

Can Moral Hazard Be Avoided?

The Banque de France and the Crisis of 1889

Abstract

Although the Banque de France was the peer of the Bank of England in the nineteenth century, there are few detailed studies of its crisis management to match those for the Bank of England. We examine how the Banque responded to the Panic of 1889, when the Comptoir d'Escompte's insolvency nearly induced a system-wide crisis. This episode was not a Bagehot-style lender of last resort operation but a carefully structured bailout and cleanup operation. Our analysis of the Banque's records and other contemporary materials and data shows that the Banque's efforts look much more like those of a late twentieth century central bank, coping insider conflicts and bailout decisions while minimizing moral hazard

Pierre-Cyrille Hautcoeur
Paris School of Economics
Angelo Riva
European Business School, Paris
and
Eugene N. White
Rutgers University and NBER

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“Men of business, at least in France, are not infallible.”

---E. Benjamin Andrews, Quarterly Journal of Economics (1889).¹

In this paper, we recover the history of the panic of 1889, when the Banque de France quickly intervened, ensuring that a run on leading banks did not turn into a general panic. Yet, it was not a Bagehot-style lender of last resort operation, but a divisive and contested intervention, resembling more a modern “lifeboat” or “bailout” operation, such as the rescues of Long Term Capital Management in 1998 or Baer Stearns in 2008.² A wealth of documents and data has survived for the crisis of 1889, which we use to reconstruct the emergence of the crisis and Banque’s response. Such modern interventions have led critics to complain that central banks that deviate from Bagehot’s rules create moral hazard that leads to greater losses in subsequent crises.³ But, in 1889, the risk of moral hazard was mitigated by the purge of officials at the banks and the Banque de France whose conflicts of interests had permitted the crisis to develop and by the enforcement of severe penalties for those who failed in their duties as managers or board members.

The Crisis of 1889 had its origins in the efforts of Pierre-Eugène Secrétan, head of the Société industrielle et commerciale des métaux (SM) to engineer a monopoly of the worldwide supply copper and drive up its price. His acquisitions of existing copper stocks and purchases of contracts for future delivery from mines around the globe were widely known and discussed in the press, even though the details of his machinations remained obscure and the subject of rumors. In essence, the SM was a highly leveraged commodities company that used off-balance sheet derivatives to speculate in copper.⁴ If support for Secrétan’s scheme had remained within a circle of metals companies, wealthy investors and private investment banks, there would have been large losses, but it is unlikely there would have been a banking crisis. However, from the start, Secrétan drew upon the support of several of the most important limited liability commercial banks.

Normally, commercial banks would not have funded commodities speculation on a grand scale, as their obligation to depositors mandated a lower tolerance for risk; but the overlapping management relationships between the SM, private banks, commercial

¹ Andrews felt the French were simply incapable of building a successful trust like the contemporary Americans: “It should have been certain beforehand that the copper ‘combine,’ so rickety, with no power, as genuine trusts have, to limit production, could not permanently continue prices thus excessively above the normal level. Stronger organization, less greed, or death---these were the alternatives. There is no evidence that M. Secrétan and his confidants canvassed the possibilities of copper production with any care.” E. Benjamin Andrews, “The Late Copper Syndicate,” *Quarterly Journal of Economics* III:4 (1889), p. 513.

² Roger Lowenstein, *When Genius Failed: The Rise and Fall of Long-Term Management* (New York: Random House, 2000) and William D. Cohan, *House of Cards: A Tale of Hubris and Wretched Excess on Wall Street* (New York: Doubleday, 2009).

³ See for example, General Accounting Office, “Responses to Questions Concerning Long-Term Capital Management and Related Events,” Doc. B-284348, (February 23, 2000) and Vincent R. Reinhart, “A Year of Living Dangerously: The Management of the Financial Crisis of 2008,” *Journal of Economic Perspectives* 25:1 (Winter 2011), pp. 71-90.

⁴ By the time of its failure in 1889, the SM had a capital of 50 million francs and debts of 300 million, with forward contracts for 96,600 tons of copper, which if valued at £70 a ton, represented obligations of 169 million francs.

banks, and the Banque de France created conflicts of interest. The opportunity to profit from the copper scheme induced some of the conflicted parties to take advantage of the information asymmetries vis-à-vis their boards, shareholders and the public and bring the resources of their institutions to Secrétan's assistance. Most notably, the Comptoir d'escompte (CE) provided substantial on-balance sheet credits for warehoused copper and vast off-balance sheet guarantees for the SM's forward contracts that put not only its capital but also its deposits at risk. Among the knowledgeable insiders to the scheme were some regents and *censeurs* (auditors) at the Banque de France. Their silence ensured that the central bank, which had discounted copper warrants, was unworried about threats to the solvency of the Comptoir that might induce a run or even a panic.

When the price of copper began to tumble, the SM and the CE hastily scrambled for more funding to prop up prices, revealing the weakness of the scheme and causing the CE to experience rising withdrawals of deposits. After the director-general of the CE, Eugène Denfert-Rochereau was compelled to answer detailed questions in an extensive interview with the Governor of the Banque de France, the true insolvent condition of the CE was revealed. Denfert-Rochereau, who had struggled to conceal his bank's involvement, committed suicide, the news of which amplified the run on the bank. The Minister of Finance, regents of the Banque and others feared that contagion would produce a banking panic, roiling financial markets and endangering a weak economic recovery.

Pressured by the Minister of Finance who feared the political fallout of a banking panic on the eve of the opening of the 1889 Paris Exposition, the Banque de France stepped into the breach. But, it did not follow Bagehot's advice on how to halt a panic: lend only at a high rate of interest and only on high quality collateral to produce enough liquidity to calm the panic. He specified that "No advances indeed be made by which the Bank will ultimately lose."⁵ Bagehot's remedy was predicated on the assumption that panics were generated by a contagion arising from an initial run on one or more banks. Contemporary studies consider contagion occurring either because of random shocks (Diamond and Dybvig, 1983) or negative information about the value of bank assets, where the public cannot perfectly discriminate between solvent and insolvent banks (Gorton, 1985; Jacklin and Battacharya, 1988; and Gorton and Winton, 2002).

However, some have argued that the failure of insolvent banks will not necessarily generate a panic because the public can discriminate between the solvent and insolvent. Looking at the canonical case of the Great Depression panics, Friedman and Schwartz (1963) see a generalized contagion that a large-scale creation of liquidity could have cured. However, more recent studies (Calomiris and Mason, 1997; Calomiris and Wilson, 1998; and Calomiris and Mason, 2001) challenge this view and find that banking distress in the depression was an informed market response to observable weaknesses in individual banks. At worst, the Chicago banking panic of 1932 was "a temporary unwarranted contraction of deposits,"⁶ with the implication that a general increase in liquidity would be an inappropriate policy response.

⁵ Walter Bagehot, *Lombard Street: A Description of the Money Market* (Scribner, Armstrong & Co., 1873; Homewood, Illinois, Richard D. Irwin 1962), p.97

⁶ Charles W. Calomiris and Joseph R. Mason, "Causes of U.S. Bank Distress During the Depression," *Federal Reserve Bank of Chicago Review* (May 2001), p. 9.

While we know *ex post* that the risk of insolvency was limited to the CE, was there a contagion brewing that would have warranted a massive increase in liquidity in 1889? Data on stocks prices and daily bank balance sheets show that the banking public was discerning and not “panicked.” The only runs hit the CE and the Banque de Paris et Pays-Bas (Paribas), which had been involved to a lesser degree in Secrétan’s scheme. Although the Minister of Finance and the Banque could not have been certain that if these runs were allowed to continue, there might be contagion, this evidence implies that that there was no need to turn on the liquidity spigot for all institutions. And, indeed the Banque of France did not follow Bagehot’s advice.

However, Bagehot would certainly have not approved of the rescue that the Banque devised for the CE. To reassure the depositors of CE, the Banque provided 140 million francs of cash collateralized by all the assets of the bank. The run at the CE was then halted. Not only was this solution not in accord with Bagehot’s precepts, but credit without guaranteeing signatures and uncertain of the quality of the assets was also not permitted by the statutes of the Banque; and a minority of the Regents vigorously opposed the action. The Banque took the precaution of forming a syndicate of the board of directors of the CE, commercial banks, and private banks to provide a pool of 20 million francs to absorb any losses.

The Banque de France then “reformed” the financial system, not by imposing new regulations limiting-risk taking but enforcing the departure of its conflicted *censeurs* and ensuring that board of directors of the CE and other individuals involved in the copper scheme were compelled to pay for the losses, leading to substantial payments. Other financial institutions took similar actions to force the resignation of compromised managers. In addition, the shareholders of the CE took a big hit when its share price collapsed, though they felt they had been misled by the Board. Rather than close the CE, it was re-opened and recapitalized as the Comptoir national d’escompte (CNE), with the shareholders having an option to buy shares in this new institution. The banks’ depositors and shareholders took the deal, and the new Comptoir prospered. If success is measured by the absence of future crises, then the Banque de France succeeded, as there was only one minor bank failure and no runs until World War I.

Banking in a Stagnant Economy

After the Crash of 1882, the French economy entered a long period of relative stagnation. The failure of the bank Union Générale precipitated a stock market crash, and prices of the Paris Bourse did not return to the pre-crash peak until 1896 (Arbulu, 1998). But the malaise was widespread and after peaking in 1882, real GDP declined and remained 2 to 3% below the peak for the next six years (Lévy-Leboyer and Bourguignon, 1990). As the economy was in the doldrums, French banks saw their profits squeezed and their dividends decline

In the 1880s, the French banking industry was split into two basic groups: (1) the large limited liability banks known as ‘deposit banks’ that raised substantial funds from deposits and engaged in a wide range of commercial and investment banking activities. Crédit lyonnais, Société générale, CE, Société de dépôts et de comptes courants, Crédit industriel et commercial dominated this group. (2) the private banks that focused on

merchant and investment banking, financed by capital. The biggest private banks were known as the Haute Banque, the greatest of which was Rothschild frères. One bank that straddled these two groups was the Banque de Paris et des Pays-Bas (Paribas), primarily an investment bank that had limited liability and some deposits. In this period, there was no deposit insurance or implicit guarantees of banks, and rumors of a bank's troubles could cause a run. In 1882, Union Générale had gone bankrupt without government or Banque de France intervention.

The Banque de France had a dual role as a central bank and a private bank; and it was influenced by the Haute Banque who constituted its major shareholders and dominated its governing body the Conseil Général, although the government appointed the Governor and the Deputy Governors. The Banque had a monopoly of note issue and kept a huge gold reserve, earning income primarily by discounting three name paper. Its gold reserves gave it the ability to provide liquidity in times of crisis not only to French banks but even the Bank of England.

Like the Bank of England, the Banque struggled in its dual role as a private bank and a lender of last resort. Its strategy and operations were affected by the need to renew its charter periodically, when the government could exert more influence on its policy and extract more revenue. One consequence of this influence was that the bank kept relatively small reserves against losses, concerned that if they were built up they might be captured and forcibly distributed to its shareholders. Given its large gold reserve, the Banque did not feel obliged to adjust its discount rate as frequently as the Bank of England and, in fact, kept it constant after the Crash of 1882.

The uncertainty and weakness of the banking sector was mirrored in politics. In a world dominated by monarchies, the Third Republic had emerged by default of any viable alternatives. Truly republican leaders had governed only since 1876, and threats by Monarchists and Bonapartists were still present. A succession of financial and political scandals weakened the Republic: the 1882 stock exchange crash and financial crisis, a scandal on the Bourse, and the Panama Canal scandal that forced the liquidation of this major French project in February 1889. Disaffection from these events and the stagnant economy gave a boost to the fortunes of General Georges Ernest Boulanger whom some compared to Bonaparte. Fears of a coup by him peaked in January 1889.

In the midst of this dismal picture, the Republicans saw the Universal Exposition of 1889 – the centenary of the French revolution – as a welcome means to project the economic and political accomplishments of France under the Third Republic on a national and international level. The Exposition planned to open its doors in May 1889 and was financed by the issue of bonds. The very success of this issue was politically important, as was the success of the Exposition. Further scandals or a financial crisis were the last thing that the Republican government wanted in early 1889.

