BANCA D'ITALIA
EUROSISTEMA

Quaderni di Storia Economica

(Economic History Working Papers)

The Italian Banking System During the 1907 Financial Crisis and the Role of the Bank of Italy

Francesco Vercelli

number 49

June 2022

BANCA D'ITALIA
EUROSISTEMA

Quaderni di Storia Economica

(Economic History Working Papers)

The Italian Banking System During the 1907 Financial Crisis and the Role of the Bank of Italy

Francesco Vercelli

Number 49 – June 2022

The purpose of the Quaderni di Storia Economica (Economic History Working Papers) *is to promote the circulation of preliminary versions of working papers on growth, finance, money, institutions prepared within the Bank of Italy or presented at Bank seminars by external speakers with the aim of stimulating comments and suggestions. The present series substitutes the* Quaderni dell'Ufficio Ricerche storiche (Historical Research Papers). *The views expressed in the articles are those of the authors and do not involve the responsibility of the Bank.*

ISSN 2281-6089 (print)
ISSN 2281-6097 (online)

Printed by the Printing and Publishing Division of the Bank of Italy

The Italian Banking System During the 1907 Financial Crisis and the Role of the Bank of Italy

Francesco Vercelli*

Abstract

This paper examines the Italian banking system during the 1907 financial crisis, from start to finish. Using bank balance sheet data from the Historical Archive of Credit in Italy, we analyse the developments of the banking system in the run-up to the crisis. We show that the four Italian mixed banks, which registered a rapid growth at the beginning of the 20th century, were little engaged in the traditional activity of bill discounting and largely involved in 'repurchase agreements' on stocks and in correspondent current accounts. Because of this business model, the mixed banks – and in particular the Società Bancaria Italiana – turned out to be fragile when the international crisis hit the country. Then we analyse the complex interactions between the major financial institutions and the government in order to face the crisis. We focus on the role of the Bank of Italy, which acted as a modern central bank for the first time since its creation.

JEL Classification: C81, G21, N23, N24
Keywords: financial crisis, history of banking

Contents

* Directorate General for Economics, Statistics and Research, Statistical Analysis Directorate, Financial Accounts and Statistical Methodologies Division, Bank of Italy, Rome. E-mail: francesco.vercelli@bancaditalia.it

1. The Italian macroeconomic situation from an international viewpoint [1]

For many countries around the globe, the crisis of 1907 is an important chapter of their economic history. Therefore, it is necessary to place the Italian experience within a broader international context, framing it as the result of tensions that broke out overseas, in the United States, but then stroke Italy, where the financial system was weak and ready to explode.

The literature is unanimous in tracing the beginnings of the crisis back to the autumn of 1906, when there was a significant increase in gold exports from the United Kingdom to the United States.[2] On the causes of this phenomenon, however, there are different opinions. Friedman and Schwartz (1963) underline the role of subsidies to gold imports put in place by the Secretary of the Treasury Shaw. Others draw the attention to stock market speculation, which seemed to be financed with British capitals. Instead, Odell and Weidenmeier (2004) maintain that the boom in the demand for gold was linked to the San Francisco earthquake, which caused enormous damage to the country (1% of GDP) and forced insurance companies, above all British but also German and French, to pay high premiums to the US companies affected by the earthquake. The outflow of gold induced the Bank of England to intervene decisively: just in a month, it raised the official discount rate from 3.5 to 6% and imposed barriers – unofficial but effective – on US bills issued in London. The impact of the adopted measures was very rapid: by the end of the year, the United Kingdom became a net importer of gold. Monetary restrictions had consequences throughout the world, inducing a collapse of foreign investment in peripheral countries, including Italy.[3] In the US, the reduction of liquidity restrained stock market speculation, initiating the descent of stock and bond prices, with a major impact on trust companies.

Trust companies were the weakest link in the banking system of that time and were considered by Moen and Tallman (1992) to be responsible for the crisis. They had developed rapidly over the course of a decade: in New York, between 1897 and 1907, their assets had grown by 244 per cent, compared to 97 per cent for national banks and 82 per cent for state banks. They dealt mainly with investment banking activities, such as security placement and investment in shares, which were activities forbidden to national banks. They collected deposits but their clients consisted mainly of companies and investors, not retail clients; in fact, they offered limited payment services. The other banks complained the ‘unfair’ competition of the trust companies, which were able to pay higher interests on deposits without having to comply with operational or reserve constraints. Trust companies did not intend to abandon the advantages offered by the shortcomings of the regulations: for example, in 1903

---

[1] The author thanks Federico Barbiellini Amidei and Gianni Toniolo for valuable comments, suggestions and encouragement to carry this work. The work belongs to the studies put in place for the project on the History of the Bank of Italy (Toniolo, 2022). The author remains the only one responsible for errors, omissions or inaccuracies. The views expressed are those of the author, and do not necessarily reflect those of the Bank of Italy.

[2] The flow of gold came to $70 million (Odell and Weidenmeier, 2004).

[3] The other banks of issue also raised their official discount rates: in Germany from 4.5 to 6%, in Belgium from 3.5 to 4.5%, in the Netherlands from 4.5 to 5%, in Sweden from 5 to 6%. Only the Banque de France kept rates steady at 3%. In Italy, while the official discount rate remained unchanged at 5%, on November 1 the special ‘accommodation rates’ (the ‘reduced’ and ‘favorable’ ones) were raised from 4.5 to 5% and those on advances from 4 to 4.5% (Bonelli, 1991).

they refused to join the New York Clearing House even though the reserve/deposit ratio required for accessing was much lower than the one imposed on the other banks.

In March and August 1907, two large falls in stock quotations occurred, so that the trust companies found themselves in a very unfavorable situation because of the devaluation of their assets. During the summer they could not resort to the liquidity obtained through the bills of finance market in London, given the constraints put in place by the Bank of England (Moen and Tallman, 1992).[4] Thus, faced with the demands of depositors, the trust companies found themselves with little liquidity, limited capital, riskier portfolios and lack of access to safety nets, which could be put in place by the Clearing House. The sale of assets to obtain liquidity led to considerable losses and further exacerbated the depreciation of securities. On October 22, the Knickerbrocker Trust Company, the third largest trust company in New York, had to face enormous requests by depositors (Sprague, 1908). The day after, a bank run took place at the Trust Company of North America, the second largest trust company. The crisis was less severe for the other banks: between August and December, the state banks reduced their loans by 11 per cent compared to 37 per cent for the trust companies; the national banks even increased loans by 8 per cent. The agreement made by the six largest national banks in New York City was the key tool for exiting the crisis: they acted as lenders of last resort, injecting liquidity into the system and thus aligning their interests with those of the public (Tallman and Moen, 2012). To summarize, the 1907 crisis in the US was deeply related to asymmetric information issues involving the banking sector, as in the 2007 subprime turmoil (Calomiris, 2008), and it was solved through an agreement within the banking sector itself.

