870	2,551	38,267 (224)	140,000
1875	2,584	47,256 (382)	250,000
1880	2,688	45,121 (381)	200,000
1885	2,640	40,482 (556)	80,000
1890	2,585	40,625 (576)	100,000
1895	2,470	38,114 (673)	80,000

Sources: Authors' calculation based on Cohn, *Privatbanken i Kjøbenhavn*, 284 and *Statistiske Oplysninger om København og Frederiksberg 1896-1902* [Statistical Information on Copenhagen and Frederiksberg] (Copenhagen, 1903), 220-22.

true, for our purposes the greater problem is that we have information only on his net income. Taxation legislation allowed the taxpayer to deduct expenses related to earning an income. Thus, although Tietgen had to declare his income from his employment as a managing director and various other activities, he could deduct any interest on loans for investments or losses on failed projects. Despite these limitations, the declaration does indicate that Tietgen had a remarkably high income compared to other taxpayers, and that his income fluctuated considerably.

At the time of Privatbanken's establishment in 1857, the Danish banking system was almost unregulated. Individual banks decided whether their employees could engage in activities outside the bank. The main purpose of Privatbanken was to facilitate credit to the business community, not to serve as an investment bank.¹⁹ From this perspective, Tietgen's private investments did not interfere with his activities as bank director. In principle, there was a sharp distinction between Tietgen's activities as a bank employee and as a private person; the reality, however, was something else. Not only did bank director Tietgen grant loans to his own projects, but members of the board of directors also participated extensively in Tietgen's projects.²⁰

¹⁹ Hansen, "The Transformation of Bank Structures in the Industrial Period," 575-603.

²⁰ Ole Lange presents a short survey of the main group of persons involved in Tietgen's projects in "Bridge-building between Applied Science, Industry and Finance during the Danish Modernization Process, 1866-96: The Role of International Entrepreneurship and Banker C. F. Tietgen (1829-1901) and Privatbanken of Copenhagen and Their Experts," paper presented to the 5th European Business History Association Conference, Oslo, Norway, August 2001; viewed 31 July 2008, URL: <http://web.bi.no/forskning/ebha2001.nsf>.

It is difficult to assess the extent of Tietgen's business activities outside the bank. There are many historical accounts of the joint-stock companies he created himself or by merging existing enterprises. This information documents the amount of time he spent on the different companies, but rarely discusses the rewards he received for his efforts. There are no comprehensive accounts of the various sources of Tietgen's income, and even Ole Lange's recently published biography of Tietgen contains little regarding this topic.²¹ However, scattered information from various publications makes it possible to identify three main sources of income. In addition to his salary as managing director, he received payment for chairing the boards of directors of a number of companies. He also received commissions when he participated in forming new companies and income from his stock portfolio.

As managing director, Tietgen received a fixed annual salary of 8,000 DKK in 1857. The contract also included a 2.5 percent commission on profits, which yielded an average of 4,000 DKK annually over the first ten years. Information about his salary during his 40 years as bank manager is limited. When Landmandsbanken hired Isak Glückstadt as managing director in 1871, they offered him a five-year contract with a fixed annual salary of 16,000 DKK and a commission on profits. It is reasonable to assume that Tietgen received at least that much.²² In 1867, Tietgen had been appointed CEO (there had previously been two managers of equal rank), which presented an obvious opportunity to adjust his salary, and he was held in high esteem during this period. On the other hand, it is doubtful that Tietgen's remuneration was considerably higher than the amount offered to Glückstadt. Glückstadt had been "headhunted" from a Norwegian bank, and the founders were very determined to persuade him to become manager of the new Landmandsbanken. Also, Julius Schovelin mentions an episode in April 1872, when the Privatbanken board of directors granted Tietgen 8,000 DKK as a raise for his outstanding services to the bank.²³ The bank underwent a period of exceptionally good earnings around 1870; as Tietgen received this raise shortly after the rival bank had hired Glückstadt, it is natural to link the two events. Thus, we could consider Tietgen's raise as an attempt to eliminate any doubt about who was the top earning managing director in Copenhagen. Based on this sparse evidence, a conservative estimate of Tietgen's fixed income as managing director in the early 1870s would be about 20,000 DKK, to which we must add his commissions on profits. As a result of Privatbanken's severe economic problems in the mid-1870s, the remuneration barely increased over the next decade.