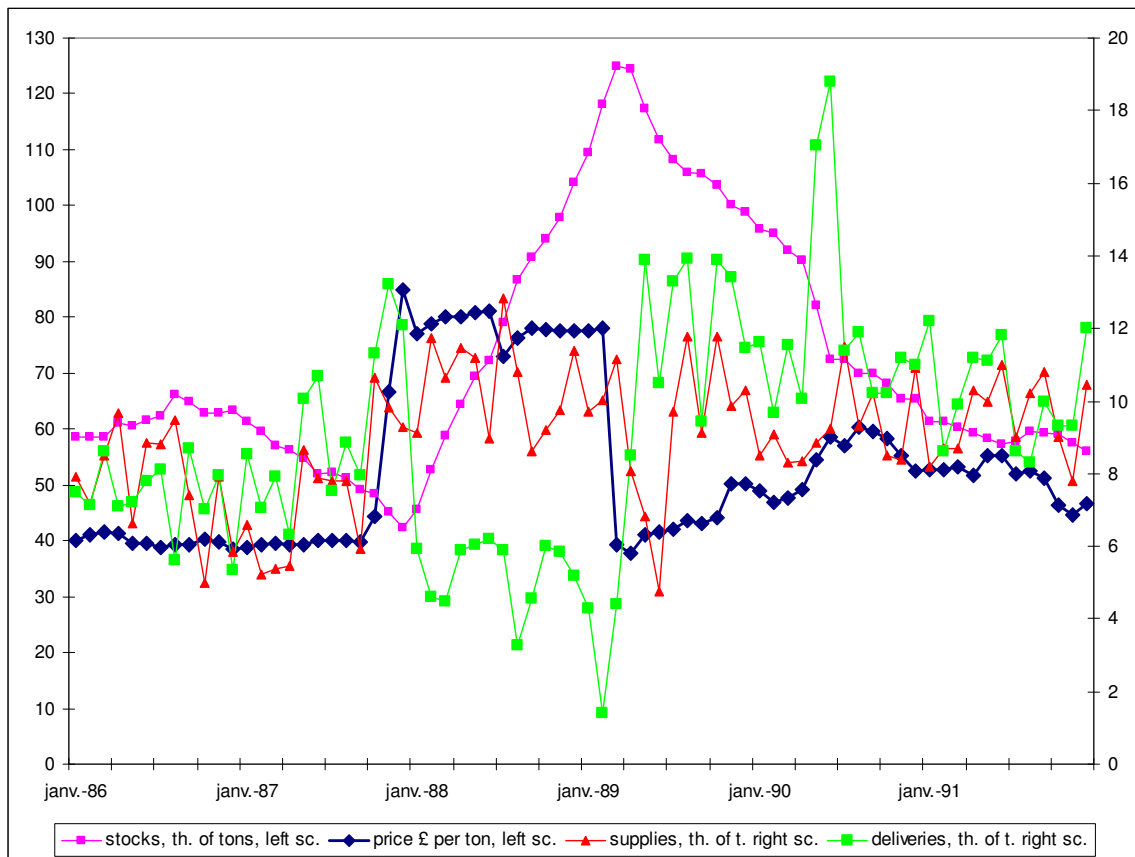
The Copper Temptation

Industrial and agricultural demand for copper expanded rapidly during the 1880s. New uses were found for copper, including cables for long-distance transmission of electricity to copper sulfate to battle the scourge of phylloxera in the vineyards. Worldwide production increased from approximately 20,000 tons per year in the middle of the century to 250,000 tons by 1888. Although Chile and Australia had traditionally

been the dominant suppliers, an increasing share of production was coming from the U.S., where new mines were opened in Montana and Arizona in the 1880s. This increase in production led to a steady fall in prices from over £70 a ton in the early 1870s a low of about £40 a ton in 1886.

Copper production had long been dominated by English firms, but new competitors arose in Russia and the U.S. In France, two medium-size firms owned respectively by the Laveissière brothers and Pierre-Eugène Secrétan were merged in 1881 to form the Société industrielle et commerciale des métaux (SM) in the hopes of conquering the world market. It was a closely held firm, with only 1 million of its 25 millions francs of capital coming from outside investors and the remainder split between the owners of its two constituent companies. In addition, the firm issued 20 million francs of 5% 35 year bonds. By the mid-1880s, it had become the largest copper manufacturer in Europe, consuming about 25,000 tons of copper per year.

Figure 1
Copper Prices, Stocks, Supplies and Demand
1886-1891



Stocks, cours et transports de cuivres, selon "Statistics of copper", par Henry R. Merton & Co, 2, Metal exchange buildings, Leadenhall av. E.C. Archives du Credit Lyonnais
Stocks in England and France and afloat thereto from Chili and Australia. Total supplies and deliveries in England and France.

Taking over the management of the SM, Secrétan became its *directeur* in December, 1887. He was an ambitious inventor and self-promoter, scoring a publicity

coup by providing the copper to cloak the Statute of Liberty. As he was taking control of the SM, he organized a speculative scheme to corner the copper market and drive up prices. It was an opportune moment. World production had declined in 1886 to 217,000 tons (from 227,000 in 1885). As seen in Figure 1, the stock of warehoused copper in England and France had been falling over the past year; robust industrial consumption (deliveries) was exceeding imports and domestic production. Furthermore, production in Chile suffered transportation problems to Europe because of the competition of nitrates for ship space; and copper prices were probably maintained below equilibrium by the action of a U.S. cartel formed in 1878 which dumped copper on the world market at low prices in order to maintain a high domestic price (Przeworski, p. 52).

Based on the archives of Rio Tinto, a leading English copper company, David Avery asserts that “Secrétan began by entering into a secret agreement with the Rio Tinto Company, by which the company agreed to restrict output and Secrétan undertook to buy all of its copper at fixed prices, for a minimum period of three years” (Avery, p. 154). Lists of similar contracts were given in various journals, mentioning in particular the two Cape copper companies, Anaconda and most American mines⁷. If the data summarized in Gilles (p. 32) is correct, these contracts actually amounted to 153,770 tons for 1888, 138,659 in 1889 and 139,650 in 1890, which represented about 60% of world output.

In the fall of 1887, Secrétan organized a syndicate of bankers to provide the finance required to corner the market. This syndicate, whose organization and membership remain mysterious, was mentioned by some newspapers (Le Temps, L’Esprit Pratique) as early as November 1887, which named the most prestigious banks as participating: the CE, Crédit Lyonnais, Paribas and the Rothschilds as well as a number of smaller but reputable members of the Haute banque such as André, Girod & Cie and Lécuyer⁸. The news of this “secret” agreement led to a run on copper by manufacturers, driving up prices from £40 per ton in September 1887 to over £80 by December before the SM actually started buying. As seen in Figure 1, European stocks reached a minimum at the end of December 1887.

This first success enhanced reputation of Secrétan: “Matheson [chairman of Rio Tinto] had known Secrétan since the Rio Tinto Company had been established in 1873 and had a great respect for his abilities. He had no hesitation in joining him” (Avery, 1974, p. 155). High copper prices created high profits. Dividends at Calumet and Hecla were raised from \$1 million to \$2 million from 1887 to 1888, with production rising from 44 to 54 million pounds. (Benedict p. 80). Operating profits at Rio Tinto were 444,000£ in 1879 and peaked in 1888 at £1,076,000 (Avery, 1974, p.151).

Various contemporary accounts report that Secrétan and his supporters bought majority stakes in a number of major mines including Rio Tinto, Tharsis, Mason and Barry, Vigsnaes and Palnucillo (The Economist, January 4, 1888, p. 46 and Statist, May 17, 1890, p. 591, Abrams p. 416, Avery, 1974, p.155). The price of mining shares bubbled, leading one historian to observe: “the dream of Secrétan led to an obsession of Western Europe with copper shares. Twelve new copper ventures were floated on the

⁷ Andrews (1889) says that no permanent agreement with Anaconda was reached, but two 6 months ones covering 1888. Prices promised either a fixed (high) price around 70£ (Rio Tinto, Anaconda) or a lower price supplemented by a participation in profits (most American mines).

⁸ These lists are also given by contemporaries and various historians such as Avery, p. 154; Benedict, p. 106, Andrews, p. 510; Jannet, p. 323s.

London market with a subscribed capital of £1.6 million during these eighteen months.” (Przeworski, 1980, p.53).

During that financial frenzy, the copper market began to slip from Secrétan’s control. Supply to Europe (local mining production plus imports) increased from 79,000 tons for the year ending in September 1887 (before the scheme started) to 125,000 tons for the following year.⁹ Meanwhile, demand (deliveries to manufacturing plants) decreased from 111,000 to 64,000 tons for the same period.¹⁰ Manufacturers used their own stocks and also bought used copper.¹¹ As seen in Figure 1, warehoused stocks then increased rapidly, forcing the SM to increase its purchases in order to maintain prices. For the year 1888, the SM bought 232,000 tons of copper but sold only 87,000, (CE arch. AG 20/4/1889). Secrétan made a handsome profit when he sold, but he sold very little.

Forced to hold most of his copper stock, Secrétan needed credit in order to wait for the increase in demand that would, in his opinion, soon prevail. Initially, finance was provided by the bankers’ syndicate; yet it was probably weaker than suspected. The SM archives and the liquidator’s report reveal that largest deposit bank, Crédit lyonnais was not part of the syndicate and three reputable early participants---Société générale, Crédit industriel et commercial and the Rothschilds---quit before contributing¹². The core of the syndicate was formed by the SM, Paribas and the Hentsch frères private bank. While the original syndicate promised 70 millions francs, the shrunken syndicate only offered 54 million. Secrétan and the SM accounted for 27 million francs, which Denfert-Rochereau, the *directeur* of the CE promised to lend while his bank served as the syndicate’s banker. Given, the syndicate’s limited resources, Secrétan sought funds from British and French banks. He obtained about 10 millions francs from British banks, notably 5 million francs from Baring Brothers. Although it forsook the syndicate, the Société Générale authorized the discounting of warrants for the SM for up to 6 millions francs in March 1888.¹³

From the beginning, Secrétan needed a continuous flow of good news and increased funding to buoy the price of copper; and he was willing to resort to dubious methods to achieve obtain these. In December 1887, he set up a fictitious buyback of copper from the SM at a price that would ensure the SM could report a handsome profit of 16 millions francs. This operation permitted the announcement on March 10, 1888, of a 12% dividend, well above the previous year’s 5% dividend. It provoked an outpouring of enthusiasm at the SM general meeting, which authorized Secrétan’s proposal to issue of 50,000 new shares at 150% of their nominal value, which were entirely subscribed by existing shareholders. The SM’s share price, which hit a record 1200 francs the day before, remained above 900 francs until December 1888 in spite of this dilution.

This capital increase provided much needed resources for Secrétan’s scheme, but it was not sufficient. During the second half of 1888, he aimed at broadening the group of participants to include British firms. He hoped that a large Anglo-French firm could be

⁹ The figures were obtained by Crédit lyonnais from "Statistics of copper" by Henry R. Merton & Co from the London Metal exchange.

¹⁰ At the world level, in 1888 “world copper production exceeded sales by one third, and some 260,000 tons were manufactured” (Avery 155); « world production of copper for 1888 outran its consumption by 79,000 to 85,000 tons” (Andrews 1889, 512).

¹¹ Estimated to be about 5,000 tons by Andrews (1889) p. 512.

¹² Société Générale, Procès-verbal de la Conseil d’Administration, Séance 1358, 31 janvier 1888.

¹³ Société Générale, Procès-verbal de la Comité Central, Séances of 21 and 27 Mars 1888. Gille (p. ???)reports that the collateral was value at £15 below its market price.

created to provide the vital financing. Edouard Joubert, Paribas' vice-president and a close ally of Secrétan, traveled several times to London to discuss the plan with English bankers, the last time in January 1889. When this firm failed to materialize, Secrétan proposed his last grand solution: the creation of a new *Compagnie auxiliaire des métaux* (CAM), funded with 40 million francs of capital and 40 million francs of bonds. The purpose of this new venture was to reorganize and formalize the initial syndicate, which had provided 60% of the promised 54 million francs to the SM.¹⁴ This last gasp gave the other members of the syndicate major concessions. First, for the remaining 40%, the SM agreed to pay in 14% in cash without calling on the other members whose obligations were terminated. In lieu of repayment of the loans, members of the syndicate would receive shares and bonds in the new CAM. Secondly, to sweeten the deal, Secrétan specified that the SM would take 59% of the shares, although it had contributed only 28% of the loans, leaving a greater portion of the bonds to the other members. This arrangement gave them a much more secure claim, as the bonds were collateralized by the SM's remaining copper stock. What the deal gave the SM was the hope that the CAM would gain access to the discount window of the Banque de France. But, when the CAM approached the Banque, it was rebuffed by the Comité des livres et portefeuilles, which saw through the sham. Access to the central bank was only possible through rediscounting of warrants already discounted by other banks, which were becoming increasingly reluctant even to renew existing loans.