After this excursus on the international situation and on the main events that affected the US economy in 1907, we move to the Italian economic conditions on the eve of the crisis. The real estate and banking crisis that had led to the birth of the Bank of Italy in 1893 had a long after-effect on the Italian economy: the real GDP growth rate remained low, fluctuating between 1 and 2 per cent, throughout the last decade of the 19th century (Fig. 1). Only towards the end of the century some signs of economic recovery appeared, such as the strengthening of the textile industry and the construction of new iron and steel plants in Piombino. In 1899, the number of listed companies began to grow again and high levels of profits were recorded in the electricity sector.[5] With the beginning of the new century, the GDP growth rate settled into a range above 2 per cent. Although the theses of Rostow and Gerschenkron on the industrial take-off of the Giolittian era have been downgraded by the most recent historical studies on Italian growth, the existence of an acceleration of a cyclical nature both in terms of gross domestic product and mechanical production is not questioned (Fenoaltea, 2016).

The public budget had undergone a strong process of consolidation. The growth in spending, which had characterized public finances since the Italian unification, came to a halt in 1888. The containment of costs represented a pivotal element of the policies of financial recovery, considered necessary after the severe crisis suffered by the country at the beginning of the 1890s. The strong effort required by Sonnino to raise the 'credit of the State' implied the postponement of all investment expenditures (Confalonieri, 1975). This led to a marked

[4] US trust companies, as well as banks, used to issue these bills in London before the summer in anticipation of purchases of agricultural products. The proceeds in gold were shipped to the United States, generating a marked inflow of gold in the US. The finance bills then were repaid at the time the US crop shipments arrived in London (Moen and Tallman, 1992).

[5] At Edison, the ratio of profits to revenues reached 26.7 per cent.

decrease in the ratio of public spending to GDP, from 15.6 per cent in 1894 to 12.7 per cent in 1900 (Fig. 2). Only in 1905, public spending returned to exceed the levels of 1888 due to rail investments, but it remained stable in relation to GDP (around 13%). The composition of spending changed radically, with the share allocated to economic interventions increasing from 20 per cent in 1903 to 31 per cent in 1906 (Fig. 3).[6]

The trade deficit, after a gradual reduction in the last decade of the 19th century, began to grow again, especially from 1906 (Fig. 4): Italy needed raw materials and machinery from abroad to support the process of industrialization. However, the situation had changed compared to the 1880s, when the trade imbalance was financed through foreign loans, exposing the country to the risk of sudden withdrawals of capital as well as to the payment of interests. At the beginning of the 20th century, in fact, the volume of foreign loans had largely contracted: the share of public debt placed abroad was reduced from around 16 per cent in 1896 to only 5 per cent in 1904 (Confalonieri, 1975), thus decreasing interests paid abroad. The trade deficit was financed by what many called a real 'rain of gold': the remittances of Italian emigrants (Massullo, 2001). The impressive flow of money that accompanied the largest export of work force in Italian history played a fundamental role in guaranteeing macroeconomic stability.

With respect to the monetary policy, the issuance of banknotes had continued cautiously since 1890, with a slight increase in the ratio of paper to metal circulation, temporarily interrupted in 1899 (Fig. 5; Barbiellini Amidei *et al.*, 2016). From 1905 the ratio grew at a significantly higher rate, given the sharp increase in banknotes. However, this cannot be interpreted as a sign of over-issuance of paper by monetary policy institutions, since the total M0 aggregate continued to decline in relation to GDP (Fig. 6). Total money supply increased due to the effect of the banking multiplier: the ratio of M2 to GDP rose due to the constant and rapid growth of savings deposits.

The official discount rate remained at 5% continuously from 1894 to 1906 (Fig. 7). This mostly depended on the government approval for varying the official rate. On the contrary, the Bank of Italy could change more autonomously the 'reduced rates'– i.e. the rates the banks of issue were allowed to apply to particular categories of creditors, such as savings banks and cooperative banks. By averaging the different types of discount rates, we find a much more eventful monetary policy. The sharp increase in rates at the turn of the century – which rose by around 90 basis points from June to November 1899 – was followed by a temporary reduction in the first half of 1902, and then settled at around 4.5% from 1903. When troubles in the stock markets rose, as we shall see later, monetary policy became restrictive: the applied rates converged to the official discount rate.

We now turn to analyze the convoluted relationships between banks and industrial firms.

2. Banks and industrial financing in Italy in the early 20th century

As mentioned in the previous paragraph, in the early years of the 20th century there was a marked rise of investments in plant and machinery (Baffigi, 2013), which more than tripled

[6] Spending devoted to economic interventions mainly refers to agricultural and industrial policies (Ministero dell'Economia e delle Finanze, 2011).

between the end of the 19th century and the peak of 1907. This trend reflects the strong expansion of the industrial sector and, more generally, the dynamism of the market, where in a few years, especially since 1903, a rapid increase in joint stock companies took place, both in terms of numbers and invested capital (Fig. 8).[7]

The industrial system was made up of small artisan and family businesses and a smaller – but growing – number of larger companies, concentrated in the North, engaged in the 'new' sectors, such as the iron and steel industry and mechanics (Bonelli, 1971). While the former resorted mainly to self-financing, the latter, operating in the most innovative sectors, needed other channels to access financial resources, given the considerable amount of investment necessary to achieve adequate economies of scale. In particular, the issuing of shares seemed to be the most suitable solution for long-term investments. However, the rapid development of the stock market rested on fragile foundations, since it was not able to attract a large number of investors. Indeed, most of the bourgeoisie preferred to maintain low risk profiles, investing mainly in annuities and thus leaving the stock market in the hands of a small group of investors, commonly referred to as 'speculators' in the contemporary press. Actually, these 'speculators' were mostly financed by the mixed banks (Bonelli, 1971). Therefore, we now focus on the banking system.

As Corbino (1938) succinctly explains, among the various categories of financial intermediaries, only the ordinary credit banks (OCB) supported industrial enterprises in the expansion of their plants. Indeed, it was difficult to obtain long-term loans for industrial purposes from other credit institutions: banks of issue dealt mainly with short-term credit[8]; savings banks (SB) invested deposits only in safe transactions, such as mortgages and government securities; the Cassa Depositi e Prestiti granted loans to municipalities and provinces for the construction of public works; cooperative banks (CB) preferred to discount bills of exchange from local markets. We study more in detail the behavior of OCBs through the analysis of their balance sheets recorded in the Historical Archive of Credit in Italy (ASCI; Natoli *et al.*, 2016; Cotula and Raganelli, 1996). In particular, we focus on the largest four OCBs, the so-called 'mixed banks', which have attracted so much the historians' attention: the Banca Commerciale Italiana (COMIT), the Credito Italiano (CREDIT), the Banco di Roma (BR), and the Società Bancaria Italiana (SBI). COMIT was the most important one: in 1900 its assets more than doubled those of the second largest bank, CREDIT, and in 1910 they were still 80 per cent higher (Fig. 9). We highlight the main differences that emerge in comparison with the other OCBs, CBs and SBs, comparing their balance sheet items.

