

INFORMATION AS PUBLIC AND PRIVATE GOOD: THE PARIS BOURSE IN THE XIX CENTURY

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Abstract

The recent financial crisis highlighted the weak empirical foundations of the analytical models used to shape stakeholders' expectations, financial innovation and regulations. One of the reasons is the scarcity of long-run financial micro-data available to test these models, especially when it comes to structural changes, which are vital to evaluating the impact of financial regulations, the causes of economic fluctuations, and interactions between economic (if not demographic and social) change and the financial systems. This deficit is particularly glaring at European level. Most of the European research projects have no choice but to use the American financial microdatabases, such as the CRSP database (Center for Research in Security Prices). Their exclusive use precludes any understanding of the particularities of the European markets, and hinders the development of models and financial products tailored to them and based on robust stylized facts.

Based on the digitalization of the French Stock Exchanges' sources, the “Data for Financial History” (DFIH) project aims at filling this gap for France. The project proposes to build a database of fortnightly spot and forward prices of securities, and ancient and modern options from 1796 to 1977 listed on the French stock markets (Paris Stock Exchange, Paris OTC market, Lyon, Bordeaux, Marseille, Lille, Nantes, Toulouse and Nancy Exchanges) and all the useful securities events for creating uniform price series over time. The database will also contain the main information about the issuers of these securities. The database building is still ongoing, but all prices and information about issuers of securities listed at the Paris Stock Exchange – by far the biggest one - for the period 1796 to 1925 are already stored in the project's Oracle database.

The archives of the French exchanges gather documents related to the life of the stock exchange from their foundation. The main serial sources for the project are the lists of the exchanges and the exchanges' yearbooks. The daily lists provide at least spot, forward and ancient option prices (if any) of the listed securities. As the financial market grew and public asked for more information, the lists displayed more

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data to the public, like the dividends, the ex-coupon dates and the issuing price, the number of listed securities, etc.

Second, annual yearbooks published either by the exchanges themselves or by other publishers, provide information about the issuers, such as the balance sheets, the administrators, the location of both headquarters and factories, a description of the activities of the company, the equity capital, the rules related to general assemblies and the distribution of dividends, splits, etc.

Finally, the *minutes* of the Stock Exchange Committees, as well as the rest of the archives give us the keys to fully understand the mechanisms producing the sources and the published data. For example, these sources describe the systems of prices' discovery and the methods employed by the exchanges to collect them.

Keywords: archives, financial information, Paris Stock Exchange, Coullisse.

JEL codes: N23, N43

1. Introduction

Information is central to the well-functioning of financial markets. While informational economics has emerged only recently as academic field, practitioners have been handling informational issues from the very origin of financial exchanges. In this paper, we show how the Paris Bourse, the second world financial exchange at that time, became a highly transparent market over the “long XIXth century”. While the French government early indicated its preference for a transparent market, the transparency of the Bourse was then reinforced by the joint liability among official stock brokers and competition from the Paris over-the-counter market through a process of differentiation. This transparency leaves to nowadays economic historians a unique corpus of sources relating the life of the exchange. These sources make it possible to build high quality data for French financial history. It is the goal of the DFI-H project.

Reliable information allows markets to perform its pivotal function, this is to mobilize and channel capital to business and households with the better productive opportunities. Asymmetric information between lenders and borrowers can lead to both moral hazard and adverse selection that, in turn, hamper financial transactions and harm allocation of capital. Typically, borrowers have better information than lenders on their own use of the money raised: owners-managers of a corporation can thus take advantage of investors buying securities. Individual investors are not in the better position for screening and monitoring borrowers. Informational economics does explain the rise of financial intermediaries as organizations performing delegated functions of borrowers’ screening and monitoring (Crockett, Harris, Mishkin and White, 2003).

Nevertheless, exchanges also play a pivotal role in collecting, treating and disseminating information. Informational research in market microstructure studies how transparency and disclosure do affect price formation and traded volumes, two factors that in turn affect capital mobilization. As a consequence, this literature considers exchanges as organizations handling information. Exchanges gather information from investors willing to buy and sell as well as from issuers submitted to disclosure requirements. Markets process information by bringing together sellers and buyers while floating issuers; they gather information on trades such as prices and quantities and disseminate it among investors (Madhavan, 2000). While exchanges drawn a substantial share of their revenues from information-processing activities, ex-ante and ex-post transparency give rise to conflicts among traders because of its redistributive effects (Pirrong, 2000). If uninformed traders prefer transparent market to avoid cream-skimming, informed investors favour opaque market to prevent free-riding. As far as issuers are concerned, listing on transparent market can be seen as a quality signal to investors who lower the expected returns required to buy and holds securities. Alternatively, if the private benefits of controls for owners-managers are higher than the benefits derived from the decrease in expected returns to be paid to investors, thus issuers do prefer to list on low-disclosure-standards and opaque markets. Recent literature shows that heterogeneous preferences of both issuers and investors can lead to an equilibrium based on various well-differentiated exchanges, in spite of centripetal network externalities (Coffee, 2002).

The historical concrete trajectory of the Paris Bourse shows how those forces increased the transparency within the Bourse, improved disclosure requirements for the issuers as well as fostered circulation of the information outside the Bourse through newspapers and other publications. Well before the development of informational economics, brokers not only dealt with information-related issues every day in the Bourse, but often based on both the transparency of their market and the fairness of the prices produced the arguments to be spent in the public arena to lobby government and judges.

While the pivotal role of information in the well-functioning of financial markets underscores the public dimension of transparency, the French governmental power often intervenes in the arena to preserve issues and trading of debt on the one hand and to ensure investors’ protection in a country where the

precautionary saving of a limited but growing part of the population was invested in securities. To reach this goal, sometimes the government threatened the official brokers' position (Lagneau-Ymonet and Riva, 2008, 2012).

Next, the interests of market participants in attracting orders bringing to their houses high net fees, and competition between the two Parisian exchanges represent two additional powerful forces shaping the informational flows within and around the exchange. While the number of listed securities increases, the evolution of the banking system plays a crucial role: on the one hand, big deposit banks drain savings from an ever growing number of private investors and channel them to the financial market; on the other increase in the number of financial operators mainly in derivatives products, create new pressures on this market segment. On the same grounds, competitive pressures from the Paris over-the-counter market can drive a process of differentiation among exchanges leading to an equilibrium based on two well differentiated exchanges, the Bourse given its legal constraints becoming the high-hand one (Hautcoeur and Riva, 2011).

Finally, the joint liability official stock brokers were submitted to represents an additional force determining the level of transparency in the Bourse. Idiosyncratic counterparty risk can expose a broker to heavy losses from the failure of a fellow broker. If the losses are large enough to lead to the failure of other brokers, the systemic dimension of the counterparty risk can unleash the collapse of the market. Only the transparency of the trading system can ensure effective monitoring by the fellow brokers, so that dangerous positions will be contained before systemic risk comes out of (Riva and White, 2010).

The trajectory leading the Paris Bourse to become a very transparent market is radically different from the ones followed by the other main world exchanges, even in French civil law countries as Belgium and Italy, precisely because it is embedded not only in a specific legal framework, but more generally in a different institutional setting built up from the beginning of the XVIII century. The Brussels stock Exchange, similar to the Paris Bourse up to 1867, diverged radically from this date onward because of a liberalization of the brokerage activities, while Italian stock exchange always have been worked differently for the entire XIX siècle.

The transparency of the Paris Bourse had also an impact on the history of finance as academic field. In 1863, Jules Regnault, the clerk of an official stock broker, wrote a book to explain the fairness of the prices produced at the Paris Bourse thanks to its transparency and the mechanisms surrounding price discovery. According to Jovanovic and Le Gall (2001), this book is at the origin of the Louis Bachelier's researches that led to the efficient market theory formalized a century later by Eugene Fama. On the other hand, Léon Walras drew inspiration for the formalization of the general equilibrium theory precisely from the observation of the actual functioning of the spot market at the Paris Bourse.