The failure of the CAM to raise more cash to buy up the production and fund the existing warehoused stock marked the beginning of the end. By the end of January 1889, the CAM ceased to buy copper for future delivery and by March 1 all purchases ceased (Andrews, p. 424). All that Secrétan could do was to sell his remaining assets to provide some cash.¹⁵ But selling shares of the SM and Rio Tinto on a large scale drove down their prices, sending another negative signal to the market. The price of a ton of copper had hovered around £80 until late February, until the departure of the SM from the market caused the price to fall from £76 on March 2 to £55 on March 9. It returned to its pre-1887 level as seen in Figure 1 and settling at £39.5 on March 30. As news leaked out about what banks had participated in the syndicate and the CAM, depositors began to withdraw their funds. A general panic loomed when on March 5, Denfert-Rochereau committed suicide, beginning a run on Comptoir d'escompte.

Secrétan's failure brought huge losses to the participants in his scheme, however it might not have spelled danger for the financial system. If the members of the syndicate had been restricted to private individuals and private banks that were funded almost exclusively by capital, there would have been a large wealth loss, sending a sharp shock. What threatened the financial system and the economy was that some banks of deposit, truly leveraged institutions, had been ensnared; and news of their potential losses could spark not only runs on individual banks but also a generalized panic.

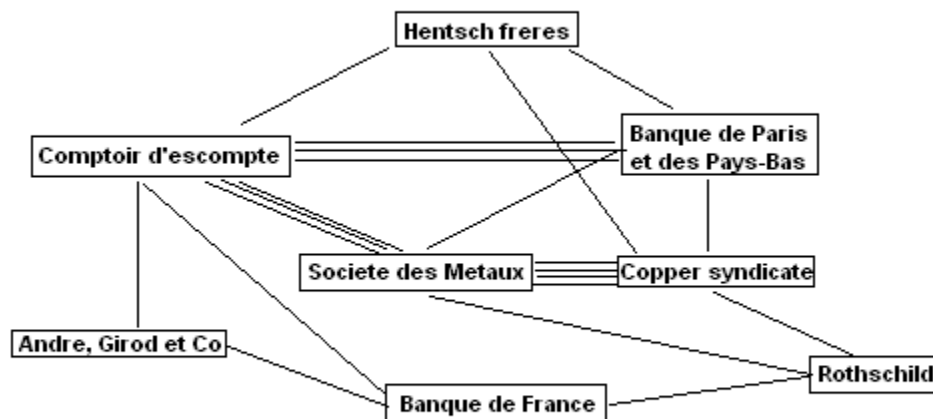
¹⁴ For a list see, Gille p.50 and Malafosse; details of the scheme in the liquidateur's report.

¹⁵ Andrews argued that the rupture was due to a report by the *Engineering and Mining Journal* of January 12, which suggested production would soon rise (Andrews, p. 514).

Entangling the Financial System

What was vital to Secrétan's initial success was a web of interlocking relationships that allowed members of the Haute Banque to influence the banks of deposit and lull the Banque de France into complacency. Figure 2 identifies some of the many complicated inter-linkages.

Figure 2
Relationships Among Key Institutions



Secrétan could draw upon a wide range of interested bankers closely tied to the SM and the copper syndicate. On the Conseil d'Administration of the SM were several key figures who had links to the other institutions: (1) P. F. G. Girod, a partner in the private bank of André, Girod et Cie, another partner of which (André) served as a Régent of the Banque de France. Girod also sat on the Conseil of the Comptoir. (2) E. Laveissiere was an administrator of the Comptoir, and (3) E.-B. Puérari was a partner in the private bank Mirabaud, Paccard, Puérari et Cie. that guaranteed copper warrants. Some of the leading shareholders of the SM were Rothschild frères, Lécuyer et Cie, and Paribas.

Compared to other banques de dépôts, the Comptoir had a surprising array of close relationships with many banques d'affaires. But there were some banks that had strong ties to Secrétan's web, notably Crédit Lyonnais and Société générale, which are not included in Figure 2. Centrally linked, however, was the private bank Hentsch frères, which certainly was aware of all of Secrétan's operations. One Hentsch brother was president of the CE and an administrator of Parisbas and another brother was also an administrator of the CE; the firm put up 7 million francs for the copper syndicate.

An important check on the management of any limited liability bank were the *censeurs* who served as the internal auditors of the bank and assured shareholders and the public that operations conformed with the institutions' statutes and the law and served the

interests of the stakeholders. Of the two *censeurs* at the CE, at least one had a double role, serving also as *censeur* at Paribas. Directly linking the Comptoir to the copper syndicate was Ghesquière who was the member of the Comptoir d'Escompte's discount committee, where he was in charge of metals.¹⁶ His firm Eschger, Ghesquière et Cie. provided 6 million francs to the copper syndicate.

After the Comptoir, Paribas was the bank that had the most important links. The most significant was the tight relationship between Secrétan and Paribas' vice-president and administrator E. Joubert. Paribas managed the syndicate that underwrote the new stock issue for the SM, and Joubert was instrumental in negotiations with English bankers in the attempted formation of the Anglo-French metals firm.

The copper syndicate, as it was finally constituted, brought together many of these key players, both as individuals and representatives of their institutions, principally Laveissière, Secrétan, Hentsch frères, Paribas, Mirabaud, Paccard, Puerari et Cie., and Joubert. The giant looming behind the scenes is, of course, Rothschild frères who had initially signed up to join the syndicate but backed out with several other banks. For the duration of the copper corner, the Rothschilds were discretely involved but nevertheless had a major stake. Not only were the Rothschild important shareholders in the SM at the time that Secrétan devised his scheme, but they also lent upwards of 37 million francs to the SM and became an influential shareholder of the largest copper company in the world, Rio Tinto---the first company with which Secrétan contracted for future copper deliveries.¹⁷

These interlocking relationships created conflicts of interest that certainly compromised the Banque of France's position. Most notable of these was the fact that two of the three *censeurs* of the Banque were also *administrateurs* of the CE. The internal discussions of the Banque de France reveal that many of the Régents were unaware of the true condition of the CE when the warrants of the SM were initially discounted. Furthermore, they remained in the dark until the last moment---a grave error of omission that ultimately cost these two *censeurs* their positions at the Banque. Sailing largely under the radar was the Alphonse de Rothschild who played certainly informed of the copper scheme and had a major voice in the Banque de France, heading its Comité des livres et portefeuilles.

The Seduction of the Comptoir d'Escompte

One of the central questions about the Crisis of 1889 is how and why the Eugène Denfert-Rochereau and the CE were seduced by Secrétan into participating in his risky scheme to corner the copper market; and later, why the Banque de France did not perceive the tremendous risks that the SM and CE had absorbed when it discounted warrants of the SM guaranteed by the CE and other banks. The answer to the first question appears to lie in the remaining records of the CE, which suggest that unbeknownst to many on the CE's Conseil d'Administration, Denfert-Rochereau was manipulating profits from the moment that he took over as *directeur* of the CEP.

¹⁶ Comptoir d'Escompte, Compte Rendu de l'Operations de la Exercise de 1888 (Paris: Societe anonyme des Imprimeries Reunies, 1889).

¹⁷ See Avery for details.

The Comptoir had been founded in 1848 at the height of the revolutionary crisis in order to provide liquidity by discounting secure paper. There was a major change in management in 1873 when Edouard Hentsch, of the Haute Banque firm of Hentsch Lutscher et Cie (later Hensch frères) took over as president of the Conseil d'Administration and Denfert-Rochereau appeared as Secretary-General of the bank. Under Hentsch's presidency, Denfert-Rochereau moved up, becoming deputy-director in 1880 and finally *directeur* or effectively the chief executive officer in 1882.¹⁸ Once taking over the helm, Denfert-Rochereau seemed to provide stellar leadership. In the eyes of the stockholders of the CE, Denfert-Rochereau's achievement of increasing and then maintaining dividends in a period of stagnation was greatly appreciated.

Figure 3
French Bank Stocks, 1883-1889

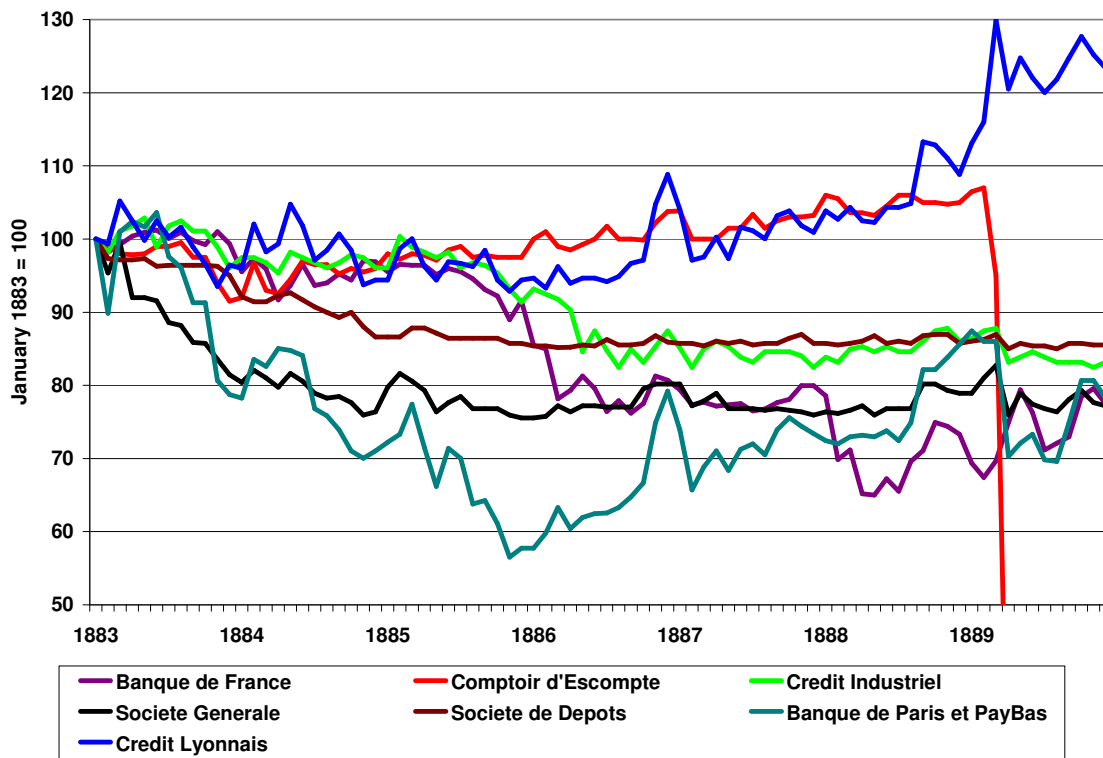


Figure 3 displays bank stock prices, starting after the Crash of 1882 in January 1883, which is indexed as 100.¹⁹ With the exception of Crédit lyonnais, all other bank stock prices sagged seriously in the mid-1880s. By the end of 1887, the values of the Société générale, the Société de dépôts et comptes courants, Crédit industriel et commercial, and the Banque de Paris et Pay-Bas had all slumped 15 to 30 percent. One of the worst-performing was the stock of the Banque de France. Crédit lyonnais' success in this era is generally attributed to Henri Germain's superior entrepreneurship. The bank

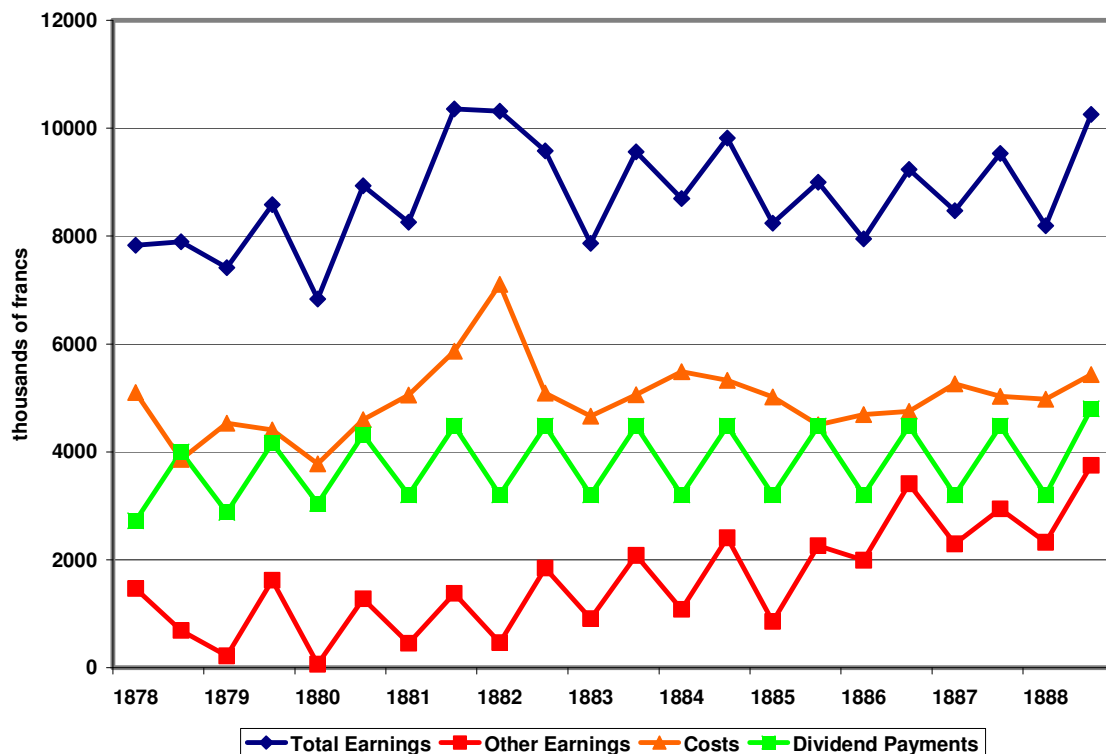
¹⁸ Comptoir d'Escompte de Paris, *Compte Rendu* des Operations du Comptoir d'Escompte de Paris (Paris, 1878-1888).