During the first decade of the 20th century, these four banks, defined as 'mixed' because of their dual nature as commercial and investment banks, ended up far behind the other OCBs in terms of size: in a few years, between 1902 and 1906, their assets rose from 52 to 66 per cent of the total national assets held by OCBs (Fig. 10). In the same period, they became increasingly important in terms of deposits too, with the share on total national deposits rising rapidly from 31 to 50 per cent. Among them, however, there were considerable differences: COMIT stood out, owning 24 per cent of the total assets of the Italian OCBs in 1902, while

[7] The annual number of new joint-stock companies increased from 103 to 510 between 1903 and 1906, with a considerable deployment of capital: from ₤70 to ₤497 million (Pantaleoni and Villain, 1925).

[8] The constraints introduced by the banking law of 1893 had put an end to the possibility for the banks of issue to operate long-term credits, as for example happened with the bills of exchange that were automatically renewed at maturity. Thus, there was a gradual downsizing of the banks of issue as credit providers (Confalonieri, 1982).

CREDIT stopped at half (12%), SBI at 7.4 per cent and BR at 4.8 per cent. On the eve of the crisis (December 1906), all four banks had increased their relevance: COMIT continued to dominate with 31 per cent of the OCB market (in 1905 it had reached 34%), followed by CREDIT (15.1%), SBI (11.7%) and BR (7%). One year later, SBI emerged strongly downsized from the crisis (6.8%) and was surpassed by BR (7.7%), with the other two mixed banks gaining another percentage point (32.5% and 16%, respectively). The share of these banks was large not only in relation to the other OCBs but also to the entire banking system (excluding the banks of issue): from 1905 to 1910 only the Cassa di Risparmio delle Province lombarde surpassed them in terms of assets. The gap between this savings bank and the mixed banks gradually narrowed, and in 1912 COMIT became the absolute leader in Italy. In any case, as we shall see, the importance of these four banks laid in their commitment to support the industrial sector, which was not the goal of SBs.

The bills of exchange – the main instrument of the traditional banking activity – was losing more and more importance in financing industry: it remained a relevant balance sheet item in CBs (42%) and in the smaller OCBs (33%), more attentive to the needs of the local markets (Fig. 11). The percentage was also high for BR (30%), whose business model in the early 1900s was in line with that of the smaller OCBs. On the other hand, discounts represented less than 20 per cent of assets for COMIT and CREDIT, and even fell below 10 per cent for SBI in 1902.[9] These large banks claimed that they would have liked to devote more resources in the discounting of bills of exchange, but that there was little availability of good quality commercial paper in the Italian market. In their turn, the banks of issue accused the mixed banks of using current account overdrafts as substitutes for the bills of exchange, but they put the ultimate responsibility on the government: it was the excessive stamp duty that made the discount of bills of exchange unprofitable.[10] Beyond the reciprocal accusations, there were several causes of the decline of the bills of exchange. Confalonieri (1976) underlines how the changed structure of the industrial sector required different instruments: if bills of exchange were suitable for the textile sector, the transfer of credits was more suitable for the needs of the new industries, such as the electrical, mechanical, and iron and steel ones. These sectors required large long-term investments in plant and machinery, the realization of which made the support of banks essential, as they were difficult to achieve with capital increases alone. The short-term nature of bills of exchange was not appropriate for these investment plans, even when bills of exchange were characterized by semi-automatic renewal – as emerged clearly in the surveys carried out during the crisis of 1893. Another cause of the decline was the diffusion of vertical integration, which induced a deterioration in the quality of bills of

[9] Only SBs showed on average a similar low share of bills of exchange (15%), but this reflected the need to invest in safe assets, such as government securities or government-backed securities (48%) and mortgages (23%). However, smaller SBs were allocating a large portion of their resources to discounting: the median (instead of the weighted average) of the proportion of bills of exchange to assets stood at nearly 40 per cent. This proportion was still lower than for CBs and smaller OCBs.

[10] In a letter of 30th November 1906 addressed to the Minister of the Treasury Majorana (Archivio Storico della Banca d'Italia – ASBI, Carte Stringher, 208/1.01/62, reported in Bonelli, 1991, doc. 8, pp. 199-202), the Governor of the Bank of Italy Stringher affirmed that the level of the stamp on bills of exchange turned out to be an 'export duty', favoring evasion and the creation of 'overdraft facilities, useful perhaps in normal times, very dangerous in times of crisis'. This theme also appears in the Annual report of Bank of Italy on 1905, in which Stringher complained about the competition from commercial banks that used current account overdrafts instead of bills of exchange in order to avoid the stamp duty. This competition ended up limiting the room for manoeuvre of monetary policy (Ciocca, 1978).

exchange. Indeed, the guarantee signatures often belonged to companies in the same production chain and therefore subject to the same risks.[11] Whatever the causes of the scarcity of bills of exchange in the market, it was a major concern for the Bank of Italy because it weakened the main instrument of the monetary policy of the time, i.e. the discounting activity.

Correspondent current accounts on the asset side, which include current accounts both with banks and with non-financial companies, were taking the place of bills of exchange, especially for COMIT, accounting to around 40 per cent of total assets until 1906 (Fig. 11).[12] The percentage was equally high for CREDIT at the beginning of the 20th century, but fell below 30 per cent after 1903, converging to the levels held by SBI and BR. On the other hand, the weighted average of the other OCBs was lower, around 12 per cent: it began to rise after 1904, at the expense of the bills of exchange, reaching 18 per cent in 1906. Considering that more than 50 per cent of the OCBs, generally the smallest ones, did not perform this kind of operations, the increase can be attributed to a group of medium-sized OCBs. Beyond the reduction of commercial paper, the development of correspondent current accounts was responsible for increasing risks in the banking sector, because these accounts were mostly unsecured and included slow-moving receivables (Confalonieri, 1976).

In addition to correspondent current accounts, the four mixed banks devoted a large part of their resources to 'repurchase agreements' (contango operations, carryovers) on stocks[13]: the share of total assets for COMIT and CREDIT was around 20 per cent, compared to 12 per cent for the smaller OCBs and 5 per cent for the CBs (Fig. 11). Actually, repurchase agreements were absent in the balance sheets of more than 50 per cent of the OCBs and CBs. The SBI, on the other hand, marked the extreme values: in 1902, 70 per cent of assets were made of contango operations; the percentage remained very high (40-50%) between 1904 and 1906. According to the Bank of Italy, repurchase agreements were used as a substitute for advances (Banca d'Italia, 1906), which were irrelevant in the balance sheets of the largest OCBs (0.1%) and very low in the other credit companies (between 1 and 2%). Contango loans differ from advances because at the stipulation of the contract the client transfers – at a given price – the ownership of the securities to the bank, which pledges to return the same quantity of securities of the same type at a pre-established price. Therefore, the bank is allowed to dispose of the securities, even to sell them: the bank is required just to return similar securities at maturity. The Bank of Italy sustained that the preference for contango operations was due to the regulation that penalized advances: the amount paid out could not exceed 80 per cent of the value of the securities given as guarantee; furthermore, the tax on advances was considered too high.[14]

[11] Also see Sraffa (1922) with respect to the scarcity of commercial paper in Italy.