Tietgen's second source of income was the returns on his shares in various companies. Here we have more data, though they are far from perfect. Niels-

²¹ Lange, *C. F. Tietgen*.

²² Julius Schovelin, *Den Danske Landmandsbank, Hypotek- og Vekselbank, 1871-1921* [The Danish Farmers' Bank, Mortgage and Exchange Bank of Copenhagen, 1871-1921] (Copenhagen, 1921), 204.

²³ Schovelin, *Privatbanken i Kjøbenhavn 1857-1907*, 81.

Henrik Topp's study of the Danish cryolite industry indicates that Tietgen's average annual return from the mining company was 31,000 DKK from 1865 to 1901.²⁴ Furthermore, as managing director, he was obliged to own at least 20,000 DKK in shares in Privatbanken, and the return on even the minimum amount would add another 1,000-2,000 DKK to his annual income. The extent of his other investments is unknown.

By 1874, however, Tietgen received compensation as chair of the board in eight or nine major Danish public companies. Those positions also required being a shareholder. Although we have no records of his holdings in the individual companies, the nominal value of a single share in many cases was 2,000 DKK; in one case, 20,000 DKK.²⁵ If one assumes that he owned an average of 10-15,000 DKK in shares in each company, his total return would be close to 10,000 DKK annually (which includes the returns on his shares in Privatbanken).

Tietgen's actual accumulation of wealth prior to the early 1870s was even greater, as he deposited a considerable stock of securities in Privatbanken to protect the bank against losses from one of its large customers, ruined by speculation in telegraph shares prior to the introduction of the new Great Northern Telegraph Company in 1872. It is unusual, to say the least, that a bank CEO would guarantee that his bank would cover amounts lost on a customer.²⁶

In Denmark, there is a close link between Tietgen's name and the founding of a number of important Danish public companies. It is common for there to be no distinction made between Tietgen and Privatbanken, but it is important to note that he participated in most of these activities as a private person, not as a bank representative. Consequently, the outcome—positive or negative—belonged to Tietgen, not to the bank. Our intention is not to provide an account of the individual companies, but only to point out that the commission Tietgen earned as an underwriter when the shares were issued is reflected in large fluctuations in his taxable income. Founding new public companies or turning existing, privately owned firms into public companies was intense, especially in the early 1870s, and amounted to a total invested capital of more than 30 million DKK.²⁷ Tietgen and a group of

²⁴ Topp, *Kryolitindustriens historie*, 364-67, 409 and 443.

²⁵ Theodor Green, *Danske Fonds og Aktier* [Danish Securities and Shares] (Copenhagen, 1883); Cohn, *Privatbanken i Kjøbenhavn*, 171-211.

²⁶ Lange, *C. F. Tietgen*, 305-6, estimates that Tietgen deposited securities amounting to 2.6 million DKK in January 1874. This amount is astonishing, as it vastly exceeds Tietgen's total accumulated income recorded from 1862 to 1873. Tietgen likely earned capital gains from his investments, which were not part of his taxable income; even in this case, however, the growth in his assets is remarkably high. A specification of Tietgen's assets and liabilities would presumably show that his net worth was far less in 1874.

²⁷ Lange, *C. F. Tietgen*, 301.

associates invested an equivalent amount in the international telegraph companies, which they established between 1868 and 1872.