¹⁹ We thank David Le Bris for his generous provision of his data on French bank stock prices.

grew rapidly through a network of branches to raise deposits that funded banking that narrowly focused on short-term discounting bills and lending on well collateralized *reports* (Bouvier, 1968). Other major banks had more mixed models of universal banking but saw their business generally shrink. How Denfert-Rochereau was able to match Germain is revealed on an examination of the CE's accounts.

As seen in Figure 4, there is no discernable trend for total earnings and costs from 1878 to 1888, the only element in the CE's earnings report that shows a steady rise is *operations diverses* or other earnings about which no other details were given. These appear to have included profits from loan commitments, guarantees and security underwritings, the details of which may have not been provided to the Conseil d'Administration. Between 1878 and 1882, this category accounted for between 8.5 and 11.6% of all earnings, then jumped to between 17.1 to 18.8% for 1883 to 1885, increasing to 31.4% in 1886, 29.1% in 1887 and finally 32.9% in 1888. Without this source, maintenance of dividend payments at the level established in 1881 would have been impossible.

Figure 4
Comptoir d'escompte: Earnings, Costs and Dividends By Semester
1878-1888



Source: Comptoir d'Escompte de Paris, Compte Rendu des Operations du Comptoir d'Escompte de Paris (Paris, 1878-1888).

Robust earnings and dividend payments were a remarkable achievement in the depressed economy of the 1880s. For example, the Banque of France saw its earnings decline and cut its dividend steadily. The CE's shareholders were quite pleased with

Denfert-Rochereau's results. In the annual meeting of 1885, looking back on the year 1884, the *censeurs*, announced that the Minister of Finance had agreed to renew the Comptoir's charter for another twenty years beginning March 18, 1887 and gave credit to Denfert-Rochereau for the bank's extraordinary performance in the tough economic conditions:

Vous voyez, Messieurs, malgré les circonstances difficiles où se trouvent placées les affaires financières, commerciales et industrielles, la situation de notre Société est satisfaisante. ..Il convient de nous en applaudir et de reconnaître que nous la devons au concours aussi éclairé que dévoué du Conseil d'Administration et à la direction à la fois expérimentée et habile de M. Denfert-Rochereau, qui trouve dans les deux Sous-Directeurs, MM. Bisson et Renaud, des collaborateurs précieux. Nous sommes heureux de vous dire en terminant que les services distingués de notre honoré Directeur ont été appréciés comme ils le méritent par le Gouvernement qui, sur la proposition du Ministre des Finances, l'a promu récemment au grade d'officier de la Légion d'Honneur. Vous vous joindrez à nous, je n'en doute pas, pour le féliciter sincèrement de cette récompense si bien méritée.²⁰

What this evidence suggests is that from the beginning, Denfert-Rochereau had been manipulating the accounts of the bank, perhaps starting with some window dressing but then engaging in off-balance sheet activities not reported. While the president of the Conseil Hentsch, who was deeply involved with the copper scheme, probably knew of Secrétan's activities, he did not halt Denfert-Rochereau from painting himself into a corner. Just as his reputation rose, general revenues sagged and he may have been tempted to bolster them by joining forces with the SM and Secrétan. The increase in the dividend payments—announced at the annual shareholders meeting on January 31, 1889, just as the copper scheme was beginning to fall apart, suggests that he was desperate to please.²¹

From the birth of the copper syndicate, the Comptoir had been involved, serving as the bank for its members and providing credits to Secrétan and the SM. The CE's involvement deepened in December of 1887 when Secrétan engaged the assistance of Denfert-Rochereau to sign the first guarantee for a contract for future purchase of copper. This assistance was a major coup for Secrétan as many mining companies were hesitant to sign futures contracts with the SM given its modest capital, doubting its ability to make good on its commitments. Clearly wary of the Conseil, Denfert-Rochereau hid the Comptoir's involvement for several months. Finally on March 13, 1888, he asked the Conseil d'Administration for its approval. Apparently it consented and allowed the Comptoir to continue in its role as guarantor. But, some members of the council were extremely unhappy. When Denfert-Rochereau approached the Conseil about abandoning

²⁰Comptoir d'Escompte de Paris, Compte Rendu des Operations du Comptoir d'Escompte de Paris pendant l'Exercice de 1884 (Paris, 1885) p. 22.

²¹Comptoir d'Escompte de Paris, Rapport a la Assemblée General Ordinaire, Compte Rendu des Operations du Comptoir d'Escompte de Paris pendant l'Exercice de 1888 (Paris: Societe Anonyme des Imprimerie Reunies, 1889).

its right to the underlying copper collateral---that would have permitted Secrétan to obtain new credit elsewhere---one member of the Conseil, Siegfried complained bitterly about the risks that the bank had accepted. In a rare and significant act, Siegfried resigned on June 2, 1888.

What did Banque de France know and When did it know it?

General economic conditions did not favor the copper scheme as the French economy was slowly recovering from a long period of stagnation, but Secrétan had one bit of good luck early on. After holding its discount rate constant at 3% since February 22, 1883, it was dropped the rate to 2 ½% on February 16, 1888. The motivation for this change in policy was largely internal to the Banque, reflecting its concern, not as a central bank, but as a private institution whose shareholders had seen their dividends fall from 298.96 francs per share in 1882 to 159.63 francs per share in 1886. This decline was a consequence of the Banque's shrinking revenues that had fallen from 72.7 million to 41.7 million francs, accompanying the shrinkage of its share of the discount market.²² The hope was that demand was sufficiently elastic to attract more borrowing and raise revenues.

The Banque de France might have learned of the growing speculation and its potential threat through its occasional surveillance of Parisian banks and its major borrowers. The results of this survey were inscribed as the "Rapport sur la Vérification du Portefeuille de Paris" in the *procès-verbaux* of the Conseil Général. The "Vérification" recorded the credits outstanding to each borrower, basic capital, a simple rating and sometimes some comments.²³ The banks were divided up among the Regents who rotated surveillance of the borrowing institutions, perhaps to improve monitoring. Early in the copper scheme, both the Société des Métaux and the Comptoir d'Escompte appear but they did not raise any alarm bells; in fact, they were treated – especially the Comptoir - as good, solid customers.

In the first "Vérification" of the year, on February 23, 1888, the condition of the SM was examined. The examiner was the baron de Rothschild, who given his reported role in the copper syndicate should have been aware that this company was taking large off-balance sheet risks. Nevertheless, Rothschild reported that the company had advances of 600,000 francs and had a paid-in capital of 25 million francs. He commented that it was an: "Affaire très sérieuse conduite avec intelligence."²⁴ In the next *Rapport sur la Vérification* on March 24, Rothschild reported that the Comptoir d'escompte, with a paid-in capital of 80 million francs, had *présentations* of 24,069,000 and *acceptations* of 128,000, remarking favorably that it had "*bon papier d'affaires, souvent court.*" The Comptoir was one of three large borrowers, the others being Crédit lyonnais with

²² Banque de France, Assemblée Générale des Actionnaires, Compte Rendu (Paris, Paul Dupont, 1883-1891)

²³ For example, the first two entries for 24 Mars 1880 are for a private bank and an incorporated bank: "Alphen Dauphin et Cie. Présentations 8,649,000. cotés 3 à 2. Capital 3 millions, fortune en dehors des affaires, travaillent avec une assez bonne clientèle, le papier est commercial et payé régulièrement. Banque Commerciale et Industrielle, coté 3, présentations 2,027,000, Capital 15 millions versés; situation améliorée." Banque de France, Conseil Général, Procès-verbal de la séance du 24 mars 1888.

²⁴ Banque de France, Conseil Général, Procès-verbal de la séance du 23 Février 1888.

27,585,000 francs of *presentations*, 30,000 francs in warrants and 650,000 francs in acceptances and Gayette fils et Duluard which had presentations of 20,781,000 francs, warrants of 17,000 francs and acceptations of 32,000 francs. There was one other firm involved in copper that appears in the 24 Mars 1888 “Vérification,” Eschger Ghesquière et Cie, which had acceptations of 1,260,000 francs and was described by Rothschild as a “*importante maison dans le commerce des métaux, acceptations présentées par le Comptoir d’escompte.*”²⁵ The total borrowings reported for those banks and firms subject to the “Vérification” were 173 million francs, while the total discounts and advances for the Paris office of the Banque were 247 million and 120 million francs respectively.²⁶

Although the Banque de France had provided credit to the Comptoir d’escompte and the Société des Métaux, its real window on events in the copper scheme for those not intimately connected came from the Banque’s exposure to advances on copper warrants. The Banque de France had traditionally offered advances on warrants for a variety of commodities. The *procès-verbaux* of the Conseil Général often gave a brief report of these credits. For example, on February 23, 1888, total credits offered by the central office in Paris against all warrants total 31,821,243 francs. The most important commodities covered by these warrants were sugar, oats, and flour, representing credits of 13,309,382, 5,388,834 and 2,542,946 francs. For these warrants, the report concluded that the situation was “*normale.*”²⁷

These warrants were part of the Banque’s regular lending; then it granted an unusual request. On May 18, 1888, the Banque of France was approached by Girod, one of the administrators of the SM, about discounting warrants. Girod was certainly no stranger to the Régents, as he was a partner of the Regent André of André, Girod et Cie. The request was brought first to the Banque’s Comité d’escompte by M. Desmarest on behalf of Girod. The committee was informed that the company had a large stock of copper in London, financed by English banks, which it wanted to transport to warehouses in Le Havre, Rouen and Paris. To pay off these advances and transfer the copper, the Société asked if the Banque would be disposed to discount warrants on this copper. According to Girod, there were 100,000 tons, which at £80 a ton, represented 200 million francs. The company desired to warrant 50,000 to 70,000 tons, worth 100 million to 140 million francs. The owner of the warrants would be the SM and guaranteeing signatures would be provided by the CE, Parisbas, the Société générale and others. The discount rate would be 2.5 percent. Although ordinarily a loan would be given for 75 percent of the value of the warranted commodity, this would be reduced to 65 to 70 percent, given the size of the operation.²⁸

Governor Magnin commented that such a credit was entirely within the Banque’s regulations; but because of its size and importance, he had felt that not only the Comité d’escompte but also the Comité des Livres et Portefeuilles should be informed. The baron de Rothschild thanked the Governor for consulting with the committee, but he demurred about the collateral, suggesting that the loan be reduced to 60 percent to ensure there is

²⁵Ghesquière was the member of the Comptoir d’escompte discount committee. Of the thirty plus committee members, each assigned to a different commodity, he was in charge of metals. Comptoir d’escompte, *Compte-rendu des opérations de l’exercice 1888* (Paris: Société anonyme des Imprimeries réunies, 1889).

²⁶ Banque de France, *Bilan hebdomadaire*, 23 Février 1888.

²⁷ Banque de France, Conseil Général, Procès-verbal de la séance du 23 Février 1888.