[12] Unfortunately, balance sheet data from ASCI until 1948 do not allow to distinguish between correspondent current accounts with banks and those with non-financial companies (Natoli *et al.*, 2016). Moreover, some banks were used to record only the net balance between credits and debits with correspondents.

[13] In this work we use several expressions to translate the Italian word '*riporti*': repurchase agreements, contango operations, contango loans, carryovers. The most appropriate translation of '*riporti*' should be 'contango operations' or 'contango loans', whereas 'repurchase agreements' translates '*pronti contro termine*', which actually did not exist in the period of analysis. However, since from a conceptual point of view '*riporti*' and '*pronti contro termine*' are similar financial instruments, we also opt for the expression 'repurchase agreements', which nowadays is well-known.

[14] See ASBI, Carte Stringher, 208/1.03/156-172 as reported in Bonelli (1991; doc. 10, p. 259).

The fast development of repurchase agreements on stocks in the balance sheets of the mixed banks was closely related to the activity of placement, as it is evident in the relationship between COMIT and the Società Molini Alta Italia (Confalonieri, 1976). COMIT, which had acted as placement syndicate for the constitution of this company in 1899, held 4,560 shares out of 48,000. Nevertheless, another 19,500 shares also appeared on COMIT's balance sheet in the form of carryovers, since a large part of the placement had been carried out by financing the subscribers with contango operations. This operational and accounting practice was not unusual among the major mixed banks, which were involved in security placement, and masked the actual amount of corporate bonds and shares held in bank portfolios. In the balance sheets of COMIT, CREDIT and SBI, debt securities and stocks represented less than 5 per cent of total assets (Fig. 11).[15] In other words, banks were concealing the presence of shares and securities with a low degree of liquidity by reporting in the balance sheets contango operations, which were considered a liquid asset. Actually, the mixed banks used to renew these carryovers automatically, because the non-renewal would have determined the devaluation of the underlying securities and made the completion of the placement process more difficult. This deplorable practice, however, had also relevant positive implications. As maintained by Sraffa (1922), the long-term support of banks through holding of shares and contango operations was an absolute necessity for the Italian industrial sector. Mixed banks played a major role in the development of the national capital market, advising and assisting initial public offerings (IPO), sitting on the boards of the major client firms to influence their strategic and organizational issues, supporting corporate stocks and bonds useful as capital guarantees. Within a weak and unregulated market, they tried to fill in the temporal gap between demand and supply of venture capitals (Barbiellini Amidei and Giordano, 2014).

On the liabilities side, at the beginning of the 20th century, the mixed banks – with the exception of the SBI that had been recently created – showed high capital in comparison with other credit institutions (Fig. 12). Clearly, capital levels reflected the riskiness of the credit institution: for example, SBs had safer assets and could therefore maintain public confidence even with reduced equity. The weighted average of the capital asset ratio for CBs is similar to SBs, but the median is closer to that of OCBs.

For the largest mixed banks fiduciary deposits accounted for only one-fifth of total liabilities, compared to over 50 per cent for the other OCBs, 70 per cent for CBs and 85 per cent for SBs (Fig. 12). To make up for the lack of deposits there were correspondent current accounts[16], which for COMIT and CREDIT reached 40 per cent, against 15 per cent for the other OCBs (Fig. 12).[17] However, the mixed banks were increasing their funding through deposits: for example, the ratio of fiduciary deposits over assets increased for CREDIT from 13 per cent in 1900 to 30 per cent in 1906, and for COMIT from 18 to 23 per cent. This was due to the territorial expansion policy they had been pursuing since the early years of the 20th

[15] The balance sheet of the BR strongly differed from those of the other mixed banks: the overall amount of bonds, shares and holdings generally remained above 10 per cent, reaching 14 per cent in 1902. The percentage of the smaller OCBs, which at the beginning of the 20th century exceeded 8 per cent, fell below 5 per cent in 1906. As in the case of correspondent current accounts and contango loans, for OCBs and CBs the median ratio of stocks and bonds over assets is zero, i.e. more than half of these credit companies did not invest in securities.

[16] Until 1936, on the liability side we cannot separate correspondent current accounts with banks from those with non-financial companies, as already explained for the asset side. Moreover, until 1948 there is not separate evidence on foreign current accounts (Natoli *et al.*, 2016).

[17] Even in the case of accounts payable, more than 50 per cent of OCBs did not use this source of funding.

century: they had understood that, in order to develop as institutions of 'international standing', they had to be able to collect large amounts of financial resources, also from retail customers (Confalonieri, 1976).

To summarize, the analysis of the balance sheets shows the typical features of the business model of COMIT, CREDIT and SBI: the assets were characterized by few advances, high correspondent current accounts and repurchase agreements; the liabilities included few deposits, counterbalanced by high capital and extensive use of correspondent current accounts. The balance sheets of BR, on the other hand, were quite different from those of the other three mixed banks. We can see the attempt of some medium-sized OCBs (above the median) to bring their business model closer to that of the large mixed banks, particularly on the eve of the crisis, for example by expanding the practice of contango operations. This happened just when the mixed banks were moving in the opposite direction, trying to limit carryovers, following not only the Bank of Italy warnings but also the criticism raised within the banks themselves. In the case of COMIT, for example, foreign bankers sitting in the board of the bank considered the expansion of contango operations as a speculative turn in the bank management (Confalonieri, 1976). With respect to correspondent current accounts, the medium-sized OCBs displayed a rise after 1904 as in the larger banks, but without reaching the same percentages. Finally, on the liabilities side, medium-sized OCBs increased correspondent current accounts and decrease fiduciary deposits, in contrast with the dynamics of the four large mixed banks.

3. The outbreak of the crisis: from 1905 to the summer of 1907

The stock market showed strong dynamism in the early years of the 20th century: the Milan Stock Exchange index grew by over 70 per cent between 1901 and the autumn of 1905, with a strong acceleration in 1903 (Fig. 13).[18] The rise of the stock index was driven by the positive expectations on the Italian growth, reinforced by generous profit distribution policies. The climate of confidence favored the issuing of shares both in companies newly established and in those going public (Bonelli, 1971). The number of securities listed at the Milan Stock Exchange more than doubled in a few years (Baia Curioni, 1995).