Moreover, the transparency of the Bourse leaves to nowadays economic historians a unique corpus of sources relating the life of the exchange. These sources make it possible to build high quality data for French financial history. It is the goal of the "Data for Financial History" (DFI-H) project. The D-FIH project proposes to build a database of fortnightly spot and forward prices of listed securities, and ancient and modern options from 1796 to 1977 on the Paris Bourse and all useful information for creating uniform price series. The database will also contain the main information about the issuers of these securities.

The recent financial crisis again highlighted the weak empirical foundations of the economic and financial analytical models used to shape stakeholder expectations, financial innovation and regulations. One of the reasons for this shortcoming is the scarcity of long-run financial microdata available to test the theoretical models, especially when it comes to structural changes, which are vital to evaluating the impact of financial regulations, the causes of economic fluctuations, and interactions between economic (if not demographic and social) change and the financial systems.

This deficit is particularly glaring at European level. Most of the European research projects have no choice but to use the American financial micro-databases, which are the only ones in existence suited to their research. The most widely used database is produced by the CRSP (Center for Research in Security Prices), a production platform managed by Chicago University. This database contains prices and dividends for stocks listed on the New York Stock Exchange since 1926. Its exclusive use precludes any understanding of the particularities of the European markets, and hinders the development of professional, analytical models and financial products tailored to them.

Considerable progress could be made by setting up high-quality financial databases for Europe, generating the potential for an extensive revision of current knowledge of the financial markets. There is great demand for structured databases that can capture the long-run logic and behaviour of the European markets, whether the stock markets, the corporate market, the savings market or the investment fund market. The DFI-H project is one answer to this demand.

2. Market information as a public good

The Paris Bourse was officially founded in 1724. In the aftermath of the Law's bankruptcy, the royal power attempted to discipline financial transactions. After the frenzy of the rue Quincampoix, where the Banque Générale's shares were traded, the king conferred the monopoly over financial transactions to a guild of sixty official (pure) brokers under the surveillance of the general lieutenant of police to mark the public order dimension of the Bourse. Yet, at that time, it was forbidden to trade by open outcry to avoid the spirits' excitement. Nevertheless the need of information on potential and close deals pushed the practitioners to disobey and open outcry the prices. In 1774, a decree reorganizing the service of the royal debt commanded that financial transactions must have been centralized in space and time and securities traded by open outcry to avoid prices' manipulations. The official stock brokers must thus have traded by open outcry during the exchange's session on a delimited and raised space - the *Parquet* - under public scrutiny. Interested in the fair trade of its debt, the royal power finally conferred transparency to financial transactions (Lagneau-Ymonet and Riva, 2012).

If all the transactions were registered well before, a 1785 decree established an obligation for the official stock brokers to quote the prices of royal securities while the trading of the others was banned from the Bourse to avoid competition. At the end of the session, the prices of royal securities must have been collected, certified and published within the Exchange. In spite of the ban, the private securities are traded and their prices published with the royal securities' ones. The guild of stock brokers transfers the prices to newspapers for publication. At the very beginning of the *Directoire* (January, 22nd, 1796), an "official list" starts to be published with the fiat of the public power, even if the stock brokers were publishing a list at least from September 27th, 1793, likely to give landmarks to investors during the troubles of the Revolution (Lagneau-Ymonet and Riva, 2012).

As earlier as the XVIII century, the interest of brokers in attracting orders and the investors' need of information pushed market participants to infringe laws impeding the circulation of information flows needed for transactions inside and outside the Bourse. Even informed traders needed landmarks to run their business. The public power conferred its seal to ex-ante and ex-post market transparency to preserve and promote trading in public debt in the wake of the formation of a "bureaucratic state" (Weber, 2010 [1896]).

After the drastic restructuring of the national debt with bankruptcy of the two thirds (1797), the consular and imperial system employed the early years of the nineteenth century to the reorganization of French fiscal and financial institutions. To mention only the most salient innovations, the government improved

regularity of tax revenues to the Exchequer when the *Caisse d'amortissement* multiplied its operations on the French public bonds for either face the immediate needs of the Treasury and contain price movements which would go against government action (1799). The Bank of France created by private banks under the patronage of the government in 1800 obtained three, years later, the monopoly of issuing banknotes. In return, it would have helped the Treasury through advances. Restoring collective forms of trade and production organization participated of this institutional redesign (legal professions, chambers of commerce...).

The re-institution of *officiers ministériels* dedicated to securities brokerage (official stock brokers) trading, at that time, mainly French public bonds, was part of this particular moment in the construction of the French bureaucratic state. The three (re)founding laws were (i) the law of 19 March 1801, (ii) the decree of 16 June 1802, and the Commercial Code adopted in 1807, which incorporates the main elements of the previous rules. The implementation of the law March 19, 1801 was regulated by the decree of 19 April 1801 (27 Prairial an X) regulating the organization and police of the exchange as well as the official stock brokering.

By this set of rules, the French government confirmed the basic features of the pre-revolutionary setting of the exchange around the (re)founded guild of the official stock brokers. Sixty official stock brokers have been granted a monopoly on the transactions of securities. The prerogatives of this closed group of official brokers included the quotations of exchange rates, gold and silver and government securities they were committed to perform aloud, on the Parquet of exchange, for a fee whose maximal amount was fixed by decree. By the *numerus clausus*, stockbrokers were “appointed by the government to public confidence”. The security bond they have to pay is the “pledge of good conduct, or the atonement of their mistakes and their faults” (Legislature 1801-03-19: Decision). These rules determined also the terms of appointment of stockbrokers and restored the individual and collective official brokers’ unlimited liability for debts from activities submitted to the monopoly (Lagneau-Ymonet and Riva, 2012).

The statute law finally defined the rules presiding over the guild and official stock brokers who in Paris were, until 1816, under the joint authority of the Ministers of Interior and Finance. This double monitoring points the interlacing of public order and credit. This was for the state to control the prices of public bonds and shares of the Bank of France, as barometer of the people’s trust in order to establish his “credit” within and outside the country, at that time the market being not mobilized to issue public debt. In spite of this setting, the number of statute articles devoted to both official stock brokers was small, while the official rules setting out the transactions were limited to the ones regulating the transparency of price discovery. The rest of the regulations presiding over the stock exchange activity was delegated to the guild. The collective and individuals threats over the official stock brokers should have aligned their behavior to the expectations of the political power. While the legal rules punished defaulting individuals with forced labor and risk takers with revocation, not only the systemic dimension of the counterparty risk had the potential to make the market collapsed, but the government may always have revoked a profitable monopoly in the case official brokers’ collective behavior did not match its expectations on the well and smooth functioning of the market (as it happens in 1862 for the brokers in commodities). This incentive led official brokers to reinforce the transparency of the market. The need for monitoring each other’s position under the surveillance of the stock exchange committee empowered with ample faculties as soon as 1816 pushed to the implementation of the trading at a pit around which brokers were used to keep always the same position (Lagneau-Ymonet and Riva, 2012).