²⁸ Banque de France, Comité des Livres et Portefeuilles, Procès-verbal de la séance 18 mai 1888.

not the least danger to the Banque. The Governor countered that this was too low and proposed 65 percent. The committee accepted this rate and agreed to provide advances up to a maximum of 52,000,000 francs for 40,000 tons of copper, valued at 1300 francs (65 percent of 2000 francs) per ton. The Banque recognized the exceptional and short-term nature of the loan and wished that it not be renewed.²⁹ Of course, this comment at the end of the committee's session raises the question whether this advance was done as a favor to Girod. However, given that the advances on these warrants were apparently well-collateralized, the committee showed no particular concern in the next several months.

There is no mention of warrants in the minutes of either the Conseil Général or the Comité des Livres et Portefeuilles until August 9, 1888, when it was reported by the former that advances on all warrants has reached 54,402,388 francs of which copper accounted for 26,863,165. It acknowledged that this is substantial but the copper warrants were presented by "*maisons sérieuses*" at 65 percent of the value, with a right to borrow up to 52 million francs, adding that "*la situation est donc régulière*".³⁰ In general, the Regent Pillet-Will commented that the condition of the "*Avances est absolument normale, il n'y a rien à en dire.*" "*Celle des warrants peut intéresser d'avantage le Conseil.*" More generally, Rothschild concluded that "*aucune observation défavorable n'est à faire. La situation des comptes n'a pas change, elle n'inspire aucune inquiétude et, dans plusieurs cas, les engagements, ont été réduits.*"

Certainly, the price of copper favored these sound assessments, as can be seen in Figure 1, where it remained stable, between £75 and £80. However, stocks in English and French warehouses were steadily rising, driven by continued imports and declining purchases by manufactures. Conditions were not helped when interest rates began to increase in September. On September 13, 1888, the Banque de France received a dispatch that the Bank of England had raised its discount rate from 3 to 4%, well above the French rate. Rothschild recommended raising the discount rate from 2.5 to 3.5%; and the Conseil concurred, raising the discount rate to 3 ½ percent.³¹ Following a new Bank of England increase of its discount rate from 4 to 5% on October 4, 1888, the French discount rate and the rate on advances were set at 4 ½%.³² At this point, the discount rate---had jumped 2 percentage points in less than a month, putting increased pressure on highly leverage operations---such as those in copper.

In spite of the problems that Secrétan was encountering, the market did not register any apprehension throughout the Summer and Fall of 1888. As evident in Figure 5, the public did not perceive that there was any danger to the banks from the copper scheme that the popular press had been discussing over the past year. All bank stocks, even those of the Comptoir and Paribas, remained essentially flat for the rest of the year. The stock of the SM reached a peak of 975 francs per share in September 1888 and drifted down somewhat but stayed above 900 francs until December, which might have reflected the rising stocks of warehoused copper and weak demand even as the price of the commodity stood still.

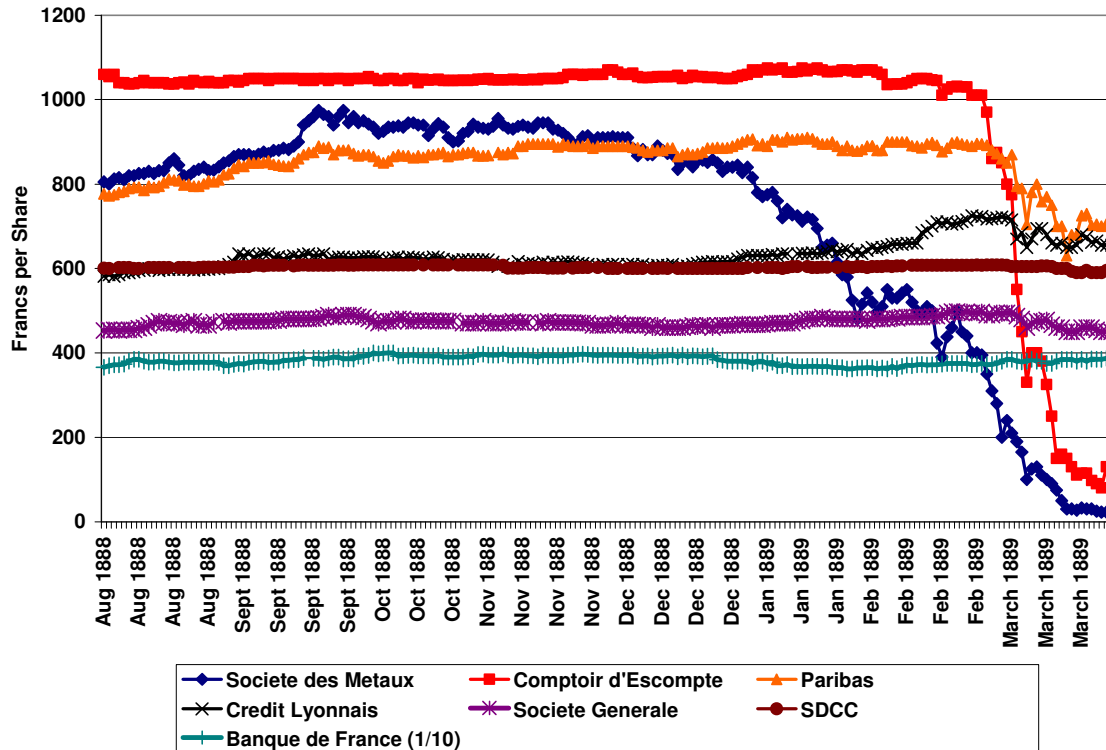
²⁹ Banque de France, Comité des Livres et Portefeuilles, Procès-verbal de la séance 18 mai 1888. The minutes recorded that "*l'affaire soit faite dans un délai fixé d'avance et que la Société des Métaux épuise le concours qu'elle accordera avec de recourir à un autre prêteur.*" [check]

³⁰ Banque de France, Conseil Général, Procès-verbal de la séance du 9 août 1888.

³¹ Banque de France, Conseil Général, Procès-verbal de la séance du 13 Septembre 1888.

³² Banque de France, Conseil Général, Procès-verbal de la séance du 4 Octobre 1888.

Figure 5
Price of Bank Stocks and the Société des Métaux
August 1888-March 1889



The risks to the banks might have gone unnoticed by the majority of the Régents of the Banque de France if it had not been for the unusually large discounts on copper warrants granted to the SM. Their concern was signaled by the October 25, 1888 report of the Governor to the Conseil Général on the state of the SM. While the advances on the warrants, split among ten banks were 46,135,000 francs, still below the ceiling of 52 million francs, he noted that there had been 29 contract renewals for a total of 13,476,000 francs and added that “*le Conseil entend ces détails avec intérêt.*”³³

The result was a detailed table of the outstanding warrants, their guarantors and their due dates, as of October 31, presented to the Conseil Général at its next meeting on November 2, 1888.³⁴ This table, shown below, revealed that the Comptoir d’escompte had guaranteed nearly 24 million francs of the 46.3 million warrants. The bulk of the warrants would fall due in late January 1889, a potential sign of an impending crisis. The presenters were closely tied together, as our previous discussion has shown.³⁵ What is, of course, astonishing is that the Régents and officials who were not SM-CE intimates

³³ Banque de France, Conseil Général, Procès-verbal de la séance du 25 Octobre 1888.

³⁴ Banque de France, Conseil Général, Procès-verbal de la séance du 2 Novembre 1888.

³⁵ Banque de Paris et des Pays-Bas, *Assemblée Generale Ordinaire* du 3 Mai 1889; *Rapports et Resolutions* (Paris, Imprimerie Veuve Éthiou Pérou et Fils, 1889). Comptoir d’Escompte de Paris, *Rapport a l’Assemblée Generale Ordinaire des Actionnaires du 31 Janvier 1889, Compte Rendu des Operations de l’Exercice 1888* (Paris: Societe Anonyme des Imprimeries, 1889).

had either no clue or interest about the huge off-balance sheet guarantees of the CE that represented a far graver threat to that institution's solvency.

Table 2
“Situation des Warrants sur cuivre au 31 Octobre”
Guarantors of the Société des Métaux's Warrants

		November		December		January	Total
André, Girod et Cie					22	1,901,900	1,901,900
Banque de Paris et Pay-Bas	27	1,230,300	16	2,742,100	17	1,608,100	6,113,700
					24	533,200	
Comptoir d'Escompte de Paris	5	3,962,400	28	1,685,400	24	5,795,900	23,970,700
	19	2,440,500	28	990,800	25	1,409,000	
					29	5,312,700	
					27	2,371,000	
Crédit Industriel et Commerciale	27	1,197,800	31	1,932,300			3,130,100
Hentsch frères et Cie					25	2,000,900	2,000,900
Société Générale	6	2,139,700					2,139,700
Lécruyer et Cie	12	1,929,000			7	1,284,000	4,610,900
	27	197,800	4	676,300	23	523,600	
Lehideux et Cie	27	950,100					950,100
Mirabaud, Paccuard, Puerart et Cie					17	486,900	486,900
Thelier et Henrotte			13	1,054,100			1,054,100
Total		14,048,200		9,084,000		23,226,800	46,359,000

Source: Banque de France, Conseil Général, Procès-verbal de la séance du 2 Novembre 1888.

The Conseil Général continued a close watch on the warrants, providing considerable details in almost every subsequent meeting, as seen in Table 3 that records the evolving status of the guarantees for the warrants. By November 8, the exposure of the CE was growing while other *présenteurs'* positions were either decreasing or constant. The Banque's concern was also registered on November 15 when the Conseil began to ask exactly where the copper was being housed in France, as warrants now stood at 50,356,600 francs.³⁶ Surprisingly, in its next *Rapport sur la Vérification* of November 15, the Conseil did not provide any mention or information on the CE or the SM. However, the *procès-verbaux* of the Conseil Général recorded growing evidence of the inability of the SM to repay its discounts and the need of the Comptoir to take over more and more as guarantor, as parties such as the Société Générale, escaped when the contracts fell due. By January 17, 1889, borrowing had reached nearly 52 million francs, the limit as specified on March 18, 1888.

³⁶ Banque de France, Conseil Général, Procès-verbal de la séance du 15 Novembre 1888

Table 3
Banque of France
Discounts on Copper Warrants

	October 31, 1888	November 8, 1888, leading presentations	January 17 1889	March 7, 1889
André, Girod et Cie	1,901,900	1,900,000	1,836,000	1,835,000
Banque de Paris et Pay-Bas	6,113,700	6,100,000	5,885,500	5,582,900
Comptoir d'Escompte de Paris	23,970,700	28,100,000	30,034,000	31,771,200
Crédit Industriel et Commerciale	3,130,100	3,100,000	2,988,200	1,782,000
Hentsch frères et Cie	2,000,900	2,000,000	2,000,900	2,000,900
Société Générale	2,139,700	2,100,000	2,066,800	0
Lecruyer et Cie	4,610,900	4,500,000	4,233,800	3,813,200
Lehideux et Cie	950,100		950,100	0
Mirabaud, Paccard, Puérari et Cie	486,900		454,300	414,700
Thelier et Henrotte	1,054,100	1,000,000	1,054,100	1,054,100
Total	46,359,000	50,480,300	51,503,700	48,255,000

Source: Banque de France, Conseil Général, Procès-verbaux de les séances du 2 Novembre 1888, 8 Novembre 1888, 13 Janvier 1889, and 7 Mars 1889.

After early November, the minutes then fall silent until December 27, 1888 when it was reported that there were 49,543,100 francs of advances on the warrants outstanding with another two million presented on that day for a total of 51,643,100 francs.³⁷ Still the Banque de France does not appear to have been alarmed. When the Comité des Livres et Portefeuilles met on December 22, 1888, it set the dividend at 142 francs per share for the year and made no additions to the bank's reserves, apparently more concerned about continued drop in the dividend rate than any crisis looming on the horizon.³⁸ Interest rates began to fall, though it was too little and late to aid the schemers, with the discount rate dropping to 4 % on January 10, 3 ½ %, on January 24, 3% on February 7, 1889.³⁹

By the start of 1889, the Banque was clearly uncomfortable with the large credit to the SM. The price of copper remained steady through December, January and into February, but stocks of warehoused copper seen in Figure 1 were soaring with demand by producers plummeting. The SM's dilemma was clearly known or suspected as the price of its shares began a steady descent. Between December 1 and 31 of 1888, the price from 910 francs to 845 francs. Half-way through January, the price reached 727 francs, falling to 512 francs on January 31.