The increase in share prices, however, also stimulated speculative behaviours, as suggested by the enormous capital gains registered in the securities issued by new companies. The emergence of speculation raised concerns on the weaknesses of the stock exchange system, with opposing views among academics, brokers' syndicates, chambers of commerce, policy makers and bank managers (Baia Curioni, 1995). Also the Bank of Italy actively participated to this debate (Siciliano, 2002).[19] Indeed, the regulation introduced in 1882 was inspired to the *laissez-faire* principle, so that constraints to trading activity were very mild and mostly let to local authorities (Baia Curioni, 1994). Exchange and securities brokers, private bankers, and bank agents were authorized to outcry trading. Brokers were much more

[18] In the 19th century the Genoa Stock Exchange was the most important one, but since the beginning of the 20th century it was surpassed by the Milan Stock Exchange.

[19] Siciliano (2002) presents an interesting and detailed analysis of the stock exchanges across the major economies prepared by an officier of the Bank of Italy at the beginning of the 20th century (ASBI, Rapporti con l'interno, prat. n° 259, fasc. n° 2), providing evidence of the active participation of the Bank to this debate on the weaknesses of the stock exchange system.

numerous than in other European stock exchanges. During periods of rapidly growing financial prices, their number used to increase significantly, inducing operators who lacked adequate expertise to enter the sector.[20] Overall, it was just a small number of brokers and private bankers, together with the large mixed banks, to be involved in most of the trading activity (Baia Curioni, 1994).

Furthermore, resources raised on the market were not always devoted to investments in fixed capital: for example, the companies of the steel trust engaged in financial operations, as exchanges of shareholdings, in order to appear externally as large industrial-financial groups. Stocks of the chemical sector recorded the greatest dynamism, followed by those in the other 'innovative' sectors, such as electric products, iron and steel, food products (Baia Curioni, 1995); for all sectors the maximum expansion was reached in the autumn of 1905 (Fig. 14).

However, within a few years the new issues exceeded public demand, increasing the volume of securities awaiting placement and setting the stage for a subsequent fall in prices. The risk of depreciation represented a double threat for mixed banks: first, it directly affected the market value of the securities held in their portfolios and second, it reduced the probability of completing their placement. In order to maintain the prices high, banks used to comply with the requests for funding from those stock exchange operators who played to the upside (Confalonieri, 1982).

A first relevant crisis episode occurred in October 1905, when the stock market collapsed after the strong rise of the previous months. Stringher, the governor of the Bank of Italy, opposed the requests for intervention, justifying his choice to avoid financing speculation. In fact, as reported in the Annual Report of the Bank of Italy for 1905, in the last quarter of that year all bills of exchange were discounted using the official discount rate, whereas the lower 'accomodation' rates were never applied. However, the overall volume of discounts increased because the Bank of Italy granted all the liquidity that the market requested.

In 1906, the upward trend of the stock markets registered in the previous years definitely came to a halt: quotations began to fall in April (Fig. 15), with the exception of the month of June when the conversion of the Italian consol took place. The supply of savings was not able to satisfy fully the demand for funds. In October 1906, a new intense crisis, probably linked to the rise in international discount rates, hit the main Italian stock exchanges, particularly that of Genoa. The tension, which led to the collapse of Terni's stock, lasted a few weeks, and was overcome thanks to the injection of liquidity by the Bank of Italy (Bonelli, 1982). Nevertheless, by this time, the expectations of a continuous rise in stock prices, which had been rooted in the financial operators, were wavering. This episode is considered a turning point in the history of the Italian stock market (Siciliano, 2001), because the large mixed banks started moving away from the stock exchange. The rise in prices had made it easier to place shares during the previous years, but now they clearly saw the risks of the market overheating. Their 1906 end-of-the-year balance sheets showed that the level of 'repurchase agreements' had remained unchanged, in contrast to the continuous increase that had been going on for several years: one of the main channels that had fueled speculation was then closed.[21]

---

[20] See for example ASBI, Carte Stringher, 208/1.03/57-66, as reported in Bonelli (1991, doc. 57, p. 698).

[21] CREDIT had already started to reduce 'repurchase agreements' in 1905, whereas COMIT stabilized their level in 1906 and started reducing them only in the following year; the SBI, instead, kept on expanding this instrument (Baia Curioni, 1995).

The calm on the stock market was short-lived: between March and April 1907, strong tensions hit all the major economies. In Italy, the prices collapsed for numerous listed companies, including, for example, the FIAT in the automotive sector; the crisis hit the Turin Stock Exchange at first and then the Genoa one. As it had happened abroad, Italian banks did not intervene to support prices, even though this would have allowed them to protect their own exposures. On the contrary, they raised the rates on loans granted to stock exchange operators, contributing further to the worsening of the crisis. In May, Stringher organized a meeting with the CEOs of the four major mixed banks to propose an agreement so that the reduction of investments in the financial market would take place gradually, limiting the readjustment costs. The proposal, however, was rejected: the managers of COMIT, CREDIT and BR stated that they did not consider the situation particularly serious. The SBI, which did not participate in the meeting, decided to support the prices alone in order to defend its own portfolio. The other mixed banks, instead, abandoned the stock exchange markets (Bonelli, 1971).

The crisis became more intense when a scandal broke out at the Genoa Stock Exchange related to transactions on the shares of the Società Ligure Ramifera[22]: the investors involved had been largely financed by the SBI. The Bank of Italy was in the front line to calm the market but met with little, if any, cooperation from COMIT and CREDIT. Stringher realized that the two largest mixed banks were willing to take enormous risks in order to take advantage of the difficulties of a rival bank, the SBI (Bonelli, 1971). The intervention took longer than expected and the Genoa Stock Exchange was closed for several days. The Bank of Italy, responsible for the clearing house, was accused, along with the government and the judiciary, of having protected speculators. In the wake of the stock market scandals, a decree was approved in June aimed at limiting speculative behavior[23]: it stated that companies should have published financial statements for at least two years before going public and it modified the rules on the index calculation, which however kept reflecting a limited part of the contracts taking place at the Stock Exchange (Galanti, D'Ambrosio and Guccione, 2012). The decree was considered completely ineffective in stopping speculation (Confalonieri, 1982).

The descent of the stock indexes did not cease. Even the Bank of Italy's stock, which had already fallen in May, had a second episode of depreciation in July. Stringher raised the special 'accommodation rates' (the 'reduced' and the 'favorable' ones) to 5%, aligning them with the official discount rate. The declared objective was to cool the market, by hitting the speculators, in full agreement with Bagehot's doctrine (Ciocca, 1978). Along with the tightening of the monetary policy, the market continued to contract.

4. From the most acute phase to the exit from the crisis

In the summer of 1907, all around the globe stock prices were falling and banks started cutting back on loans, not only to speculative sectors but also to other banks in peripheral countries, like Italy. Italian mixed banks had been insufficiently careful to the risks of immobilization, which became unsustainable for the SBI. Before going any further, we provide a short overview of the history of this bank, which was a major character of the crisis.

[22] The shares of this minor mining company had registered almost a 7-fold increase in four years, without any relevant change in its profitability: it is a clear example of speculation at the beginning of the 20th century (Baia Curioni, 1995).