From 1868 on, Tietgen was instrumental in obtaining concessions to operate submarine telegraph cables connecting Denmark, Norway, England, and Russia. The Nordic activities were merged in 1869, and the Great Northern Telegraph Company went public on the Copenhagen and London stock exchanges with a share capital equal to £400,000, or 7.2 million DKK. The same year, Tietgen and his associates received a concession on the submarine cables among Russia, Japan, and China, and founded a separate company with a share capital equal to £600,000 (7.2 million DKK). The cables linked the Far East to the Nordic network using the Russian telegraph lines. This turned out to be an extremely expensive adventure. In 1872, the two companies merged, increasing the share capital of the new Great Northern Telegraph Company from £1 million to £1.5 million (27 million DKK).²⁸

Tietgen's income from participating in the founding of new enterprises, merging old firms, and preparing them to go public is unknown; however, it must account for the sharp increases in his taxable income in years such as 1867, 1869, 1872, 1880, and 1882. It is impossible to evaluate the effect of these activities on the Privatbanken earnings. Though the bank did not normally participate directly in the founding of companies, it did provide a number of standard bank services, both when the companies were first established and once they were in operation.

In one case, the bank became more involved than anticipated. Tietgen's announcement of a merger of the two telegraph companies in early 1872 provoked intense speculation on the Copenhagen and London stock exchanges. In September 1872, it became clear to Tietgen that a trading company with connections to Privatbanken had acquired 20 percent of the shares in the company based on short-term lending. The speculation had failed, and the company was nearing bankruptcy. Faced with the prospect of a massive supply of shares at a time when the share price of Great Northern was already declining, Tietgen allowed Privatbanken to assume control of the trading company and to guarantee the creditors against losses. It is still much debated whether Tietgen was directly involved in the trading company's speculation, but it is undisputed that Tietgen did not serve Privatbanken well by allowing the bank to become so deeply involved. From 1872 to 1878, the Great Northern share price decreased substantially, dramatically reducing the value of Privatbanken's stock portfolio. There are two reasons for drawing attention to this incident. First, it relates closely to corporate governance problems. Second, Privatbanken's fragile position reduced its capacity to

²⁸ *The Great Northern Telegraph Company: An Outline of the Company's History, 1869-1969* (Copenhagen, 1969); Ole Lange, *Finansmaend, Straamaend og Mandariner: C. F. Tietgen, Privatbanken og Store Nordiske: Etablering, 1868-76* [Financiers, Puppets and Mandarins: C. F. Tietgen, Privatbanken, and the Great Northern Telegraph Company: The Establishment, 1868-76] (Copenhagen, 1978).

meet the competition from the two new major banks in Copenhagen in the 1870s.

Privatbanken had overcome its crisis by the 1880s, and Tietgen had resumed his private activities as founder of new companies, primarily within agribusiness. In 1896, Tietgen had a stroke and retired, having served Privatbanken as managing director for forty years. At the time of his death in 1901, the estimate of his net assets was a mere 500,000 DKK. This is surprisingly modest, even considering that he had paid for the building of a large church in Copenhagen. As he was childless, there is no reason to think that he transferred money to heirs while alive. One would have expected that a lifetime of high earnings as managing director, stockholder, and chair of several boards of directors combined with a modest lifestyle would have ultimately resulted in greater net worth. The size of his estate demonstrates that, though Tietgen contributed to the development of a number of successful Danish enterprises, his speculative activities also led to a number of failures with considerable losses, both to himself and to his associates.

Corporate Governance Structure in Privatbanken

About seventy-five years ago, Adolf Berle and Gardiner C. Means wrote the classic *The Modern Corporation and Private Property*, in which they argued that because shareholders did not control companies, companies were not run in the interest of shareholders.²⁹ Economists have discussed possible ways to run public companies in the interests of shareholders. Different methods—not necessarily exclusive—have been suggested.

Incentive pay to management

Some have argued that the solution is to give employees, especially CEOs and other members of management, the right incentives. For many years, the granting of stock options, typically at-the-money-options, has been the preferred solution. Equity funds have a preference for models in which management uses a large amount of “their own” money to buy stocks, normally at very advantageous prices, to ensure that they are “in the same boat” as stockholders and thus have strong incentives to look after stockholders’ interests. The problem with options is that if stock prices fall below a certain level, management has limited incentives to be efficient and may even be tempted to leave the company, thereby aggravating the situation.

Incentive pay to members of the board of directors

Managers of equity funds believe in strong incentives to management as well as external members of the board of directors.