On February 21, 1889, the Régent, Pillet-Will reported that warrants on all commodities for Paris had reached 85,255,197 francs, with copper totaling 48,046,400

³⁷ Banque de France, Conseil Général, Procès-verbaux de les séances du 27 Décembre 1888

³⁸ Banque de France, Comité de Livres et Portefeuilles, Séance du 22 Décembre 1888.

³⁹ Banque de France, Conseil Général, Procès-verbaux de les séances du 24 Janvier 1889 et du 7 Février 1889

francs. This drop did not reflect a paying off of the warrants but the fact that the Banque greatly reduced the amount it was willing to loan per ton of copper. From 1300 francs per ton, it had reduced advances on warrants 1170 francs per ton for 3,479,500 francs and now it lowered this to 1,110 francs per ton. The effect was to reduce credits on copper warrants to 47,686,200 francs. In order not to avoid that reduction, the CE offered collateral of 570,000 francs in *bons du Trésor*, leaving the Banque satisfied that it did not run any risk and reporting that conditions for the warrants were still normal.⁴⁰

Both the CE and the SM reappear in the *Rapport sur la Vérification* of February 21, with the former being reported on by Pillet-Will and the latter by Hottinguer. These two regents who had no apparent connections with the copper scheme still had faith in both institutions. Though only 31,250,000 of its 50 million francs of capital was paid in, it was characterized by Hottinguer as having “*fortes réserves; importante société bien connue des Membres du Conseil de la Banque.*”⁴¹ The Comptoir was reported to have *présentations* of 22,638,000, warrants of 29,647,000, *acceptations* of 1,144,000 and *endossements* of 800,000, with Pillet-Will commenting that with a paid-in capital of 80 million, it had “*bon papier d'affaires, présente des warrants à 2 signatures garanties par du cuivre pour 29,547,000 frs.*”⁴²

This apparent faith collapsed with copper prices in February of 1889. As prices headed towards £40 per ton, copper collateral evaporated. Many banks that had provided a signature for the warrants wanted out. The Governor reported that on February 4, the Société Générale had not renewed its guarantee for the warrants worth 2,011,600 francs and on February 25, the Crédit Industriel et Commercial and Lehideux et Cie did not renew 1,197,800 and 950,100 francs of warrants. Also, Credit Industriel and Thelier et Henrotte let it be known that they would not renew another 2,844,500 francs of warrants when they fell due in March.⁴³ While the Banque was learning more about the CE's problems, the market also began to perceive something. As seen in Figure 5, the price of the CE's shares that had remained very steady, began to sink in February, declining from 1070 to 1010 francs per share.

On February 27, several members of the Comité de Livres et Portefeuilles asked the Governor to interview M. Joubert of Paribas and M. Girod of the CE about the “Affaires des Warrants” as it was now described. After talking to them separately, the Governor reported to the committee the following day. The upshot of these discussions was that it was proposed that the Banque renew the remaining warrants. In the previously described gambit, engineered by Secrétan, the president of the CE, Hentsch requested that the CAM be permitted to directly discount its warrants with the Banque. However, the Governor would have none of it. He pointed out that the CAM was a weak borrower. It had an official capital of 40 million francs, but 5 million had been taken by the CE and 23,575,000 by the SM, so that it had only 11,425,000 francs.⁴⁴

The Committee struggled to figure out where the Banque stood in this rapidly evolving situation, and a very frank discussion ensued. Pillet-Will said he could not consider the CAM as a possible third signatory on the notes because of its close

⁴⁰ Banque de France, Conseil Général, Procès-verbaux de les séance du 21 Février 1889.

⁴¹ Banque de France, Conseil Général, Procès-verbaux de les séance du 21 Février 1889.

⁴² Banque de France, Conseil Général, Procès-verbaux de les séance du 21 Février 1889.

⁴³ Banque de France, Comité de Livres et Portefeuilles, Séance du 28 Février 1889.

⁴⁴ Banque de France, Comité de Livres et Portefeuilles, Séance du 28 Février 1889.

connection with the SM. He could only see a renewal of the existing warrants if the copper was now valued at 1100 not 1300 francs per ton, as the current price was 1233 francs; and Girod had assured him this would be possible by attaching more copper as a guarantee. The Governor interrupted Pillet-Will because in his interview, Joubert had told him there was no more copper for collateral. Nevertheless, the Governor believed that the CE still had some good paper in its portfolio that could be used. Pillet-Will then revealed that Girod had pressed him to allow the Paribas or the CE to replace the signatures of the retreating banks, which Pillet-Will pointed out would raise the commitment of the latter from 29 to 36 million francs.⁴⁵

At this point, Rothschild intervened to sketch out the big picture. He argued that no assistance should be provided until the Banque found out the true nature of the situation. Urgent telegrams had been sent to the American mines and to England---essentially renegotiations of their contracts--to determine if the CE had enough money to make its commitments or if on the contrary “*il subira les conséquences de ses imprudences.*” Responses were expected on March 5. Personally, he thought that negotiations with the mines would succeed but he was aware that the mine-owners would have to put their rivalries aside in order to prevent a general collapse in the price of copper. Rothschild emphasized that there were no important renewals due until March 15, so that there was some breath space. In what must have been a dramatic flourish, he announced that Rothschild frères had lent the Comptoir 6 million francs the day before so that it could meet withdrawals and prevent it from being forced to close.⁴⁶

Worried that the failure of the CE could cause a major economic crisis, Baron Hottinguer returned to the issue of who would replace the guarantors of the warrants, pointing out that on March 16, the Paribas had a commitment of 2,507,100 falling due and might abandon it.⁴⁷ Pillet-Will was not satisfied with the discussion and pressed the committee to consider the fact that all of the CE’s capital was compromised and he wanted the bank to present its accounts, to which the Governor agreed. As the Banque was taking a narrow view of whether or not the warrants were adequately protected, Hottinguer reminded the committee of a fact that had not appeared in the written record of their discussions: the Comptoir had far greater obligations. It had guaranteed the delivery of 110,000 tons of copper---53,000 in 1889 and 57,000 in 1890 at a price of 1675 francs a ton, which would produce a huge loss for the Comptoir. At a current price of 1233 francs a ton, buying at a price of 1675 francs entailed a loss of 48,620,000 francs---a devastating sum. Hence, the renegotiation of the contracts was vital to the survival of the CE.

Hottinguer’s observation raised the question at what price should the Banque take the warrants, and Rothschild recommended £40 a ton as a safe margin. Pillet-Will interjected that the “only inconvenience” of this solution would be that the Banque would end up having to sell a large stock of copper---an activity far from the spirit of the institution. Hottinguer countered that the Banque could not refuse to discount the paper of one of the premiere financial institutions of Paris; and if the Banque ended up the copper collateral, it would not be blamed for the outcome of a situation it could not have

⁴⁵ Banque de France, Comité de Livres et Portefeuilles, Séance du 28 Février 1889.

⁴⁶ Banque de France, Comité de Livres et Portefeuilles, Séance du 28 Février 1889.

⁴⁷ Banque de France, Comité de Livres et Portefeuilles, Séance du 28 Février 1889.

foreseen. Taking this into consideration, the committee decided that the Banque would accept 7 million francs of renewals of the copper warrants.⁴⁸

Consequently, even as late as February 28, most of the Régents believed that they should continue to provide assistance to the CE in the belief that it was still solvent and in the hope that there would be a favorable outcome in the negotiations with the American mines.

The Facts Laid Bare---the Crisis Breaks—The Deep Insolvency of the Comptoir

At the next meeting of the Comité des Livres et Portefeuilles on March 2, 1889, the Governor presented, as promised, the results of his meeting with Denfert-Rochereau and Girod and the answers to the questionnaire he had sent the former. Rothschild, who had intended to depart for Cannes and had been replaced by André, appeared—reflecting the gravity of the situation.⁴⁹ The facts revealed were shocking.

The complex financial maneuvers of Secrétan and Denfert-Rochereau had left the CE insolvent. However, whether it was on the edge of insolvency or deeply insolvent is more difficult to determine. In addition to Denfert-Rochereau's March 1, 1888 declaration to the Governor of the Banque de France, two other documents provide measures of the depth of the CE's problems: the April 13, 1889 balance sheet of the SM given to the Tribunal by Secrétan when he filed for bankruptcy and the April 29, 1889 estimate of the CE's liquidators, Moreau and Montchicour. Panel A of Table 4 gives an estimate based on the March 1 information. Line 1 represents the credits of the CE, largely discounts on copper warrants to the SM. In addition, the CE was liable for the SM's copper warrants that were discounted at the Banque de France because it had given a guaranteeing signature. This obligation is shown on Line 2; so that the total obligation of the SM to the CE was 96.2 million francs. Line 3 shows the total liabilities and capital of the SM, 276.3 million. From this sum, credits from the CAM in line 5 and the capital invested in the SM in line 4 need to be subtracted. The debt of the SM to outside creditors was thus 224.6 million francs, as seen on line 6. The 96.2 million francs due to the CE represented 43% of this total, shown on line 7. Against these liabilities, the SM had 154,900 tons of copper (line 8), which if valued at the prevailing price of £40 per ton, represented assets of 156.1 million francs listed on line 9. If we suppose that the CE's share of this collateral is the same as its share in SM's debts (an optimistic hypothesis), the CE's share of these assets would be 66.9 million francs on line 10. Then the loss to the CE was 29.3 million francs. In addition to these direct losses, the CE had also guaranteed payment at approximately £70 per ton for the SM of the delivery of large quantities of copper in 1889 and 1890 (lines 13 and 14), which if the copper were only worth £40 per ton when delivered would cause a loss shown on line 15 of 115.9 million francs. The total potential loss for the CE was thus 145.2 million francs on line 16.

⁴⁸ Banque de France, Comité de Livres et Portefeuilles, Séance du 28 Février 1889.

⁴⁹ Banque de France, Comité de Livres et Portefeuilles, Séance du 2 mars 1889.

Table 4
Losses to the Comptoir d'Escompte
(in millions of francs unless otherwise indicated)

Panel A		
1	CE credits to SM	68.1
2	SM Warrants Guaranteed by CE	28.1
3	Total Liabilities and Capital of SM	276.3
4	Capital of SM	37.4
5	Debt to CAM	14.3
6	Debt of SM to outside creditors (3-4-5)	224.6
7	Share of CE (1+2)/6	43%
8	SM's copper (tons)	154,900
9	Value of (8) at £40 per ton	156.1
10	CE share of copper (7*9)	66.9
11	Direct Loss to the CE (1+2-10)	29.3
Panel B		
1&2	CE credits to the SM	116
6	Total Liabilities of SM	300.4
4a	Unsecured junior debt	43.7
6a	Debt of SM to secured creditors (3-4)	256.7
7	Share of CE (1/6)	45%
8	SM's copper (tons)	124,000
9	Value of (8) at £43 per ton	136
10	CE share of copper (7*9)	61.5
11	Direct Loss to the CE (1&2-10)	54.5
Panel C		
1&2	CE credits to the SM	146.5
9a	SM's copper (tons) serving as collateral	67,827
9	Value of (8) at £40 per ton	67.8
11	Direct Loss to the CE (1&2-10)	78.7
	Additional "minor" losses	2.9
11a	Total Direct Loss to the CE	81.6
Guarantees for forward contracts		
13	To be delivered in 1889 (tons)	43,900
14	To be delivered in 1890 (tons)	52,700
15	Indirect CE Loss if Guarantee for £70 and market price is £40 (30*25FF*(13+14))	115.9
Total Loss including guarantees		
16	Total Loss (panel A)	145.2
16	Total Loss (panel B)	170.4
16	Total Loss (panel C)	197.5

Sources: for panel A and the guarantees: Procès verbaux du Comité des Livres et Portefeuilles de la Banque de France, March 2nd. For panel B: Archives de Paris, dossier Société des métaux. For panel C: Moreau et Montchicour.

Panel B estimates the losses of the CE, based on the April 13 balance sheet provided by Secrétan. Total credits of the CE to the SM in line 1 were estimated to be higher, 116 million francs. Total liabilities of the SM were now set at 300.4 million, which when the unsecured junior debt (line 4a) is subtracted, leaves the secured debt of the SM to outside creditors (line 6a) at 256.7 million francs. Line 7 reports the CE's share, 45%. The copper holdings of the SM in line 8, if valued at £43 would give it assets of 136 million francs, shown on line 9. The CE's share of these assets would be 61.5 million francs on line 10 (again assuming its credits are as well secured as the average secured creditors), leaving a direct loss to the CE of 54.5 million shown on line 11 of Panel B, nearly double the direct loss in Panel A. If added to the indirect loss of 115.9 million from line 15, the total loss would be 170.4 million francs on line 16 for Panel B.