[23] Decree n° 299 of June 9, 1907.

The SBI can be defined a modern merchant bank (Siciliano, 2001), which contributed to the listing of many companies operating in sectors that were innovative at the beginning of the 20th century. It was born in 1898 in Milan, and it was called Società Bancaria Milanese; it changed its name to Società Bancaria Italiana (SBI) in 1904 when it opened the branches of Turin and Genoa, after the acquisition of the branches of Banco di Sconto e Sete. From October 1904 to mid-March 1906, its capital increased from ₤20 to 50 million, taking advantage of the good performance of its stock market prices. In 1907, the SBI mainly reflected the interests of a group of investors from Genoa: the Bruzzone brothers, Bozano and Cortese, among the most unscrupulous speculators on the Genoa Stock Exchange, held almost 50 per cent of the shares. The difficulties of the SBI arose mostly because the shareholders of the bank exploited their dominant position to obtain credit for stock market speculation (Bonelli, 1971). On the other hand, Stringher much appreciated the SBI because, unlike COMIT and CREDIT, it was more involved in the discounting activity. The Bank of Italy was not worried about its own high exposure towards the SBI because considered the underlying bills of exchange of excellent quality, and had a good opinion over its management.[24] Nevertheless, in December of 1907, the swirling growth of loans raised the concerns of Stringher, who finally became aware of the high degree of immobilization of the SBI.

The rumors of SBI's troubles spread quickly, leading not only to a further drop in the stock price but also to a withdrawal of deposits: in just one month, from August 31 to September 30th 1907, deposits fell from ₤36 to ₤32 million. The bank was not able to meet the demand for much longer because, except for ₤5.6 million in cash and ₤1.7 million in advances ready to collect, most of the bill portfolio was difficult to liquidate, and capital had been invested in 'repurchase agreements', securities and participations that were difficult to sell (Bonelli, 1971). At the same time, the SBI could not ask for further help from the Bank of Italy since the discount was already very high (₤22.5 million as of September 30) and there were few government securities available as collateral for obtaining advances.

While CREDIT and COMIT initially hoped to gain from the SBI crisis, they soon realized the risk of being overwhelmed by a generalized run on banks. In order to gather liquidity, they began to cut off credit to the real economy, thus inducing an increase in direct discounting at the Bank of Italy. The financial crisis risked turning into an economic crisis, causing the bankruptcy of industrial enterprises. Stringher was worried because the shock would have impacted firstly the smaller banks engaged in discounting industrial bills and then it would have burdened the balance sheets of the Bank of Italy, increasing its locked-up assets (Bonelli, 1971).

The Bank of Italy therefore had to intervene urgently in its own interests. The role of guarantor of the country's financial situation, sealed with the success of the conversion of the Italian consol in 1906, was intertwined with private interests. On the one hand, the Bank of Italy needed to reverse the negative trend of its own stock price, and on the other hand, it had to protect both its direct credits with the SBI and the bills of exchange guaranteed by persons linked to the SBI. At the same time, the constraints on circulation imposed by law did not allow the Bank of Italy to inject sufficient liquidity into the financial system.

[24] Report by Bank of Italy Inspector Domenico Gidoni to Stringher on the Genoa branch in May 1906 (ASBI, Ispettorato, cart. 211, as reported in Bonelli 1991, doc. 56, pp. 682-696).

Stringher aimed at building a consortium of banks, headed by COMIT and CREDIT, to support the SBI. Negotiations began on October 1, but they immediately proved to be complicated. The participants had to raise ₤50 million: Stringher claimed to be able to put up ₤7 million, in addition to the approximately ₤23 million in prepaid expenses and advances already in existence; COMIT and CREDIT, on the other hand, requested that the additional intervention by the issuing banks should be about ₤25-30 million, not just ₤7 million. However, time was running out: Stringher discovered that on October 10 the exposure of the Bank of Italy had already risen to ₤29.7 million. Stringher accepted the conditions proposed by CREDIT and COMIT, reaching an agreement on October 11 for the constitution of a bank consortium, the Consorzio Sovventore della Bancaria. According to the agreement: the member banks would have discounted SBI's bills for ₤20 million; once these had been exhausted, the banks of issue would have intervened with additional ₤25 million; as a last resort, the member banks would have added another ₤5 million. The liquidity of the member banks would not have been reduced because the ₤20 million would have been financed through the discount at the Bank of Italy of promissory notes issued to these banks by the SBI.

Therefore, the Bank of Italy needed to increase liquidity in an extraordinary way, after having tried uselessly for some time to obtain from the government greater flexibility in determining rates and volumes of issue.[25] The government intervened in a decisive way, not by loosening the regulatory constraints, but by secretly transferring ₤60 million in gold to the account at the Bank of Italy (Bonelli, 1971). In this way, it allowed the issuing bank to expand circulation without any exception to the laws in force: almost all of the banknotes issued beyond the normal limit had full metal coverage. The high amount of specie held by the Treasury at that time was indeed a key factor to face promptly the crisis.[26]

The injection of liquidity was considerable: the Bank of Italy's circulation rose by nearly ₤80 million, from ₤1,297 to ₤1,376 million in just one month, between September 20 and October 20. However, the results were limited, at least initially. In mid-October, in the aftermath of the agreement, the SBI's prices collapsed again. The shares of the participants in the consortium for the rescue of the SBI were also attacked, as if to indicate that the intervention would have reduced their soundness: the fear – which after a few days proved to be fully justified – was that the resources allocated to the SBI were insufficient.

Stringher tried to set up another consortium, called the Consorzio di Difesa ('Defense Consortium'), aiming at supporting market prices. The Bank of Italy, already heavily immobilized, was unable to provide additional help through this second consortium. The banks invited to participate in the new consortium considered as fundamental the involvement of the Strade Ferrate Meridionali and, above all, of the Cassa di Risparmio delle Province Lombarde (CARIPLO). The latter was the largest Italian bank, but since it was a savings bank, it had always shown reluctance towards operations that could undermine its unquestionable soundness and reputation as deposit custodian. Due to the reluctance of the

[25] For example, see a document addressed by the Bank of Italy to Minister Carcano on January 25 1907 (Bonelli 1991, doc. 9, p. 203-247).

[26] The government intervention, however, was contradictory. In fact, on the one hand, it facilitated the injection of liquidity by the Bank of Italy; on the other hand, it required a significant interest rate on its account at the Bank of Italy (1 percentage point higher than the circulation tax).

CARIPLO and the Strade Ferrate Meridionali, it was not possible to meet rapidly an agreement to support the market.