These legal features of the Paris Bourse are unchanged till the World War One. The only important legal change occurred in 1885 when a law legalized derivatives operations after the collapse of the exchange in 1882. Even if *stricto sensu* illegal, derivative trading was the bulk of the Bourse from its foundation (as soon as 1825, derivatives volumes were more than sixty times the spot ones and spiked in 1881): in the courts appeared an uncertain and nonlinear tendency to consider these contracts enforceable if concluded

according to the rules of the Bourse as the brokers' guild showed its reliability. An abrupt change of the jurisprudence after the January 1882 crash was to provoke the collapse of the market. Brokers' clients refused to pay their debts and the brokers had to mobilize their networks to reimburse an emergency loan from the Banque de France. A few years later, a law states the legality of derivatives trading to stabilize the market by ensuring the stability of their operators threatened by the bad faith of their clients (Lagneau-Ymonet and Riva, 2008).

The crisis crystallized debates over the legitimacy and legality of derivatives trading which have been spanning almost a century and were centered on the "sincerity" of prices, this is to say the genuinity of their informational content and the ways to avoid or limit manoeuvres altering the free interaction of demand and supply, the "agiotage". Derivatives contracts being set by the payment of differences between the current price and the price stated on the contract, operators were able to leverage their buying position and sell a given stock without limits. If buying without having money and selling without having the securities were current practices at the exchange, the legality and the legitimacy of these operations were strongly contested because considered as means of manipulating prices of underlying securities. According to criticism, transparency was a way to spot manoeuvres and punish the guilty.

These heated debates highlighted the "public order" dimension of the informational content of prices and put on center stage the transparency of the market as device of price stability against the - upward as well as downward - manipulations of informed large traders at the expenses of individual investors. The public dimension of these debates was threefold: first, the government was concerned by investors' protection in a country where the precautionary saving of a limited but growing part of the population was invested in securities; second, it intervened in the arena to preserve issues and trading of public debt; third, the debates inflamed the dominant fractions of the French society because opposing the new "*bourgeoisie d'affaires*" and the old land-backed "*notabilité*". The French government was then torn with conflicting interests. On the one hand, it should have defended market transparency to protect individual investors and ensures an ordered preservation of property. On the other, to issue public debt, the government needed the support of large and informed financiers supposed to buy and trade public debt till the final placement within the individual investors' portfolios. To secure this support, government should have granted to large and informed financiers some opaque espaces to cash their informational advantages. Along all the century, the French government equilibrated the balance by allowing the development of the OTC market, the *Coulisse*.

At the origin, the operators who were to form this alternative market were professional counterparties of the unbalanced orders official brokers were receiving from their clients. When the market activity increased, these operators formed a new market by bringing with them orders from informed large and professional investors. The price discovery mechanism was opaque; the prices were published without any control other than the reputation, on newspapers; the entry of dual-capacity international operators was free as the listing of securities. In turn, the competition from the *Coulisse* reinforced the transparency of the Bourse through a process of competitive differentiation. Schematically, the Paris Bourse and the *Coulisse* were supposed to satisfy the heterogeneous preferences of various fractions of the French society having access to investments in securities and compete at the margin on the most profitable segments of the stock exchange industry, at that time derivatives trading on internationally cross-listed public bonds. Nevertheless, if the development of informed professional operators facilitated the durability of the *Coulisse*, the relative weight of the two markets was a political issue. Pro-business governments supported by the *bourgeoisie d'affaires* left room for the development of the *Coulisse* as in the 1860s and the during the first decades of the Third Republic, where the role played by the *Coulisse* in the placement of the 5 billion public debt issue (20% of the French GDP) to pay war damages to the German Empire does legitimate its existence with the new regime. The *Coulisse*'s operators being mainly foreign (and even worst German and Jews), the nationalistic tensions unleashed by the "Affaire Dreyfus" and maintained by the winds of war from the end of the 19th century onward pushed the French government to center the market on the Bourse run by French and catholic operators.

Yet, along all the 19th century, the operators mobilized in the public arena the relative virtues of the two markets as argument to win the support of government and public opinion. The Bourse systematically pointed out the transparency-based fairness and sincerity of its prices made by pure brokers as well as the information it spread among and protection it ensured to investors with the official list. It contrasted the differences in approach of the *Coulisse* where operators in potential conflict of interest with their clients because of their dual capacity, were trading in an opaque market at dubious prices. Within the framework of nationalistic tensions, these legitimate arguments decided the government to intervene in favor of the Bourse after a crash hitting in 1895 the *Coulisse*, at that time trading two times the volumes of the Bourse: the government set by statute tools to enforce an until then contested monopoly and confer more transparency to the *Coulisse*.

The transparency of the Bourse and the mechanisms in place to make the market transparent can also be connected to the development of financial theory. Jovanovic and Le Gall (2001) and Jovanovic (2004) show that the origins of the modern finance can be dated back to *Calculs des chances et Philosophie de la Bourse* (1863), the book of Jules Regnault. According to these authors, the Regnault's works have been at the origins of the Louis Bachelier's 1900 thesis on the random walk of securities' prices, formalized by Eugene Fama. Indeed, Regnault describes a model centered on perfect information where prices are randomly distributed because the transparency of the market guarantees each agent has the same information. He tested the model out with the prices of the *Rente* 3%, the main French public bond, quoted at the Paris Bourse between 1823 and 1862. When modeling this market, Regnault underscores that thanks to transparency, the risks of dealing with an informed operator and price manipulation were marginal. Less than a decade later, Leon Walras observed the spot market of Paris Bourse to model the discovery of prices leading to the general equilibrium under the hypothesis of perfect competition. By mobilizing contemporary accounts, Walker (2001) argues the working of the Paris Bourse is far away from the Walras' model: the imbalances between demand and supply of a security would have been current and unabsorbed. We argue that in spite of the Walker's reading of some temporary accounts, the archival evidence this paper is based on, shows that the organization of the Paris Bourse was set on a transparent price discovery system based on the principles surrounding today's electronic limit orders books, according to market microstructure literature, the most transparent organization of an exchange because it ensures a fair distribution among the participants of the information hitting the market (Glosten, 1994). Information was at center stage of both French practitioners and theoreticians of the 19th century.

3. How did the Paris Bourse collect financial information?

In this section, we examine how this market transparency was concretely achieved by the Paris Bourse. This process implied a huge data collection, organization and dissemination work, both for the brokerage houses and for the Stock Exchange as a whole. For clarification purposes, we distinguish information about the issuers of securities listed at the official market from information on orders and information embodied in prices.

First of all, the Stock Exchange Committee required some information from the issuers of securities listed at the Paris Bourse. Before 1867, there were no clear listing requirements for the listing of French securities. Indeed, as stated in the *Code de commerce* of 1807, the formation of corporations was subject to the approval of the French government (Freedeman, 1979). The 1867 reform liberalized the French company law by allowing the free formation of corporations. The Stock Exchange Committee was then said to be the "master of the list", in the sense that it set listing requirements following the jurisprudence. Indeed, even if applying for listing was free of charges, as stated by the article 155 of the internal rules of the Paris Bourse (*Règlement général de la Compagnie des Agents de Change*), applicant companies

and/or public administrations had to provide some documents to the Committee in charge of the decision, namely a copy of the company statutes, the certificate of incorporation, the previous balance sheets, minutes of the last general assemblies, a copy of the prospectus published in the *Bulletin des annonces légales et obligatoires*², and a commitment to provide minutes of forthcoming general assemblies to the Stock Exchange Committee. In case of securities issued by a public authority, a copy of treaties or agreements authorizing new debt issue was also required by the Stock Exchange Committee (Périé, 1915).

At the very beginning of the XIX century, as a consequence of an old law passed in 1785, foreign securities were not allowed to be listed. Nevertheless, trading on those securities taking place outside the Stock Exchange became more and more frequent and was then poorly regulated. In order to ensure investors' protection, the French government decided in 1823 to lighten rules regarding foreign public securities. The *Compagnie des Agents de Change* was then allowed to list them, provided the Ministry of Finance did not disagree with it. Foreign issuers had also to prove statutes were conform with country-of-origin laws and that securities were already listed at an Exchange (Aubry, 1912). This verification process was considered as a way to ensure investors' protection. It became tighter after that official stockbrokers were forced by the France's court of last resort, the *Cour de cassation*, in 1877, to partially reimburse investors who lost money in the *Compagnie du chemin de fer Memphis-El-Paso et Pacifique*. The official stockbrokers were blamed for not having checked carefully the legality of that company at the time it went public (Siegfried and Lévy, 1890).