Both of these estimates of losses---145.2 million and 170.4 million francs---would have easily wiped out the CE's 80 million francs of capital, but only if the mines' contracts were not restructured, something the French participants had been seeking unsuccessfully in the last month before the collapse. On the other hand, both rely on data provided by interested parties---Secrétan and Denfert-Rochereau---whose incentive was to minimize their losses. The picture from the *liquidateurs* was much worse, as seen in Panel C. Credits of the CE to the SM were higher on line 1, 146.5 million francs. The collateral of the CE credits, on line 9a, valued at £40 in line 9, implied a direct loss on line 11 of 78.7 million, to which another 2.9 million losses should be added for a total direct loss of 81.6 million---which alone would wipe out the CE's 80 million francs of capital. If the guarantees from line 15 are added, the total direct and indirect losses would reach 197.5 million francs on line 16 for Panel C. Consequently, in most optimistic case, the CE needed the guarantees to be abandoned in order to survive; in the second one it has to be liquidated even if the guarantees were to be abandoned; in the third it would be deeply insolvent even under that hypothesis.

Uninsured depositors would rightly flee, if knowledge of this situation became public. The March 1 information provided to the Régents on March 2 was a rude shock and they would certainly have suspected that the situation might even be worse. Given the CE's capital of 80 million francs, it could not avoid a bankruptcy. This is what the Banque de France Regents must have thought on March 2, 1889.

For Denfert-Rochereau, the revelation of this information was too much and on March 5, 1889, he committed suicide; an act that amplified the run on the CE. That morning the Comptoir, urgently in need of cash, requested and was granted a 90 day discount of 4,231,921. The next day, the Comptoir requested a further discount for a sum of 3,818,003 francs that the Conseil granted up to only 90 percent of the value of the bills presented. The Banque was now a creditor of the CEomptoir for a total of 78,821,124 francs.

The Rescue of the Comptoir d'escompte

Following two days of steady withdrawals of deposits from the Comptoir, the Governor of the Banque de France informed the Conseil Général that the Minister of

Finance had expressed the hope that the Banque would make the greatest effort to prevent the failure of the Comptoir, “*qu’il considèrait comme un desastre public des plus douloureux pour le Pays.*”⁵⁰ He had answered that it was the responsibility of a syndicate of banks to organize a rescue. In the press, the Banque was now under attack by some journalists who claimed that it had been complicit in the emerging crisis, exhibiting a complaisant attitude; but he emphasized that the Banque had abided by its statutes.

Faced with a major financial crisis months as the Paris Exposition was preparing to open, the Minister’s patience was exhausted. Apparently, the 60 million private bailout had failed to materialize, as the Governor would tell the Conseil General the next day. The Minister summoned the directors of all leading banks and some members of the Conseil Général, to his office, on March 7.⁵¹ Although there are no records of this late night meeting, it was certainly tense, lasting from 10 p.m to 2.am. The Minister was blunt: if the CE did not receive 100 million francs before opening, the rising number of withdrawals would force it to stop payments. At 9 a.m. the following morning, Friday, March 8, 1889, before banks opened for business, the Governor convened an extraordinary meeting of the Conseil Général to respond to the Minister of Finance’s demand to provide assistance to the Comptoir d’Escompte.⁵²

The Minister expected the Banque to discount 100 million francs of the CE’s paper, with its entire assets serving as a guarantee. Ordinarily, if the Banque followed its rules for discounts and advances, it would not have been able to provide this credit, given the dubious quality of the assets and the absence of three guaranteeing signatures. To protect the Banque against potential losses, the Minister had arranged for a syndicate to absorb any losses up to 20 million francs. Its members would contribute accordingly:

Conseil d’administration of the Comptoir d’Escompte	2,500,000
Rothschild frères	3,000,000
Banque de Paris et des Pays-Bas	2,200,000
Banque d’Escompte	1,000,000
Bon. Hottinguer	1,000,000
André et Girod et Cie	1,000,000
Crédit Foncier	2,000,000
A.J. Stern et Cie.	1,000,000
Heine et Cie.	1,000,000
Crédit Mobilier	1,000,000
Hentsch frères	1,000,000
Société générale	500,000

These contributions totaled 17,200,000 francs. To complete the 20 million franc guarantee, it was expected that the Société de Dépôts et de Comptes-courants and the Crédit Industriel et Commercial and perhaps Crédit lyonnais would make up the

⁵⁰ Banque de France, Conseil Général, Procès-verbaul de les séance du 7 mars 1889.

⁵¹ Only the head of Crédit Lyonnais was absent.

⁵² Banque de France, Conseil Général, Procès-verbal de la séance extraordinaire du Vendredi 8 Mars 1889, à 9 heures du matin.

difference. If they failed to so, the remainder would be apportioned among the subscribing members.⁵³

Finally, the Governor read a letter from the Minister of Finances that recognized the risk to the bank but insisted that the bank take the risky action requested.” Immediately, the Régent, Frédéric Pillet-Will interrupted to ask what paper would be presented to the bank. The Governor responded that it would be notes issued by Secrétan on the SM and endorsed by the CE. This was clearly circumventing the three signatures rule and the Régents were well aware of the paper’s dubious quality. To justify this extraordinary exception, Magnin argued:

“La chute du Comptoir d’Escompte serait le coup le plus funeste qui pût être porté aux intérêts du commerce français dont il est le représentant, jusque dans le contrées les plus lointaines.”

According to the procès-verbal, Magnin then emphasized the “moral guarantee,” (underlined in the minutes), that was vital:

“La responsabilité que la Banque encourra peut être fort lourde, on ne peut pas en douter, mais M. le Gouverneur espère que la bonne foi du Comptoir allègera cette responsabilité et que le dévouement de la Banque sera récompensé de sa confiance. Il vient de prononcer le mot de bonne-foi parce qu’en effet la garantie morale est peut-être la principale dans cette affaire. La garantie effective est insuffisante pour pouvoir servir de base à la détermination du Conseil; mais si la Banque consent à venir au secours du Comptoir dans les conditions qui se présentent, elle aura fait un acte dont les conséquences, tant pour la place de Paris que pour les affaires en général, et elle aura ainsi rendu au pays un immense service qui viendra s’ajouter à tous ceux dont il lui est déjà redevable .”

Following this declaration for the need for the Banque to aid an insolvent institution to prevent a general crisis, the Governor faced a hostile minority of the Conseil général who dominated the discussion. Significantly, Rothschild, the heaviest of the heavy weights on the Conseil who gave later his complete approval was absent.⁵⁴

The industrialist Fernand Raoul-Duval rose to observe that some of the guarantors were “*notoirement engagés dans le syndicate des cuivres*” and asked whether there was not reason to fear that the guarantee would not be sufficient. This question was certainly inflammatory given that some of the signatories were Régents, and one target, André, responded simply that the guarantees were sufficient. Hardly appeased, Raoul-Duval

⁵³The remainder laws later supplied by Goguel et Cie. (300,000), Mallet frères (300,000), Vve Kinen et Cie. (200,000), Vernes et Cie. (300,000), Credit industriel et commercial (300,000), Credit Lyonnais, (1,000,000), and the Banque Ottomane (600,000).

⁵⁴ Banque de France, Conseil Général, Procès-verbal de la séance Jeudi 14 Mars 1889.

proclaimed that he was “*extrêmement frappé*” by the Governor’s presentation. He treated the copper syndicate as a menace to the economy, emphasizing that copper was a vital commodity for both industry and agriculture---including the use of copper sulfate to combat phylloxera. By raising the price of copper, the syndicate was levying a tax on manufacturing and agriculture. For his part, Raoul-Duval opposed the credit, and emphasized the importance of protecting the interests of the stockholders of the Banque.

Next, Pillet-Will spoke of the great risk to which the Banque would be exposed by this credit. He did not dispute the quality of the guarantee, which he called “excellent” though he would have wished for it to be greater. What concerned him was use of the assets of the CE as a guarantee. In his mind,

“La chute du Comptoir serait un immense désastre, tout le monde est d’accord là dessus; mais le premier devoir de la Banque est de rester fidèle aux règles de son institution. Ce n’est pas par des considérations de sentiment qu’elle doit agir; son dévouement d’ailleurs, serait vite oublié du public et du gouvernement; elle doit donc s’attacher à ne rien faire que de régulier et de statutaire. Il est difficile d’apporter un avis bien réfléchi dans une discussion qui présente un tel caractère d’urgence, et qui vous saisit, pour ainsi dire, à l’improviste; mais ce qui paraît le plus essentiel, c’est que la Banque ne s’aventure pas dans une affaire aussi grosse sans avoir pris les précautions que la simple prudence commande.”

Furthermore, Pillet-Will pointed out that even if the transfer of the Comptoir’s assets were a normal procedure, why would it not be contested by other creditors of the CE, notably the copper mines. Taking this into account, he estimated that a guarantee of 75 million francs was necessary. The Governor responded by saying that the Minister declared that it was a one time operation---“*un seul engagement, celui de donner 100 millions sans ouvrir la moindre responsabilité à l’égard des traités avec les mines, non exécutés.*” However he admitted that this was a special case: “*Elle ne peut pas compter sur des garanties juridiques, elle ne peut se baser que sur des garanties morales.*” In this argument he was backed by André who pointed out that to follow the rules because of “*formalités impossibles à remplir; c’est alors qu’on a résolu de demander à la Banque de prendre le tout.*” The key thing was to stop the panic.

Taking over the assets, prompted further questions. Both Pillet-Will and Michau demanded further assurances for the Banque but Baudelot, backed by Magnin and André, argued that there was not time left; and the Governor pressured the Conseil to vote. The proposition placed before the Régents was: “La Banque fera une Avance de Cent millions de francs au Comptoir d’Escompte qui lui donnera la garantie de son actif.” Eleven voted for and four---Pillet-Will, Legrand de Villers, Raoul-Dival and Michau---voted against it, barely making the required super majority for a motion to pass. While the Comité des Livres et Portefeuilles met to examine the details of the advance, Pillet-Will felt that he and the Banque had been betrayed by the insiders---including Rothschild. In an act without precedence, he resigned in protest. The proponents of the loan were comforted by

the end of the run on the CE, but shortly afterwards, this unprecedented credit proved insufficient and the Banque was obliged to give the CE another 40 million francs, with another 20 million francs in pledges by the syndicate of banks for possible losses.

A Run on the Comptoir But No Panic?

While there was little political tolerance for a run on a major financial institution and perhaps a general panic, it is not certain that the failure of the CE would have precipitated a panic, raising significant questions about whether the Banque's intervention was appropriate policy. As discussed above, the Comptoir was deeply insolvent---perhaps long before Denfert-Rochereau's March 1 report to the Governor.. Unfortunately, the archives of the Comptoir d'Escompte were recently destroyed, and there appear to be no record of its cash outflows and declining deposits. Only newspaper accounts and loans from Rothschild's bank and the Banque de France to provide cash offer evidence of the run on the Comptoir. The Minister of Finance and the Régents of the Banque discussed the danger of a general panic, but there is scant evidence on how a run on the CE was transformed or about to be transformed into a panic.

However, a panic of depositors should have been accompanied by a panic by shareholders, eager to dump their stock before the banks closed their doors or folded. Daily opening stock prices of the leading financial institutions in Figure 5 display their contrasting fates. The price of a share of the Comptoir abruptly declined 43.3% from 970 francs on March 1 to 550 francs on March 8, as the news of worsening finances and Denfert-Rochereau's suicide emerged. By the end of the month, a share was only worth 120 francs—a within month decline of 87.6%. The only other bank to experience a significant drop was Paribas with falls of 10.8% in the first 8 days of the month and 21.2% for the whole month. Given that Paribas was the second most involved of the limited liability banks, but far from as serious as the case of the Comptoir, this response seems almost proportional. Although in retrospect, Paribas was never in the danger of becoming insolvent as was the CE, knowledge and rumors of its collaboration make dumping of its stock seem reasoned. Beyond these two banks, there is little movement in stock prices.