On October 21, it was revealed that the Director Bruzzone of the Genoa branch of the SBI had concealed from the general management high losses, a large withdrawal of deposits and significant cancellations of foreign loans, in addition to the fact that 'repurchase agreements' were much higher than declared. Out of the £20 million in consortium grants, £15 million had already been used and £5 would have been used within a week. In front of these facts, Stringher was convincing himself of the need for an orderly liquidation of the SBI, managed by the Consorzio Sovventore della Bancaria. However, both COMIT and CREDIT opposed this view, claiming that they would not be able to take on SBI's commitments. Stringher was surprised that the two banks were not interested in getting rid of a competitor: therefore, he decided to commit himself further to the rescue. On November 7, following a new assessment of the actual needs of the SBI, the Consorzio Sovventore della Bancaria reached a new agreement, whereby the resources made available almost doubled (Bonelli, 1971): £24 million from the banks of issue (£20 from the Bank of Italy alone) and £16 from COMIT, CREDIT and BR (the latter for only one million). The other banks participating in the consortium did not allocate additional resources with respect to the October 11 agreements. Overall, the two agreements added up to £90 million of funds, and by December 9 £63 million were actually provided to the SBI. The disbursed amount had been huge, even larger than the overall amount of capital and reserves of the SBI observed before the crisis.[27] More than half of the actual disbursements were made by the Bank of Italy (£34 million), followed by COMIT (£11.5 million) and CREDIT (£8.6 million). The role of the Banco di Napoli and the Banco di Sicilia was marginal: according to the consortium agreements, they would have provided approximately £10 million overall, but at the end they disbursed only £1 million.

In the meanwhile, the crisis intensified in Europe and at the beginning of November the official discount rate rose almost everywhere: in the UK it went from 4.5 to 7% within ten days; in Germany from 5.5 to 7.5%; in Belgium from 5 to 6%. News also leaked out that the Banque de France had to intervene with advances to help the Bank of England.[28] On November 8, the Italian government, in agreement with Stringher, increased the official discount rate from 5 to 5.5%. Once again, the justification for the intervention of the government and the Bank of Italy was to secure the banking system, while being intransigent towards financial speculation. On November 13, a decree was approved that aimed to strike at the speculative use of forward contracts, introducing the 'right to discount': the buyer had the right to request an early delivery of securities against the payment of an agreed price.

[27] According to the 1906 end-of-the-year balance sheet, the capital of the SBI (including reserves) was close to £60 million and the total assets amounted to £246 million (Natoli *et al.*, 2016).

[28] It is worth noting the interventions of the Banque de France during the crisis of 1907. In March 1907, facing with the fall in prices, the Banque de France raised interest rates by 50 basis points from 3 to 3.5% (it did so again in November), while previously it had rarely changed the official rate. It withdrew gold from New York and liquidated its portfolio in London, preventing the market from using its resources to finance American speculation. In this way, it collected and stored important resources that proved decisive in the autumn when the Bank of England had to deal with a gold outflow: at that point, through the London marketplace, the Banque de France managed to get the necessary liquidity into the international circuits (Bonelli, 1971).

This regulation was criticized, for both its effectiveness and its lawfulness.[29] Historians' assessment on the relevance of the measure is mixed: Confalonieri affirms that it was decisive in stopping the bearish trend (Confalonieri, 1982), Bonelli on the other hand downplays its contribution (Bonelli, 1982). This restrictive government intervention paved the way to a more general revision of the Italian stock market regulation, which was finalized only in 1913. Unfortunately, it did not succeed in renewing the confidence of Italian investors in the stock market, which remained perceived as too risky (Schisani, 2008).

On November 12, Stringher informed the CEO of COMIT, Otto Joel, about the Prime Minister Giolitti's disappointment for the delay in setting the 'Defense Consortium', prompting him to intervene more decisively. On November 15, the consortium eventually found a way to gather enough resources for a proper intervention. Thanks to the signing of a new contract with CARIPLO, the consortium could borrow debt securities from CARIPLO for obtaining advances from the Bank of Italy. Yet, just when the 'Defense consortium' was ready to begin operations, the tension on the financial market disappeared.

It is difficult to tell which of the interventions had the greatest merit in putting an end to the stock market crisis: in just a few days, the official discount rate was raised, the 'discount right' was introduced by law, and the 'Defense Consortium' became operative. Moreover, news on the easing of the crisis abroad might have also reduced tensions on the domestic market.[30] The supervisory commission on the management of the SBI, composed of a member of the Bank of Italy, one of COMIT, and one of CREDIT, imposed a devaluation of ₤30 million of SBI's assets: the goal was achieved by using ₤10 million of the reserves and ₤20 million of the capital stock. The capital was supplemented with ₤20 million from the old shareholders, who were given all of their shares in option, and from foreign investors, in particular the French ones. However, the real author of the rescue was Stringher, who never tired of working for the success of the recovery.[31] In June 1908, all debts with the financing bodies were extinguished, thanks to the liquidation of assets, to increased discounts of bills at the Bank of Italy, and to new capital injections. Without any official designation, the Bank of Italy had moved its first steps as a lender of last resort (Barbiellini Amidei and Giordano, 2014).

5. Concluding remarks: the legacy of the crisis

The crisis of 1907 was an important turning point in Italian financial history, because of its long-term effects on the capital market, the banking system, and the central bank.

It is not possible to identify a unique culprit of the crisis. The press of the time harshly attacked the so-called 'speculators', identified as a group of brokers and small private bankers

[29] See the parliamentary debate of December 16, 1907, pp. 18374-18390. Baia Curioni (1995) reports some contrasting opinions in the major newspapers.

[30] Actually, after a few months of recovery, the stock market continued to fall until 1909, with some more intense episodes such as that of February 1908. In any case, the most acute phase of the crisis ended in November 1907.

[31] For example, Stringher obtained the involvement of savings banks to place ₤7 million bills of exchange of the *Zucchereria Nazionale* held in the SBI balance sheets. Moreover, another important step in the settlement of the SBI was the appointment of a new CEO. The choice fell on Callegari, Director of the Bank of Italy branch in Turin and a trusted collaborator of Stringher: he guaranteed prudent conduct for the entire duration of his mandate.

and partnerships, who had excessively provoked the bullish waves. Stock exchange operators were accused of being too numerous, often inclined to cheat their clients and lacking adequate technical skills. Nevertheless, behind these 'speculators' were the major mixed banks, with a definitely greater weight in the stock market and which actively supported the securities they had placed. Notwithstanding their undeniable role in spurring the development of the Italian capital market, they were responsible for injecting liquidity into the stock market, through the increase of 'repurchase agreements' on stocks and investments in shares. Medium-sized ordinary credit companies were less involved: they started to operate in the stock market a few years later than the mixed banks, so that in 1907 their exposure was limited. Cooperative banks, savings banks and most of the smaller ordinary credit companies remained outside the financing of stock market operations.