²⁹ Adolf Berle and Gardiner C. Means, *The Modern Corporation and Private Property* (New York, 1932).

Debt as a control device

Another school of thought has concentrated on organizing firms to force management to be efficient by having low equity and large debt. In his classic article about “free cash flow,” Michael Jensen argues that managers have incentives to cause their companies to grow beyond the optimal size. He points out that:

Conflicts of interest between shareholders and managers over payout policies are especially severe when the organization generates substantial free cash flow. The problem is how to motivate managers to disgorge the cash rather than investing it at below the cost of capital or wasting it on organization inefficiencies.³⁰

Jensen’s solution is high leverage, because debt forces managers to pay out cash flows to service the debt. The problem, as Jensen also points out, is that increased leverage comes at a price.

Good bylaws

Many economists have concentrated on the legal system and bylaws, but they disagree on the construction of the optimal system. One model is a single-tier system with a board of directors including both internal and external directors, often with the CEO as chair of the board (the U.S. model). Another model is the European two-tier system, where the board of directors is external to the company and the board hires and fires the CEO, thus giving management less power, at least formally. Closely linked problems are how easy it should be for shareholders to oust the board of directors, and whether the voting system should be “one share, one vote” or another system.

Market for corporate control

Some economists have placed their faith in an efficient market for “corporate control”: if managers are unable or unwilling to run a public company efficiently, another company, an equity fund, or a wealthy individual will take it over, buy a controlling interest, and change management.

It is natural to analyze the extent to which investors were aware of these problems in the infancy of public limited companies, and how they attempted to solve them. In the past, public limited companies had been so small that large shareholders knew one another, and shareholder control was undoubtedly considerable. Thus, Privatbanken is probably the first large Danish public company in which the risk of limited shareholder control became a problem.

It appears that, in many ways, Privatbanken’s management chose the company bylaws to solve these corporate governance problems in more or less the same manner as companies do today. It is difficult to see that we have come much further since then. The company adopted the first bylaws in 1857,

³⁰ Michael C. Jensen, “Agency Costs of Free Cash Flows, Corporate Finance and Takeovers,” *American Economic Review* 76 (May 1986): 323-29.

but later changed them at the annual shareholders meeting in 1860. We focus on the 1860 bylaws (see Table 2 for some central paragraphs).

TABLE 2
Excerpts from the Privatbanken Bylaws, 1860

§ 32. Every member of the management group must own shares to a nominal value of 20,000 DKK.

§44. Of the annual surplus, the shareholders first receive up to 4% of the nominal value of their shares. Of the surplus after this, 10% is to be added to the reserve fund, 10% paid to the board of external directors, and 10% divided between the management group and other company employees, as decided by the board of external directors. The remaining 70% is to be paid out to shareholders as dividends.

§45. The reserve fund consists of money added to the reserve fund according to §44 and income from other sources. Decisions can be made at the shareholders meeting to use the reserve fund to cover losses and thus pay out a more stable dividend. When the reserve fund has grown to 1/6 of the nominal share capital, the reserve fund is to grow no further, and the 10% that would otherwise be added to the reserve fund is paid out to share holders as a dividend.

§46. When the bank has not paid out any dividend for 3 years or when 25% of the nominal share capital is lost in the annual status, the board of directors must ask at the shareholders meeting if the bank should be dissolved.

§47. A decision to dissolve the bank, whether taken according to §46 or under other circumstances, is only valid if at least one-third of the share capital is represented at the shareholders meeting and if a three-quarter majority of the votes cast are in favor of dissolving the bank.

Note: This is not an exact translation; the language has changed somewhat since 1860. Our translation preserves the meaning of the paragraphs.

The statement in paragraph 32 requiring each member of the management group to invest an amount equal to about 2.5 years' salary in the shares of the company meant that only reasonably wealthy people could be members of the management group.³¹ In addition to providing incentives to management, as well as to attract people who believed in the project, this requirement was probably aimed at diminishing the incentive to embezzle due to a lack of funds, as it might be more tempting simply to change jobs in order to free the capital bound in shares.³² This is the policy of modern equity funds.