Another meaningful difference among issuers occurred with the creation of the Second part of the List on May 5, 1892, established by the decree of 7th October 1890. The "First part of the List" was filled with the securities whose number of transactions was enough to be considered as "permanent securities" by the *Compagnie des Agents de change*. For this reason, this part is improperly called "Official list", even if the other part contained as well securities officially negotiated. The "Second part of the List", which would be regarded today as a "junior market", contained the securities traded on a more limited market. The creation of the Second part of the list was imposed by the Ministry of Finance to the *Compagnie des Agents de Change* to provide trading opportunities for securities issued by small and medium enterprises. Thus, listing requirements were not so high in this case. The decision to admit securities to the first or to the second part of the list still relied upon the Stock Exchange Committee.

Once gathered, information on issuers was spread among the public using two means. First, before each initial public offering (IPO) or seasoned equity offering (SEO) at the Paris Bourse, a public notice was put up at the entrance of the stock exchange building for several days (see the section 4 on *Décisions et Avis*

² Debates on organizing a legal advertisement on security issues occurred by the end of the XIX century. By 1884, the Sénat discussed such a proposition but finally rejected it (Chassériau, 1898). After several financial scandals, the law passed in 1907. More precisely, the article 3 of the year's Budget Law (*loi de finances*) dated January 30th 1907 stated that any issue, introduction or sale of securities to the public should be announced by a prospectus in the *Bulletin des annonces légales et obligatoires* (BALO). The prospectus includes information of the firm and the forthcoming issue, notably a description of the activity of the firm, the paid-up capital, the type and the number of shares outstanding, the number of bonds already issued, and the last balance sheet (if it exists). During a session of the Chamber of Deputies (14/12/1906), Joseph Caillaux, the Minister of Finance, justified this law as follows (quoted by Wahl (1907, p. 2-3)):

"At the Paris Bourse, one sells securities whose value is only slightly more than the value of paper... It was non exploited mines yesterday. It was a certain dairy or a certain explosive which was offered to all naïve investors the day before. The law in question is intended to make mandatory the publication of various documents relating to all companies whose securities will be sold to the public in the *Journal Officiel* and decide that no security can be offered to the public without this publication, in order to make people responsible... It is a matter of morality and public safety!"

de la Chambre Syndicale). Second, between 1880 and 1936, the *Compagnie des Agents de Change* published an annual yearbooks gathering useful information about issuers (see the next section).

Another important set of information to be collected by the stockbrokers is related to investors' orders. The stockbrokers received instructions to buy or sell by several ways. Customers may send their orders specifying the type of order (limit order, best offer, etc.) by mail, or later by phone. Another possibility for the investor was to go directly to the office of the brokerage house (*cabinet de l'agent de change*). Usually, the stockbrokers' offices were located close to the Stock Exchange and were open all day long. Obviously, stockbrokers also received orders during the trading session. Although trading hours changed a lot during the XIX century, the trading session used to last three hours and to happen around midday. Official stockbrokers were pure brokers since it was forbidden for them to act as counterparties. As a result, to execute orders, they had to find an opposite order, most of the time by dealing with another stockbroker. It was done during the trading session.

Because of the rapid development of the trading operations in the 1840s and 1850s, the floor of the Paris Bourse was crowded, even though the number of official stockbrokers was strictly limited by the law. Indeed, not only stockbrokers, but also employees of the brokerage houses, bankers, investors, representatives of the executive power, and mere individuals attended the trading session. The *parquet* was a trading space open under the scrutiny of the public. More precisely, negotiations were conducted under specific rules and thanks to an outcry auction process in order to ensure fair and transparent prices. To keep the trading as efficient and transparent as possible, the Stock Exchange Committee under the supervision of the Ministry of Finance reorganized the floor with two main measures: the creation of senior clerks (*commis principaux*) in 1859 and the creation of new pits.

Each stockbroker was initially allowed to employ two senior clerks³, which were often former brokers of the *Coulisse*. The senior clerks owned the same rights than the stockbrokers for the negotiation of securities. Thanks to the creation of senior clerks, stockbrokers were released from trading on some securities. Thus, it led to a higher specialization of financial intermediaries. The creation of senior clerks went hand in hand to the establishment of new pits. It aimed at increasing the transparency of the market and at improving transactional effectiveness in the exchange.

Picture 1: Organisation of the floor of the Paris Bourse at the beginning of the XIX century

On that picture, we can clearly distinguish next to the main ring (*Corbeille*) only open to the stockbrokers and to areas dedicated to operations of French public debt (*Rente*) and to spot operation (*Comptant*), four pits (numbers 1 to 4). Each of them is dedicated to forward operations on a small group of securities.

The Paris Bourse set up different mechanisms to move from orders to prices. The first spot price of a trading day was established in a process known as "fixing". This "fixing" was very close to the "(electronic) limit order book", used by most of the stock markets nowadays. Higher and lower offered prices received by each stockbroker were literally written on books (*feuilles d'opposition*) before the opening of the trading session. The matching between demand and supply was done by specialized employees of the Stock Exchange (*coteurs du comptant*). This first price was set taking into account all the orders received by the stockbrokers since the end of the last trading session. As a result, it contained significant information. For the forward market, no books were used: transparent prices were obtained through continuous outcry auctions. To ensure transparency, official stockbrokers cried out orders to find a counterparty during the trading day. Describing this open outcry process, Boissière noted that stockbrokers should be not only "smart", but also have a good physical strength" (1908, p. 235). Thus, the Paris Bourse managed to implement transparent price-discovery processes.

³ The number of senior clerks by brokerage company rose to 4 and then to 6 at the beginning of the XX century.

Picture 2: The floor of the Paris Bourse

During the trading session, the brokers and the senior clerks wrote transactions on notebooks. After it, when they came back to their offices, they transmitted them to employees in charge of the “official list”. The Official list has been a crucial element in the functioning of the official stock market since the very end of the eighteenth century. It took the form of a daily publication: the *Cours authentique et officiel*, established after each trading day by stockbrokers according to instructions given by the article 79 of the Decree of 7 October 1890. More precisely, the stockbrokers had to report all spot prices in the chronological order and minimum, maximum, first and last prices for the forward market. Once established, the official list was checked and signed by the *Syndic*, i.e. the Head of the Stock Exchange. A copy was then displayed in the Stock Exchange building and sent to the Minister of Finance and the Prefect of Police.

4. How did the Paris Bourse spread financial information among the public?

4.1 The Official List

If in the previous paragraph we observed the Paris Bourse assured the market transparency, in this section we focus on the procedures allowing market transparency ex post, i.e. through the public diffusion of the information concerning traded securities. This was achieved by the official publications about Bourse trading. Among them, the *Cours authentique et officiel* (Official List) played a fundamental role. At the end of the XIX century, The *Cours authentique et officiel*, became a daily publication, established after each trading day by stockbrokers. Its structure changed significantly over time, according with the evolution of French financial market and its legislation. The early official list, contained mainly gold and silver prices, spots of foreign exchanges (*Cote de Changes*) and government securities (French rent, Treasury and Paris bonds). Then, progressively, the securities of private companies started appearing. The approval of the *Compagnie des Agents de Change* was required in order to be admitted to negotiations. Once the *Compagnie* made its decision public (*Avis de la Compagnie des Agents de Change*), the official list started publishing the information about the number of securities admitted to negotiations for that company and their prices.