The comparable changes for the “incipient panic” for Credit Lyonnais, the Société Générale and the Société de Dépôts et Comptes Courantes were -6.5%, -0.5% and -0.6%, which hardly seem like a case for contagion. Over the month of March, they all fell-- -9.3%, -2.1% and -8.2%. Only the shares of the Banque de France gained value, 2.2% and 3.5% respectively for the two periods. These movements in stock prices seem to match the very limited evidence on changes in deposits and cash. For the Société Générale, there is a daily ledger recording deposits and cash, which show no drain of funds for January to March that could be considered even a panic in embryo. The Banque de France has twice monthly accounts that report a mild rise in deposits during the most troubling moments. Taken together, all of this evidence suggests that depositors and shareholders were sophisticated and distinguished very carefully between the CE that was correctly rumored to be insolvent, its ally Paribas that had some major but not life-threatening losses, and banks like Crédit Lyonnais, Société Générale and the Société de Dépôts that had kept out of Secrétan's schemes. There was flight of depositors (and

shareholders) but only to the one bank that was known to take few risks and vast reserves—the Banque de France.

This incomplete mosaic raises an important counterfactual question---would there have been a general, and costly, panic had the Banque not stepped in to organize a rescue and recapitalized the Comptoir? Did this quick intervention create a moral hazard that encouraged future risk-taking by other panics. Whether this can be answered may be a moot question because of the carefully structured response by the Banque, imposing severe penalties on the parties at the center of the scheme---especially those who had conflicts of interest.

Cleanup: Setting the Right Incentives

The SM filed for bankruptcy on March 21, 1889, under the new legal regime procedure, “*liquidation judiciaire*” that halted all payments to creditors, while the firm continued its operations under the direction of *liquidateurs* appointed by the *Tribunal de commerce*.⁵⁵ The law required a meeting of creditors to decide the fate of the firm; and the SM’s creditors decided to liquidate the company, refusing to consider any plan to restructure the firm. However, the liquidation turned out to be a long drawn out long process. The *liquidateurs* had to untangle the many legal problems created by Secrétan during his two years as the head of the company. They first tried annulling guarantees given to the mines, leading to lawsuits in English and French courts. In England, the SM lost its case; but in Paris the *liquidateurs* won in Tribunal de commerce and in the Cour d’appel.

This important decision shifted a huge portion of the burden from guarantees of the forward contracts, seen in Table 4, which would have ultimately fallen on the CE. The case was won in Paris on the grounds that the mine owners knew that they had participated in a corner scheme, which was illegal under French law; and that by participating in it, they became shareholders and not creditors. Furthermore, as the contracts were to deliver copper far in excess of the annual production requirements of the SM (about 25,000 tons), they became invalid, having been irresponsibly signed by the SM’s Conseil d’administration. To avoid being sued for this dereliction of duty, the *administrateurs* agreed on July 11, 1891 to pay 2.5 million francs in order to escape a suit. The *liquidateurs* tried to sue the CE, as a participant in the copper scheme, on the same grounds but failed, since the CE earned no profits from it beyond interest on its loans to the SM. Further reducing the liabilities of the SM, the *liquidateurs* were able to have the SM’s unfilled subscription to the CAM’s stock declared to be contrary to its statutes.

On the whole, the liquidation proved more successful than might have been anticipated. By keeping the SM in the business of manufacturing, a profit of 10 million francs was made in less than three years of operation. Consequently, the *liquidateurs* were able to sell the factories and stocks of final products to a newly created Compagnie française des métaux for 18 million francs, roughly their book value. In the end, the SM paid a surprising portion of its debts. When the *liquidateurs* reported in 1894, the partial recovery of copper prices permitted the payment of all creditors holding collateralized

⁵⁵ This new legal regime began on March 4, 1889.

debt; and on average it paid off 43% of its 113 million unsecured debts.⁵⁶ A final payment of 7.7% on these debts was made in September 1896.⁵⁷

As for the CE, the *administrateurs* resigned and on March 23, 1889 filed for a private liquidation, under the authority of the Tribunal de commerce, which appointed a *liquidateur* on March 30. The bank maintained payments to depositors and creditors thanks to the loans from the Banque de France. These actions were confirmed by the CE's Assemblée Générale on April 28. Like the SM, the CE was freed from the guarantees it had given to the copper mines because they were incompatible with its internal statutes. Most importantly, the price of copper rebounded, perhaps influenced by willingness of creditors now in possession of the copper stocks previously owned by the SM and of some mines not to dump more copper on the market when prices were depressed (Moreau and Montchicour, p.25). As we have seen, the debt repayment by the SM was higher than expected, helping the CE to repay its creditors.

To resurrect the institution and minimize disruption, the Minister of Finance and the Banque de France promoted a new Comptoir national d'escompte de Paris (CNEP); the Assemblée Générale agreed to sell CE's head office, branches and clientele to this reincarnation in exchange for 40,000 founders' shares in the CNEP that would be distributed to the former shareholders of the CE for their acquiescence. The CNEP was founded with a capital of 40 million francs, half of which was paid in; and Denormandie, a former Governor of the Banque de France, assumed the office of president. The capital was almost entirely subscribed by the former shareholders of the CE, despite misgivings of the underwriting banks, which were 20,000 given founders' shares in compensation for their services. These shares had a right to 20% of the super-dividends that would be paid 5% of their nominal value before dividends were paid on ordinary shares.⁵⁸ The new Comptoir gained the confidence not only of its shareholders, but also of depositors. Within five months, deposits flowed in, reaching 125 million francs.⁵⁹ On November 5, 1889 the CNEP's Assemblée Générale decided that it could confidently double the bank's capital to 80 million francs.

The Banque de France suffered few if any significant losses. There was a delay in the repayment of the CE and SM debts, but the huge collateral in the form of the CE's copper stocks and other assets enabled it to recover the cash it had provided to the CE. At the Banque's 1889 Assemblée Générale, the Governor was pleased to announce that the 100 million francs would be repaid using the proceeds of the liquidation, thus the guarantors would not be called upon. As for the additional 40 million francs loan, the liquidation had not yet realized enough cash to cover it, so the Banque created a 4 million

⁵⁶ Liquidateurs' Report to the Court, March 1894. The report summarized the situation :[nous avons] « continué l'exploitation du commerce et de l'industrie de ladite société ; que cette exploitation a duré du 15 avril 1889 jusqu'au premier janvier 1892 et que les bénéfices réalisés pendant les trente trois mois d'exploitation se sont élevés, en chiffres ronds, à dix millions ; (...) les usines et le fonds de commerce ont été mis en vente et adjugés à la Société anonyme de Reconstitution de la Société des Métaux, dont le siège est à Paris, 66, rue de la Victoire, moyennant le prix principal de dix huit millions cinquante francs, outre les charges » ; « le passif privilégié a été éteint par le produit de la réalisation des gages, à concurrence d'une somme de deux cent dix millions environ », ce qui a « permis de répartir aux créanciers chirographaires, en deux fois, quarante-trois pour cent, sur un passif affirmé dépassant cent treize millions » (Archives de Paris, D14U3, 31bis3).

⁵⁷ Archives de Paris, D13U3, 28

⁵⁸ Archives CL, DA 140/5 internal letter from April 23, 1889

⁵⁹ Conseil d'Administration, Comptoir National d'Escompte de Paris, Rapport, 1889.

francs reserve from its yearly profits. One year later, the Governor informed the Assemblée Générale that all credits had been repaid⁶⁰. Furthermore, he added that, as promised during the crisis, the Finance Minister had sent to Parliament a bill for the early renewal of the Banque's charter.

The four principal figures in the copper scheme were sued by the *liquidateurs* of the SM and the CE for their role as *administrateurs* or *directeurs* and prosecuted in criminal court for « *accaparement* » (seizing a market and excessively raising prices to consumers) and fictitious accounting. Secrétan and Laveissière were sentenced to 6 and 3 months of prison. These sentences were commuted on appeal into 3 months for Secrétan and no prison time for Laveissière, and the « *accaparement* » was dropped. Joubert and Hentsch were also prosecuted and convicted but received no prison sentences. The Tribunal de commerce proved more severe : all *administrateurs* paid heavy assessments, leaving them with very few assets, which may explain the courts' leniency in terms of prison.⁶¹ Although the *liquidateurs*, Moreau and Montchicour, were severe towards the CE's *administrateurs*, demanding payment of 50 million francs, they recognized that most of them had been guilty of no more than laziness and excessive confidence in Secrétan, not fraud. They commented:

Un fait prouve bien cette confiance du plus grand nombre des administrateurs du Comptoir dans la solidité du grand établissement confié a leur gestion, et en meme temps leur insouciance complete du péril que faisaient courir a la Société les engagements pris sur les cuivres. Ce fait, c'est qu'à la date du suicide de M. Denfert Rochereau beaucoup d'entre eux avaient dans les caisses du Comptoir des sommes considérables en espèces et en titres.

Some members of the board showed remorse and spontaneously made substantial contributions towards the liquidation of the CE or returned deposits they withdrawn during the run. Others tried to escape their legal obligations, notably Hentsch who sold some properties to a friend at a derisory price just after the panic in order to avoid their seizure by the authorities. Yet, even this leading member of the Haute Banque was compelled to pay, with his evasive transactions nullified.

The acts taken by the Minister of Finance and the Banque de France to rescue the CE cannot be taken in isolation, without consideration of how the failure of the SM and the CE were managed by the legal system. The *liquidateurs* and courts moved swiftly and forcefully to capture assets and punish the guilty. The CE may have been able to pay off all of its creditors but it was only able to do so because its huge off-balance liabilities had been largely cancelled---ensuring that American mine-owners who had not yet produced the ore---did not benefit at the expense of the French public or French institutions and because the management of the CE, the Conseil d'Administration, was forced to make an enormous contribution, up to 50 million francs. If they may have felt that they could

⁶⁰ “La liquidation du Comptoir a cheve de nous rembourser le montant de nos avances en capital, interets et frais, ce qui nous a permis de lui restituer l’excédent des garanties que nous avons entre les mains et de degager nos garants de leur cautions sans qu’ils aient eu a supporter une perte quelconque du fait de leur louable intervention dans cette affaire” (CR AG exercice 1890, p. 4-5).

⁶¹ Abrams 1890, p. 427.

safely take more risk in the knowledge that the Banque de France would come to their rescue in the future, the managers of other French banks certainly took note of the enormous penalty assessed.

En Conclusion

In 1910, the Governor of the Banque de France, M. Pallain was interviewed by the U.S. National Monetary Commission (1910), which was hoping to learn from European central banks how to design an American institution. He was asked: “Does the amount and the character of credit granted to other banks depend on the amount and the character of their accounts at the Bank of France?” He answered:

There is no fixed rule, and although the balance of the account is not a matter of indifference, it is more especially the quality of the paper presented which fixes the extent of the credit. In periods of crisis in 1830, 1848, in 1870 in 1889, the general council of the Bank did not hesitate to come to the assistance of establishments which were in difficulties, but which held assets of unquestioned character and value, by extending to them the largest possible credits.⁶²

The Governor may have been citing the rules of the Banque, but those were not the rules by which the Banque played during the Crisis of 1889.

At the beginning of March 1889, the Banque de France discovered that one of the leading French commercial banks, the Comptoir d’escompte de Paris, was highly leveraged and taking huge off-balance risks by guaranteeing payments for forward contracts on copper. It had been at the centre of an attempt, engineered by the Société de Métaux, to corner the world copper market. When this scheme failed and news of the CE’s position became public a run started on the CE. Fearing that the run would morph into a general panic, which would spoil the opening of the 1889 Paris Exposition and possibly send the struggling economy back into recession, the Minister of Finance forced the Banque de France to intervene.

The Banque did not discount freely at a high rate of interest on good collateral as recommended by Bagehot and which would have been permissible by its statutes. If it had done so, the Comptoir would have been unable to meet the demands of its depositors, and with a run having already spread to Paribas, it might have hit all the banks. Interest rates would have spiked and GDP declined, but eventually the banking system would recover having suffered a “cold shower,” creating no moral hazard.

Instead, the Banque---with no promise of any funds from the Government---offered the insolvent CE a huge loan collateralized by the questionable assets of the bank. The central bank was protected from losses by a syndicate of bankers that was coerced to give guarantees of 40 million francs against any losses the Banque might sustain from its total credits to the CE of 140 million francs. The runs immediately abated and the shock to the economy never materialized. The danger from this action would of course be that it

⁶² U.S. National Monetary Commission, Bank of France (1910), p. 207.

engendered moral hazard, encouraging banks to take bigger risks in the future in the knowledge that the Banque would come to their rescue.

The response of the Banque and the legal system seem to have mitigated this dangerous effect by purging the banking system of the bank officials and board members who had conflicts of interest, nullifying contracts that would have rewarded risk-taking speculators, and by assessing and collecting truly huge financial penalties on managers and boards of directors of the CE. Although deviating from the accepted central banking tenets of the era, this strategy seems to have worked, in that there were no more financial crises in the pre-1914 era.

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