³¹ C. F. Tietgen and N. U. Fugl were the two original managing directors; the annual salary for the management group members was fixed at 8,000 DKK in 1857.

³² Cashiers also had to make considerable deposits in the bank, which also diminished the risk of embezzlement.

There are several interesting aspects to paragraphs 44-47.³³ The basic principle is to pay out the entire company surplus to the shareholders as dividends. Management cannot keep the surplus in the company and use it to expand. If management wants to expand the business, they must go to the shareholders and convince them that a new share issue is a good idea. This system minimizes the “free cash flow” problem.

In addition, both management and the board of directors receive large incentive fees. The more important the board of directors, the more reason for an incentive fee structure for them. In Privatbanken, the incentive fee for the board of directors was as large as the combined incentive fee for all of the employees, including management, which clearly indicates the importance the board of directors was supposed to have for the company’s success.

We see this tendency in many equity funds today, where management expects external directors to play a larger role than in “traditional” companies, and where the company pays both fixed fees and “incentive fees” to the board of directors. Indeed, a system with a “success fee” paid only when the shareholders have received a minimum return on their capital is very modern and similar to the practice in contemporary equity funds. Especially in the United States, options have been the most important incentive scheme in public companies, typically in the form of “at-the-money” options. This makes it possible for option holders to receive a success fee, even if shareholders have received a return on their equity that is lower than the return on government bonds. In contrast, equity funds normally choose a system in which employees, management, and the board members receive a success fee only if shareholders have received a certain minimum return on their investment. Paragraph 46 states that if the company does not pay dividends for three years in a row, the board of directors must ask the stockholders at the annual stockholders meeting if they should dissolve the company. This strengthens the shareholders’ role and reduces the possibility that a company can continue for years without making a profit.

Another interesting feature is the rule regarding reserve funds. Of the surplus for the year, management first allocates the shareholders a sum equal to 4 percent of their paid-in capital. Of the remaining surplus, they add 10 percent to the reserve fund. This continues until the reserve fund is one-sixth of the paid-in capital. This system enables management to take greater risks when the company has had prosperous years with large profits. They can use the reserve fund to pay out dividends in years with deficits. Managing directors will therefore tend to be risk averse until they “have shown their worth” by providing large returns for some years. Given that neither management nor shareholders have good knowledge about the viability of a newly started company, such a system with large risk aversion until shareholders and management are more familiar with the management is

³³ This somewhat cryptic paragraph meant that if selling shares at prices above par at a later stage raised the share capital, the difference between share price and par value was added to the reserve fund.

probably a good idea. In this connection, one is tempted to mention hedge funds in which managers and dealers have made extremely risky bets and lost all of the hedge fund assets.

As long as there was money in the reserve fund, the company had to pay a 4 percent dividend to shareholders, even if the company operated with losses. The total equity under the control of management would therefore fall if the annual surpluses fell below 4 percent of the paid-in capital.

The two other large banks established in the 1870s (Landmandsbanken and Handelsbanken) had similar bylaws, but with a few significant differences. The rules pertaining to the dividend policy were similar in that the banks paid surpluses principally to shareholders.³⁴ The Handelsbank bylaws, however, forbid managing directors either to have other employment or to engage in business ventures on their own account; we can consider both of these limits as implicit criticism of Tietgen.

It is easy to see arguments for and against allowing the CEO to serve on other boards. Such participation could produce more business for the bank and could enable the bank to judge the creditworthiness of a company and to be more certain that the company took due care of the interests of its creditors. However, the manager would have less time to spend attending to the interests of the bank. Of even greater importance are the “arm’s length” considerations. It is easy to critique the double role played by the CEO and other creditors. In addition, it is difficult to cut credit to an ailing company when the bank might be drawn into rescue operations.

The Handelsbank model won out in Denmark; the law forbids managing directors in banks to be board members in other companies. This hardly proves that it was the best model, however. In other countries (for example, Germany), it is normal for managing directors of banks to be board members in other companies.