During the XIX century, two major events changed the structure of the official list. First, the 12th November 1823, a Royal order stated the admission of foreign securities in the French market, even if, until 1858, it concerned only the foreign governments’ rents. Then, the 20th May 1844, the forward market appeared on the list. At that time, the forward market hosted very few securities: the French Government rent, some foreign governments’ rents (Naples, Roman and Belgian government), some securities of the Banque de France and of railways companies (François-Marsal, 1929; Neymarck, 1911).

Table 1 : Main changes on Official List structure

| Major events changing the Official List structure | Period |
|---|--------------------|
| Metals market | From January 1797 |
| Foreign securities admitted in the French market | From November 1823 |
| Forward market | From May 1844 |

| | |
|---|---------------|
| Information about dividends | From May 1865 |
| Creation of the Second Part of the List | From May 1892 |
| Repo market | From 1860 |

At the end of XIX century, the Official List started having a more stable structure and configuration. The decree of 7th October 1890 detailed what kind of information had to appear on the List. Together with the indication of all spot prices in the chronological order and minimum, maximum, first and last prices for the forward market, it included other information such the closing price of the previous day or the last dividend/interest paid.

Picture 3: First page of the Official published on 1st December 1890

As we mentioned in section 3, the Official List has been divided into two parts since 1892. The only information collected on the Second part of the list were the name of the securities traded and their relative prices. All other kinds of information related to securities that appeared on the First Part were not included in the Second Part. In the Second part of the list, the securities were not published permanently on that part, but only the days in which they were actually negotiated.

Picture 4: Second Part of the List published on 5th May 1892

Nonetheless, more complete information about the securities traded on the Second Part were reported in the *Bulletin Hebdomadaire*, a weekly list published every Monday, which summarized the first, last, highest and lowest prices negotiated for each security, during the whole week, both for the First and the Second Part. In the Second Part of the *Bulletin Hebdomadaire*, all the securities traded appeared, no matter if they were traded or not during that particular week. Moreover, the Bulletin contained, also for the Second Part of the Cote, the information about interests and dividends and previous prices traded. This allowed a complete transparency about the securities traded on that market.

Picture 5: Second part of the List published on the Bulletin Hebdomadaire on 22nd December 1902

In addition to the Official List and the *Bulletin Hebdomadaire*, the Compagnie des Agents de Change published the *Recueil hebdomadaire* every week between July 1892 and 1906. It provided various financial information, such as the revenues of railway companies or bonds draw dates. More importantly, for the first time, a periodical publication gave daily prices of securities only listed at all the Regional Exchanges, namely Bordeaux, Lille, Lyon, Marseille, Nantes and Toulouse.

Contemporary scholars have often stressed the crucial role played by the official list, especially by establishing international comparisons. For instance, Paul Leroy-Beaulieu, a French economist, wrote: “For those who often bought or sold securities, whether in England or in the United States of America, or even in Germany, (...) prices transmitted by financial intermediaries do not correspond exactly to those given by newspapers ; and the difference is almost always unfavorable to the investor”⁴. As a result, the official list largely contributed to the diffusion of information produced by the Stock Exchange⁵. Among others, C. Périé (1915) argued that the official list was a way to protect investors by providing an

⁴ Leroy-Beaulieu P., *L'économiste français*, 01/23/1897.

⁵ See Mulherin *et al.* (1991) for another perspective on the New-York Stock Exchange.

alternative to the easily corrupted French financial press⁶. All these publications are now conserved at the Archives of the French Ministry of Finance (Centre des archives économiques et financières du ministère de l'Économie et des finances - CAEF). The CAEF has the complete series of the Official List of the *Bulletin hebdomadaire* (which was published between 1866 and 1919) and of the *Recueil hebdomadaire*.

4.2 Yearbooks

The archives of the French Ministry of Finance contain plenty of information about both public and private issuers from which securities are listed on both the *Parquet* and the *Coulisse* at the Paris Bourse. The main sources we use are the yearbooks published by two different editors. One is edited by the *Compagnie des Agents de Change* (i.e. the brokers syndicate, CAC), the other is published by a private editor called Desfossés.

Picture 6: Examples of yearbooks CAC and Desfossés

With respect to the CAC, we have access to all the yearbooks from 1880 up to 1936. They only report information about issuers for whom securities are listed on the official list. The information we can extract from them differs from public to private issuers. First, for public issuers, most of the information relates to the securities issued by each public institution. The latter involve debt securities that are either issued by French cities, districts and governments or foreign state loans that are numerous. Indeed, in 1913, about 50 different foreign state loans are listed on the official list. Bonds hold copious information. We can find, for each bond, the amount of capital and the number of issued securities, their nominal prices, the amount and dates of coupons. We can also find the financial institutions where the coupons can be paid and the dates of bonds on the official list.

For private issuers, we have the exact same information regarding bonds if the company decided to use this type of funding. Other details, specific to private companies are reported as well. For instance, the juridical status of the company and the dates of change in case they had switched from one status to another. There is also a short summary of the purpose of the firm and the address of its social location. One of the most interesting information available in those yearbooks is a detailed description of the evolution of the firms' social capital, that is the original social capital and all the operations on the capital (raise or reduction) with dates, amounts and number of stocks issued for every operation. There is also information on the distribution of benefits and the composition and dates of the general meetings, as well as the rights of stockholders in terms of votes. Regarding the securities, as indicated above, descriptions of all the securities issued by the companies for both stocks and bonds are provided. Finally, we can find the names and functions of all members of the boards of directors.

Regarding the Desfossés yearbooks, the collection at our disposal goes from 1912 to 1980. There are two main differences with the CAC yearbooks. First, not only do they provide information about firms with securities quoted on the official market, but also ones with securities are traded on the OTC market. The second main difference concerns the balance sheets of the private issuers: for each one of them, there is a short version of balance sheets and profit and loss accounts. With respect to the period under review, it is far more interesting for the study of the XX century. Nevertheless, it gives a unique source to treat accounting data on all private companies during the period, as well as to confront it with the evolution of stock and / or bond prices. For industrial firms, it also offers data on the production of commodities (e.g. gold or coal mines, rubber plantations...). To our best knowledge, it is the first financial database that has a very long span in addition to including both accounting and market data for a substantial number of firms.

⁶ On the venality of the French financial press, see Raffalovitch (1931) and more recently Bignon and Miscio (2010) and Bignon and Flandreau (2011).

4.3. The *Décisions et Avis*

The guild of stock brokers reported every one of their decisions in a register called *Avis et Décisions* (A&D).

Picture 7: Examples of *Avis et Décisions*

Multiple information concerning the life of the Exchange could be found in these documents. Here we will focus mostly on the corporate events. First, for any firm that was about to go public, the terms of the IPO, such as the number of securities that will be issued or the face value of the stock is detailed. It was the same for newly issued bonds, plus the date(s) and value of the coupons, specific repayment terms when it comes to lottery bonds for example. More generally, for any security about to be listed, the guild precises on which market the security would be traded (spot, forward or second part of the list)

Also, every SEO is carefully informed. For example, when a raise in the capital occurs, all the terms of the operation is detailed: number of newly issued stocks and their face value, where to exchange the coupons when it comes to subscription rights, where was traded those rights and for how long. Those information are crucial on a scientific aspect. In quantitative finance, the computation of long-term stock prices time series needs these information in order to take into account the mechanical price variation that occurs the day when the new securities are listed.

Finally, A&D reported every security that was about to be delisted, precising the date of the delisting.

At the beginning, the A&D were only reported in a separated register. In 1857, a small table called *Avis* is published on the official list, but this later only reported the values of the coupons paid by the listed firms. In 1862, the table is completed with set prices of securities listed on the forward market up to the 1890's. But it was only starting in the 1920's that the proper A&D are fully reported on the official list, on the last pages.

5. Database architecture and data entry

5.1. Database architecture

The database, run in an Oracle environment, was conceived in order to organize two major kinds of data: on one side the evolution of a traded security and therefore the market expectations about the firm that issued it and, on the other side, all the information concerning the public and private issuers appearing on the sources. Its relational data model is meant to replicate the structure of the official list into the database, taking into account its evolution over time (See the simplified relational model illustration below).

Figure 1: Main entities of the Database Relational Model

This methodology has been greatly inspired by the work of the University of Antwerp, which built a database collecting information about Belgian stock exchange market.

In order to respect the original sources structure and evolution (i.e. the official list), we went through three steps.

The first consists in re-creating the structure of the official list in terms of sectors subdivision. Usually, the sectors refer first to the type of market (e.g. forward market, spot market), then they can be divided into sub-sectors, referring to the different areas of activities (e.g. States loans, Railroads, Electricity, Mines...). Concretely, research assistants compared the sector structure of the official list every six months, going backward: since the database covers the period 1795-1977, they started from the sector structure of the last available official list in 1977 and captured every single change down to 1795. This

enabled us to replicate the varying structure of the official list, therefore we are able to obtain the sectors and sub-sectors at each point of time.

After creating the sector structure into the database, the second step we achieved was the insertion of all the securities in the right sectors, taking into account the time dimension, i.e. identifying precisely when each security appeared on the list and the exact period in which it was listed. Here, we went forward. We started in 1795 and compared the official list every 6 months / year (depending on the number of traded securities) in order to detect every security that gets in or out of the list, and store all those changes in one of the database's table. In this way, we can have, at each point of time, a precise virtual version of the official list with all the securities classified by sector. . This feature enables us to insert the data (price, amounts, dividends...) for every security at any frequency, which consists in the third stage of the construction of the database. We chose to do it on a bi-monthly basis.

Furthermore, information coming from additional sources, such as yearbooks, are planned to be inserted in the database in corporations related tables. All the information described in section 4.2. will be captured every 5 years. Knowing that a lot of data remain the same from year to year, it is not worth it to insert the data at a higher frequency.

5.2. Data entry

The major issue for such a long-run quantitative and qualitative database is the optimization of processes to capture data. To do so we decided to mix two techniques of data entry in order to satisfy the constraints. The two techniques are the IT-organized manual data entry on the one hand, and a semi-automatic process, while the two constraints are the quality of the source and the stability of its structure.

The number of traded securities and consequently the volume of data to be treated from the official lists, changes over time. As we can see on the graph below, the number of lines per year on the official list (i.e. approximately the number of listed securities) starts to sharply increase after WW1. There is a first peak in 1936 before a large reduction at the beginning of WW2. From then on, we can observe an exponential growth from 1960 to 1977.

Figure 2: Securities listed on the Official List (1800-1976)

The exponential increase of securities after WWI makes the manual data entry very time consuming. This is where the semi-automatic technology gets interesting. This technology is based on both Optical Characters Recognition (OCR) techniques and artificial intelligence. The idea here is to scan the archival sources and handle them with the specific software that would recognize the information on the scanned source, link it to the related security and insert the data directly into the database. Such process needs a lot of upstream work in order to design the software. In fact, the software designer has to know in which part of list the securities and the related data are and where to insert them in the different database tables. However, several constraints might make this whole process unworthy, but the two main ones are the quality of the sources and the stability of their structure. The quality of the results is an increasing function of the quality of the source. It is quite complicated to use such process on very old or damaged archives. On the other hand, the structure of the lists should be relatively stable over time to make the development of such a software profitable.

Yet, the quality of the source also improved with time, due to the printing procedures, the quality of the paper or of the conservation. Up to the 1920's, the quality of the archives does not allow us using the OCR technology. Moreover, the structure of the official lists does change too frequently until the World War II. As far as the XIX century is concerned, we therefore have to collect and insert the data on the basis of an IT-organized manual data entry process.

Once the database reproduced the official list structure (as we described in section 5.1), we were able to get, for any trading day, a data input mask (built in Java) in which every listed security appears with its

designation in the right section of the list. This allows research assistants inserting for each securities the associated market, prices, dividends and all the other kinds of information.

However, the data entry based on specific software can be used to exploit and enter into the database other kinds of information, collected from the yearbooks. The procedure to enter data semi-automatically from the yearbooks involves several steps. As for the list: we started by scanning the sources, we developed lexical dictionaries and a set of rules to achieve an effective and exhaustive optical recognition of the information scanned, we built up a system of interaction which allows research assistant modifying, correcting and completing the information collected by the OCR technology and we finally import automatically the data into the database.

6. Conclusion

In this paper, we showed that, even if informational economics is a recent academic field, transparency was a current issue for both policy makers, practitioners, and economists from the very origin of the Paris Bourse. The concrete historical trajectory of the Paris Bourse points out that informational issues are not the fantasy of modern economists, but a reality of the actual working of the Paris Bourse.

The dynamics at work shaped the transparency of the Bourse and more generally the Paris financial center. These dynamics were unleashed by the redistributive power of transparency. Rules affecting transparency affect the distribution of the trading gains among stakeholders: different categories of market operators, government, and political parties as representative of social fractions competing on the legitimization of institutional devices allowing for accumulation of capital.

These dynamics led the Paris Bourse to adopt price discovery mechanisms sharing significant features with contemporary electronic limit orders books. From the pioneer paper of Glosten (1994), a significant body of microstructural literature points out the benefits of such an organization of the exchanges. While it displays tight spreads, this kind of exchanges' organization ensures the higher supply of liquidity under asymmetric information.

The transparency of the Bourse allowed for the production of serial sources relating the everyday of the exchange. Once interpreted in the light of archival documents, these serial sources can supply high-quality data to study in depth, not only the financial life of the Paris Bourse, but more broadly the French economic and social history. This is the aim of the DFI-H project. By setting a large and open data logical model, the project wants to arouse new and innovative projects to enlarge its original scope and to pave the way to an European infrastructure.