The Handelsbank bylaws also stated that members of the board of directors were not to be paid for their work by either a fixed fee or an incentive fee (§19). This may surprise some; however, the system is not as strange as it sounds (although the bank had to abandon the principle some years later). The system effectively prevents board members from granting themselves large salaries, exploiting the fact that shareholders seldom have much control in large companies. A logical consequence of this system is that wealthy people with large sums invested in the shares of the company would be particularly interested in becoming board members. In fact, one can find a somewhat similar philosophy in England in the nineteenth century pertaining to high posts in both the army and the administration (and in the United States in the twenty-first century). Those holding such positions were often so poorly paid that they needed to have personal fortunes to accept the posts. An argument for this system was that it would ensure that power was in the

³⁴ *Statuter for Kjøbenhavns Handelsbank* [The Bylaws of the Commercial Bank of Copenhagen] (Copenhagen, 1872); Cohn, *Privatbanken i Kjøbenhavn*, 237-43; Svendsen and Hansen, *Dansk pengehistorie*, 268-73.

hands of those with an interest in the “status quo.” This principle of unpaid board members was unsustainable and changed in 1898.

With respect to corporate governance in the first large Danish banks, we note that the bylaws reflect considerable interest in the topic, and the banks found somewhat different solutions to governance. What is the optimal system of corporate governance? It is impossible to say, and analysis of how a bank fared afterward provides only anecdotal evidence.³⁵ Nevertheless, it may be interesting to consider the results for the shareholders. In Denmark, however, interest has been greatest in two areas of little relevance for shareholders: Tietgen’s role as “midwife” for large Danish mergers, and the relative sizes of the other banks. Shareholders are not interested in size; they are interested in a policy that maximizes the value of their shares. Shareholders may prefer a small and very profitable bank to a large bank with mediocre profits.

The Real Returns of Privatbanken and Its Main Competitors

Shareholders in a bank are also not interested in the prestige of a bank or in whether the bank has a major positive influence on the industrialization of the country. They want to maximize their wealth, and they choose corporate governance systems in order to achieve that goal. For shareholders in Privatbanken, it was a matter of complete indifference whether or not Tietgen helped Danish industry to merge with larger companies. Shareholders were interested in these activities only if they resulted in larger profits for Privatbanken.

The fundamental question is whether Tietgen was a good CEO for the Privatbanken shareholders. The answer seems to be that he was probably only average. The results were superficially satisfying in the first fifteen years of his regime, which was a favorable period for all kinds of businesses in Denmark. After correcting for the good times, the results are hardly impressive. After 1871, when competition in Copenhagen increased, shareholders realized average or slightly below average results.

Market prices are used to compute returns to stockholders, which come in two forms: dividends from stocks and changes in stock prices. When computing the return to stockholders over many years, one can compute the average arithmetic return or the average geometric return. When calculating the geometric return on shares paying dividends, we assume reinvestment of all dividends in the company through buying new shares.³⁶ The company paid

³⁵ We will not discuss the strategic planning of the board of directors. However, it is important to remember that Privatbanken chose to be a Copenhagen bank, whereas the other two large banks opened branches throughout Denmark; the former policy helped to concentrate even more power in the hands of the CEO.

³⁶ It is not possible to compute shareholder returns beginning with the creation of the bank in 1857 because of the lack of data regarding share prices. In theory, the returns should also take into account whether shareholders had an extra profit in connection with new issues at sub-market prices for existing shareholders.

dividends at the end of the year; consequently, we calculate the relative return for each year as:

$$r_{\text{year } t} = \frac{\text{Dividend}_{\text{year } t} + \text{Share Price}_{\text{primo year } t+1}}{\text{Share Price}_{\text{primo year } t}}$$

We then calculate geometric returns over a period of n years as:

$$r_{1..n} = \sqrt[n]{(1 + r_1) + (1 + r_2) + \dots + (1 + r_n)} - 1$$

See Table 3 for the average returns from investments in the three large commercial banks and in Nationalbanken during different periods. In the first, from 1860 to 1874, Privatbanken had little or no competition from the two other large banks, whereas from 1875 to 1889 and 1890 to 1904, there were three large banks in addition to the Central Bank. During the period from 1860 to 1874, Privatbanken provided an average return (geometric average) of 7.4 percent, while the Central Bank gave 6 percent and government consols gave 4.1 percent. However, the risk (as measured by the standard deviation of returns) was more than twice as high for Privatbanken as it was for the Central Bank.

Table 3 displays only nominal returns; however, we can get an indication of the development in real returns by a comparison with the consumer price index (CPI). Real returns are, on average, slightly lower and somewhat more stable than shown in Table 3. During the period from 1860 to 1874, there was an average annual inflation of roughly 1.4 percent, while 1875-1889 was a period of deflation, with prices falling on average 1.3 percent annually. As measured in real terms, the period from 1875 to 1889 looks somewhat better. In the last period, prices were almost constant.

Overall, the results indicate that investing in Privatbanken was an average investment during the time Tietgen ran the bank. There was a reasonably good period during the first fifteen years without competition; there was a rather poor period with underperformance in the next fifteen years; and after that, the results are similar. Correcting for the fact that Privatbanken shares were riskier than shares in other companies, the shares appear even less attractive. Based on the returns to shareholders, Tietgen's reputation as a "great" banker is obviously somewhat exaggerated.

Privatbanken issued new shares only three times during the period from 1860 to 1904, at share prices close to the market prices at the time of issue.

TABLE 3
Average Percentage Returns (and Standard Deviations) on Danish Bank Shares and Consols, 1860-1904

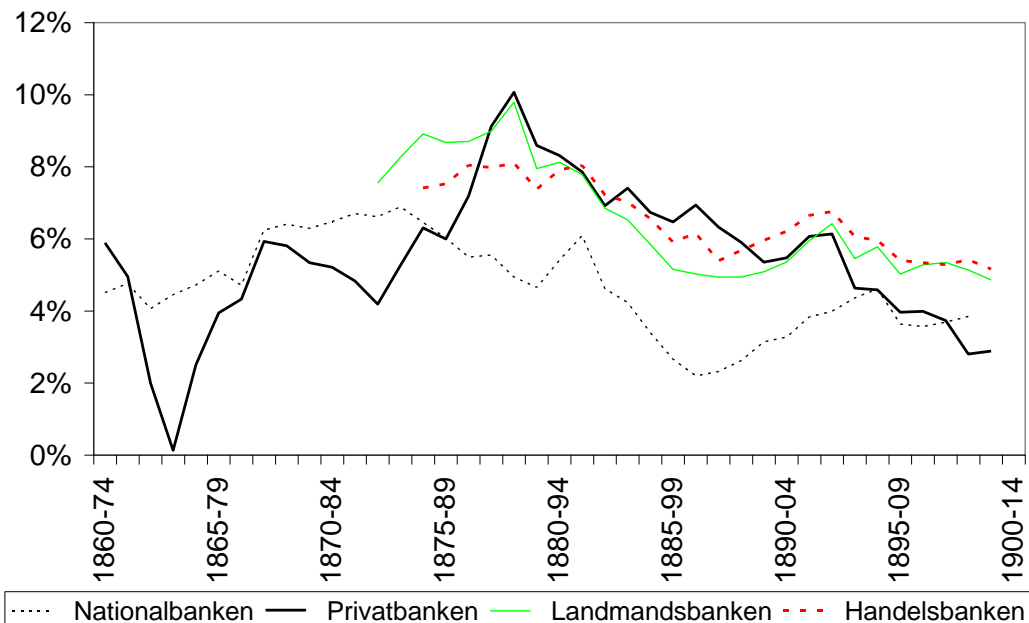
	Nationalbanken		Privatbanken		Landmandsbanken		Handelsbanken		Government Bonds (Consols)		PIC	
1860-74	6.0	(2.7)	7.4	(7.8)	Not Applicable		Not Applicable		4.1	(3.3)	1.4	(5.5)
1875-89	4.8	(2.7)	4.8	(16.1)	7.5	(11.4)	6.3	(7.2)	4.8	(1.8)	-1.3	(5.0)
1890-04	3.5	(4.0)	5.7	(4.5)	5.6	(4.5)	6.4	(3.2)	3.6	(3.5)	0.1	(2.7)
1875-04	4.2	(3.4)	5.2	(11.6)	6.5	(8.6)	6.4	(5.5)	4.2	(2.8)	-0.6	(4.0)

Source: Author calculations based on the sources for Figures 1 and 2.