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Figures

Figure 1: Main entities of the Database Relational Model

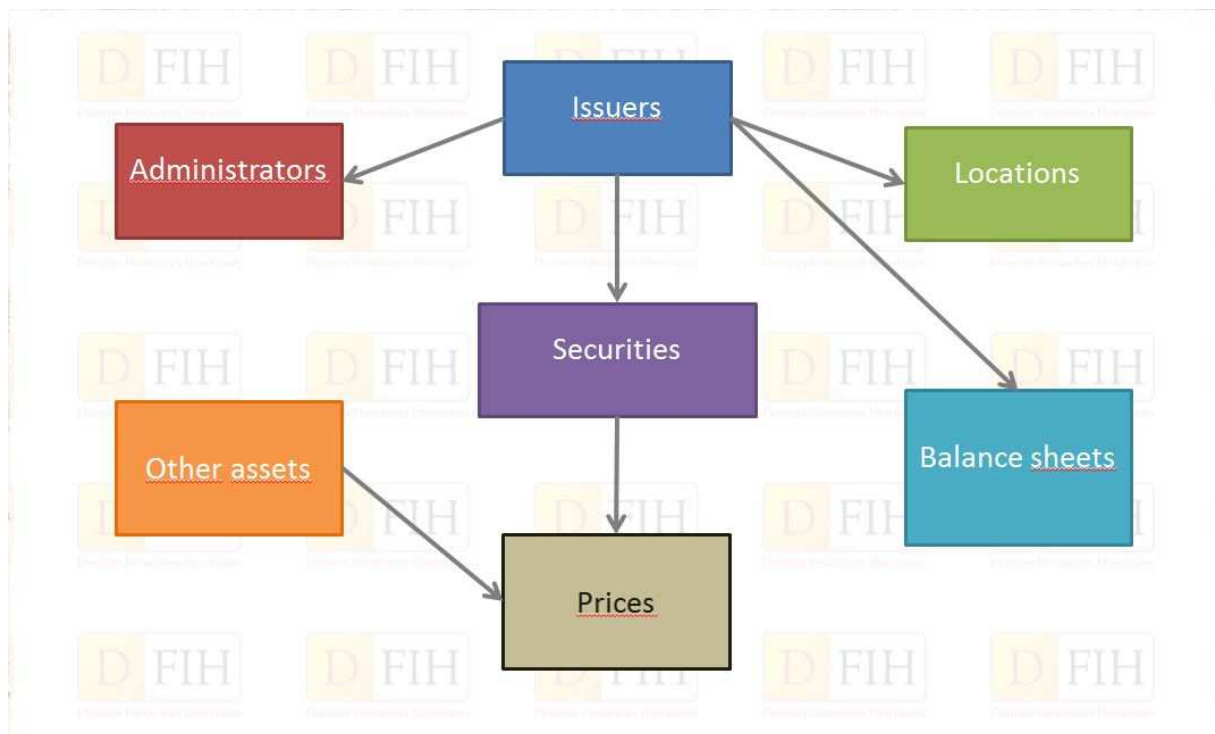
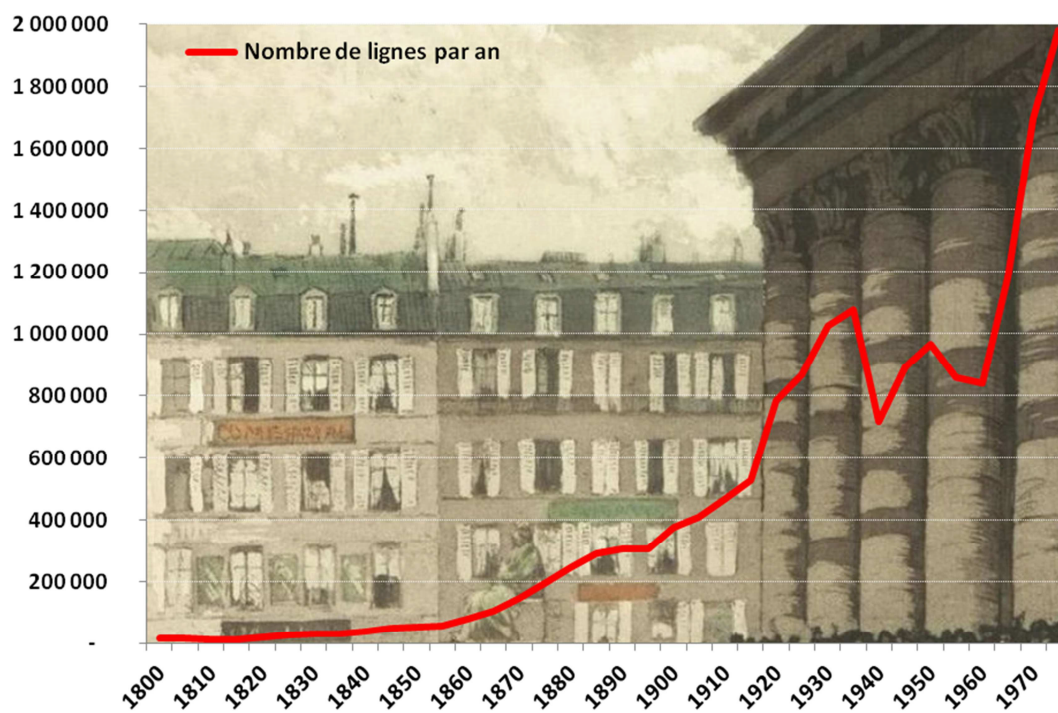
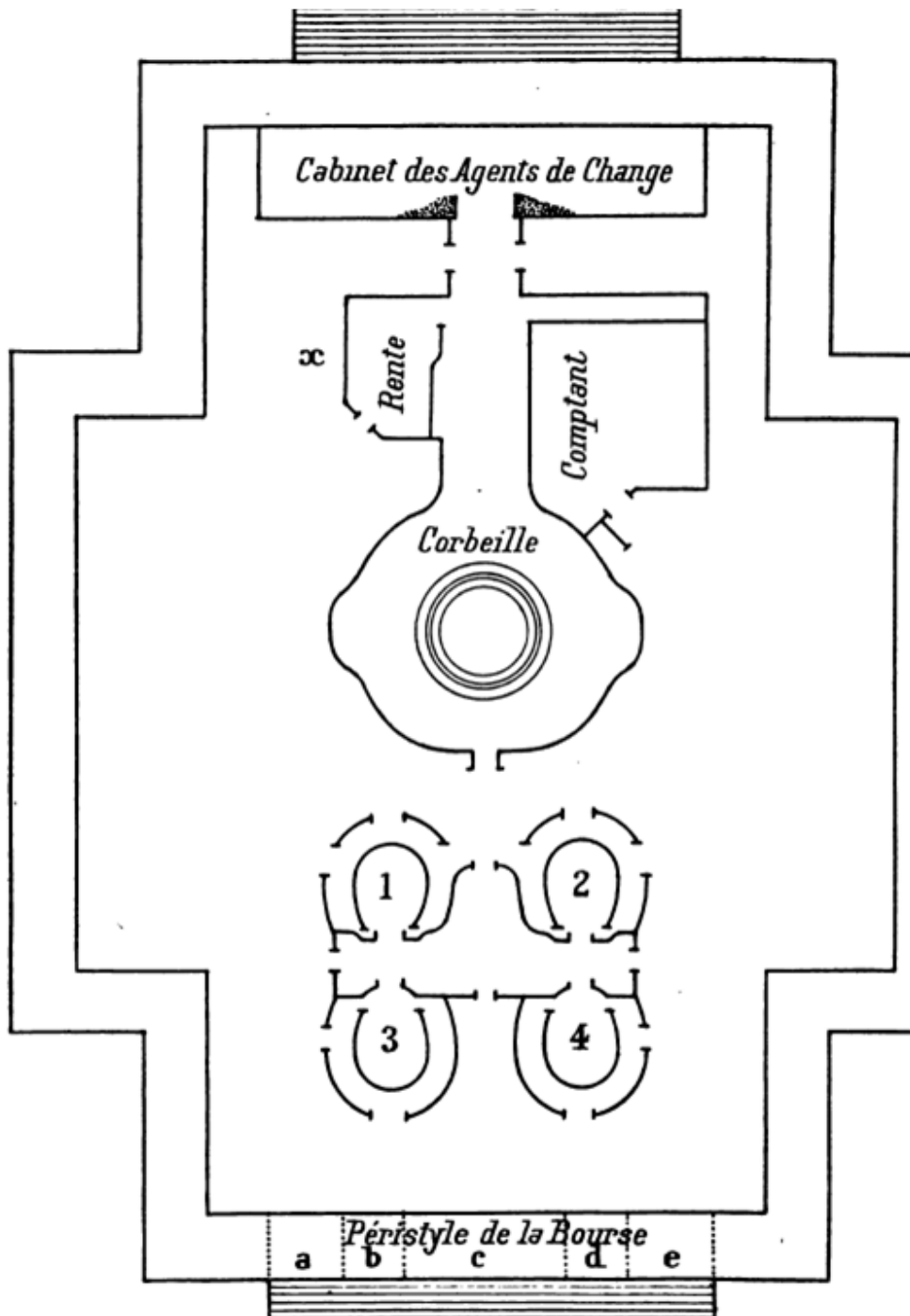


Figure 2: Securities listed on the Official List (1800-1976)



Pictures

Picture 1: Organisation of the floor of the Paris Bourse at the beginning of the XIX century



Source: Boissière (1908, p.231).

Picture 2: The floor of the Paris Bourse



Picture 3: First page of the Official published on 1st December 1890

COMPAGNIE

DES

AGENTS DE CHANGE

COURS AUTHENTIQUE

SEUL OFFICIEL

PARAISSENT TOUS LES JOURS DE BOURSE

BOURSE DE PARIS

Lundi 1^{er} Décembre 1890

PRIX D'ABONNEMENT. — Paris : 1 an, 32 fr.; 6 mois, 16 fr.; 3 mois, 8 fr. — Départements : 1 an, 42 fr.; 6 mois, 21 fr.; 3 mois, 11 fr. — Etranger : 1 an, 48 fr.; 6 mois, 24 fr.; 3 mois, 12 fr.

| REPORTS | | TAXE à c/Escom. | DÉSIGNATION DES VALEURS | POSSÉDANCE | AU COMPTANT | A TERME | | CLOTURE PRÉCÉDENTE | INTÉRÊTS et DIVIDENDES | | |
|------------------------------|-------------------|-----------------------|-------------------------|----------------------------|----------------------------|-----------------------|-----------|-----------------------|------------------------------|-------------|-------------------|
| Comptant | Liq. à 30 j. | | | | | 1 ^{er} cours | Plus haut | Pl. bas | Dern ^{er} cours | | |
| liq. | liq. pr. l'autor. | | | | | | | | | Compt. | Term. |
| FONDS D'ÉTAT FRANÇAIS | | | | | | | | | | | |
| ... | ... | 23 | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 94 97 1/2 | 95 30.. | 94 97 1/2 | 95 25 1/2 | 94 95.. 94 92 1/2 |
| ... | ... | 18 | | | | fin cour. | 95 17 1/2 | 95 20.. | 95 15.. | 95 15.. | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
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| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
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| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
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| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 1890. | au 95/06 10 15 20 25 30 35 | au liq. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | 94 95.. 94 92 1/2 |
| ... | ... | ... | | | | fin cour. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin c. | 95 25.. | 95 25..d 11 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | | | | Pr. fin p. | 95 25.. | 95 18..d 25 | 95 20.. | 95 30..d 30 | |
| ... | ... | ... | 3 % | 1 ^{er} oct. 189 | | | | | | | |

Picture 4: Second Part of the List published on 5th May 1892

| REPORTS | | | | TAUX | DÉSIGNATION DES VALEURS | JOUISSANCE | AU COMPTANT | À TERME | | | |
|----------|---------|---------|----------------|----------|--|---------------|-------------------|-----------------------|-----------|---------|----------------|
| Comptant | 105 fr. | 110 fr. | Liq. à l'autre | n° émis. | | | | 1 ^{er} cours | Plus haut | Pl. bas | Derrière cours |
| | | | | | La Clémentine (incendie), a. 500 fr., 187 fr. 50 p. (nominat.).. | 20 juin 1892 | 401 411 421 | | | | |
| | | | | | Châtillon et Comenstry (Forges de), l. p. | 15 déc. 1891 | 400 | | | | |
| | | | | | Tabacs des Philippines, 2 ^e série, n° 40001 à 45000, act. 500 piécettes, l. p. | Janvier 1892 | 380 | | | | |
| | | | | | Banque de Saint-Domingue, act. 500 fr., l. p. | | 500 | | | | |
| | | | | | — Parts de Fondateurs. | | 501 | | | | |
| | | | | | Téléphones de Madrid, act. 500 fr., 250 fr. p. | ex-coupon 9 | 505 | | | | |
| | | | | | — 1/5 ^e parts de Fondateurs. | | 401 | | | | |
| | | | | | Grands Moulins de Corbeil (Parts bénéficiaires)..... | 2 avril 1892 | 200 205 210 215 | | | | |
| | | | | | Bons du Trésor de la province de Québec 4 %..... | 15 janvier 92 | 495 | | | | |
| | | | | | Chalets de nécessité..... | | 1475 1480 | | | | |
| | | | | | Obligations Jardin d'acclimatation 4 %..... | | 370 | | | | |
| | | | | | Le Temps..... | | 1250 | | | | |
| | | | | | Grand Hôtel..... | | 905 906 50 907 50 | | | | |
| | | | | | Chargeurs Réunis (Parts de Fondateurs), ex-c. 9..... | 20 nov. 91 | 160 | | | | |
| | | | | | Obligations Petit Journal 5 % remb. à 500 fr. | mai 92 | 547 50 | | | | |
| | | | | | Musée Grévin, act. 500 fr. t. p. | | 690 | | | | |
| | | | | | Compagnie Nationale d'Electricité, obl. 5 %, r. à 300 fr. | | 168 170 172 | | | | |
| | | | | | Eclairage électrique du secteur de la place Clichy, act. 500 fr. t. p. | | 537 50 | | | | |
| | | | | | Petit Parisien, act. | | 800 | | | | |
| | | | | | Société gén. pour la fabrication de la Dynamite, act. jouiss. | | 820 | | | | |

[illegible][illegible]

Picture 7: Examples of Avis et Décisions

Séance du Mercredi 14 Octobre 1899.
à Sept heures du Soir

Pour les membres étant réunis la séance est ouverte.

M. Le Secrétaire rappelle à la chambre que la liquidation des opérations des mois d'août s'est faite, comme d'habitude, dans les premiers jours du mois courant. Que la liquidation ont été: M. de la Rive, Riquard, Lemerrier & Neuville & Lahut, Qu'il y a eu compensation entre les parts comme d'habitude.

Pour la Rente. Aug pour each conversion 70 francs
Pour les commissions de liquidation argentées 81.40 fr.
Et pour les cotisations à la Banque de France 1460 fr.

COMPAGNIE DES AGENTS DE CHANGE DE PARIS
Paris de Numéros : 10 r.

DÉCISIONS ET AVIS

DE LA CHAMBRE SYNDICALE

Concernant les Valeurs admises à la Cote officielle
Paraissant le jour même de la communication faite aux Agents de change et à la Bourse

| | |
|---|---|
| <p>PARIS: Un an, 15 fr. — Six mois, 7 fr. 50. DEPARTEMENTS: Un an, 17 fr. — Six mois, 8 fr. 50. ÉTRANGER: Prix de poste en sus.</p> | <p>POUR TOUT CE QUI CONCERNE LES ABONNÉS S'adresser au Secrétaire des AGENTS DE CHANGE DE PARIS Rue Mézière, 4.</p> |
|---|---|

A. N° 2871 — N° 4040 —

A partir du 21 février présent mois, les 500,000 Obligations Communales de 500 fr. 2 60 %, 1899 émises par le Crédit Foncier de France seront admises aux négociations de la Bourse, au comptant et à terme.

Ces titres seront inscrits à la 1^{re} partie du Bulletin de la Cote.

500,000 Obligations de 500 fr., émises à 485 fr. stipulées payables par termes échelonnés jusqu'au 20 décembre 1901; remboursables au pair ou avec lots au plus tard en 75 années: 1^{er} tirage de lots, 5 avril 1899; 1^{er} tirage d'amortissement, 5 avril 1902;

Lesdites Obligations sont représentées par des certificats provisoires au porteur libérés de 50 francs, à échanger après libération intégrale contre des titres définitifs munis de coupons aux échéances des 1^{er} juin et 1^{er} décembre.

Paris, le 18 février 1899.