Notes: During the period 1875-1889, Privatbanken provided an average return of 4.8 percent, equal to the return of government consols and considerably less than the shares in the competing large banks. At the same time, shares in Privatbanken were riskier than shares in the other banks. The results reflect the large losses in the last half of the 1870s. In the period 1890-1904, shares in Privatbanken more or less provided the same return as shares in the other banks, and the respective risks were now more or less the same. However, Tietgen de facto stopped serving as Privatbanken CEO in 1896.

We have examined an investor who bought bank shares at the beginning of our three 15-year periods. Obviously, there were shareholders who bought and sold every year. In Figure 3, we consider the results for shareholders who bought bank shares and kept them for fifteen years, depending on when they bought their shares, adjusting the returns for inflation (real returns).

FIGURE 3
Percentage Real Return with a 15-Year Holding Period



Source: Authors' calculations based on the sources for Figures 1 and 2.

During the period from 1860 to 1871, where there are only two large banks to invest in, Privatbanken performs better than the Central bank only for a few years in the beginning, when we look at an investor with a fifteen-year horizon. For investors investing in bank shares in the first half of the 1860s, Privatbanken was obviously a relatively poor investment, as they would sell the shares after fifteen years in the late 1870s, when the share prices were low. However, the picture varies quite a bit. For those who were fortunate enough to buy after shares in Privatbanken had fallen drastically, investment in Privatbanken was a relatively good investment. The data in Figure 3 underscore the sensitivity of results according to the choice of years and periods.

Conclusion

Founded 151 years ago, Privatbanken was the first major Danish commercial bank. The bank is interesting in banking history, partly because of its powerful managing director and “hero” in Danish banking history, C. F. Tietgen, and partly because of the company bylaws. They seem to have been

chosen to solve the same corporate governance problems we struggle with today.

As for Tietgen, his reputation seems overblown, both in considering his standing in his day and in examining the most recent research about him. He appears to have been an aggressive speculator rather than a superior banker, and his willingness to run risks could easily have ruined the bank. His luck and the fact that Privatbanken was the only large bank for fourteen years helped him, but he was unable to convert this into a long-term advantage. The three large Danish banks that began operations during the 1870s had similar results, the only difference being that Privatbanken had run greater risks to obtain the same results as the more risk-adverse banks.

The Privatbanken bylaws are interesting, as they seem extremely “modern” in many ways. Privatbanken had a two-tier system, with a board of directors chosen by the shareholders, and the board hired and fired the CEO. The Privatbanken bylaws included a number of notable features: the board of directors had a large incentive fee; the CEO had to buy shares for an amount equal to two years’ salary; management and board received an incentive fee only when the stockholders had received a certain minimum return on their equity, more or less equal to the market rate of interest; the bylaws forced the company to pay out the year’s result to stockholders as a dividend, thereby minimizing “free cash flow” problems; and if the company had a long period with no surpluses, the board of directors had to ask shareholders whether to close the company. Internationally, the same tendencies appear in the early twenty-first century. Overall, the Privatbanken bylaws have close parallels to equity funds in particular, with the weight on securing the money paid out, on strong incentives, and a system in which a complete failure will seriously hurt management, because they have had to invest their own money.

We can conclude that our ancestors were rather smart. They fought exactly the same corporate governance problems we do in the twenty-first century, and it is difficult to argue that we have become any smarter. Another conclusion is that “the judgment of history” is probably not very precise. Tietgen is the only banker in Denmark who has received much study, and, although there has been some critique of his methods, he has retained his reputation as a great banker. It would seem somewhat more appropriate to say that he was a lucky gambler, and that the Privatbanken bylaws may have saved him from doing worse.