The availability of resources to be employed in the stock exchange also derived from the favourable macroeconomic situation: in the early years of the 20th century, the Italian economy experienced an increase in financial inflows, due to the reduction of the trade deficit and remittances from migrants. Growth prospects were good and fiscal policy balanced. In 1905, the radical reorganization of government spending gave a strong boost to the economy, perhaps contributing to its overheating. The sharp increase in the trade deficit in 1906 did not cause great concern because it was counterbalanced by financial inflows from the rest of the world. However, it was a signal that something was changing. Moreover the large manufacturing companies, which had engaged in enormous investment plans and were the driving force behind Italian development, were financially fragile because their capital was the result of the complicated intertwining of shares.

Despite the intensity of the crisis, the effects on the real economy were limited. Real GDP still grew at 3 per cent in 1908 and 1909, although in the following years the growth rate declined. The crisis remained to some extent confined to the stock market, the large mixed banks and the large non-financial companies; there were no bank runs at cooperative banks, ordinary credit banks and postal banks. Industrial companies did not have to change their growth plans, even though a few years later they suffered a serious crisis. Among the mixed banks, all of which had accumulated excessive risks, only the SBI was severely downsized, but it avoided going into liquidation.

The stock market was the major loser of the crisis, which dramatically influenced its future (Siciliano, 2001). The crisis highlighted the need for a reform of the stock exchange, but actually the legislative response constrained the development of a modern system, which remained of marginal importance in Italy until 1991. A first attempt at reform, prepared by Cocco Ortu, was presented in 1909 soon after the crisis, but the Parliament approved the new regulation only in 1913. According to the reform, control of the stock market became centralized to prevent local influences jeopardizing the system. Supervision was assigned to several authorities besides the central government: the Chambers of Commerce, the Bourse Deputation and the brokers syndicate (Comitato direttivo). Brokers could only act on behalf of their clients and were prohibited from operating on their own account, but obtained the monopoly of outcry trading. They were not allowed to run banking activities or become stockholders of private banks (Barbiellini Amidei and Giordano, 2014). In this way private bankers and small banks that specialized in stock intermediation were actually prevented from operating directly in the stock market. Instead, the largest banks maintained their role as market makers and at the same time obtained an official position within the regulatory authorities. In order to avoid brokers' fees they preferred to trade securities among their own clients or with other banks, subtracting liquidity from the official stock exchange. Therefore, the reform did not succeeded in guaranteeing equilibrium in the complex relationship between the banking system and the stock market (Barbiellini Amidei and Impenna, 1999).

The crisis reaffirmed that Italy could not face its problems without involving all the available financial forces. In particular, in the banking system there was one giant, the Cassa di Risparmio delle Province Lombarde, which tended to stay outside the financial scene but was decisive in carrying out extraordinary interventions for the country. Its fundamental role became evident both for the conversion of the Italian consol in 1906, and for the creation of the 'Defense consortium' in November 1907. Its reluctance to be involved in large-scale operations for financial stability purposes – fully justifiable from a micro point of view in order to guarantee safety for its depositors, which was the main mission of a savings bank – risked depriving Italy of a significant share of financial resources. Nevertheless, cooperative banks and small ordinary credit banks also proved to be important. At a time when the large mixed banks rationed credit, it was the smaller institutions that guaranteed liquidity to businesses, though often by resorting to discounts of bills at the Bank of Italy.

Undoubtedly, the great winner of the crisis was the Bank of Italy. Despite the accusation of having rescued the speculators of the Genoa Stock Exchange in June 1907, it proved capable of uniting all the financial forces of the country and resolving both the banking and the financial crises. Certainly private interests also influenced the intervention of the Bank of Italy, which was heavily exposed to the SBI, and had to safeguard its own stock price. Perhaps it was no coincidence that in July 1907 the increase in the official interest rates occurred at the same time as the collapse of the shares of the Bank of Italy. The bank of issue was also somewhat lucky. If the Treasury had not accumulated cash in metal in the previous years, in order to inject liquidity into the system, it would have been necessary to introduce constraints on metal convertibility and the gain in status for the Bank of Italy would have been much lower.

The returns of this success were immediately evident: with Law 804/1907, some of the Bank of Italy's longstanding requests were satisfied, giving greater room for manoeuvre to the bank of issue: wider and more flexible limits to circulation; extended operations that could be carried out at the 'favourable accomodation rate'; and new fiscal regulations that benefited the use of advances and discounts, discouraging the use of 'repurchase agreements' on stocks and of correspondent current accounts.

In just a few years the Bank of Italy was able to gain soundness and credibility: it liquidated all the fixed assets it had inherited after the 1893 crisis; it successfully managed the conversion of the Italian consol in 1906; and finally, with the 1907 crisis, it took its first steps as a lender of last resort, establishing itself as the reference point of the Italian banking system, with a strong power of moral suasion over the other credit institutions. The greater freedom in terms of circulation and interest rate setting, obtained after the crisis, was an important step towards independence in the conduct of monetary policy. It was ready to become a modern central bank.

References

Baffigi, A. (2011), *Italian National Accounts, 1861-2011*, Banca d'Italia, Quaderni di Storia Economica (Economic History Working Papers), n° 18.

Baia Curioni, S. (1994), "Evoluzione istituzionale della borsa valori in Italia dal 1918 alla vigilia della legge bancaria del 1936", in *Ricerche per la storia della Banca d'Italia*, vol. V, Laterza, Roma-Bari.

——————— (1995), *Regolazione e competizione. Storia del mercato azionario in Italia (1808-1938)*, il Mulino, Bologna.

——————— (2000), *Modernizzazione e mercato. La Borsa di Milano nella "nuova economia" dell'età giolittiana (1888-1914)*, EGEA, Milano.

Banca d'Italia (1905), *Annual Report* on 1906, Roma.

Barbiellini Amidei, F., De Bonis, R., Rocchelli, M., Salvio, A. and Stacchini, M. (2016), *La moneta in Italia dal 1861: evidenze da un nuovo dataset,* Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), n° 328.

Barbiellini Amidei, F. and Giordano, C. (2014), "The Redesign of the Bank-Industry-Financial Market Ties in the US Glass-Steagall and the 1936 Italian Banking Acts", in P. Clement, H. James, and H. Van der Wee (eds.), *Financial Innovation, Regulation and Crises in History*, pp. 65-83, Pickering & Chatto, London.

Barbiellini Amidei, F. and Impenna, C. (1999), "Il mercato azionario e il finanziamento delle imprese negli anni Cinquanta", in F. Cotula (ed.), *Stabilità e sviluppo negli anni Cinquanta. 3. Politica bancaria e struttura del sistema finanziario*, Laterza, Roma-Bari.

Bonelli, F. (1971), *La crisi del 1907. Una tappa dello sviluppo industriale in Italia*, Fondazione Luigi Einaudi, Torino.

————— (1982), "The 1907 Financial Crisis in Italy: a Peculiar Case of the Lender of Last Resort in Action", in C. P. Kindleberger and J. Laffargue (eds.), *Financial Crisis*, Cambridge University Press, London.

————— (1991), *La Banca d'Italia dal 1894 al 1913*, Collana Storica della Banca d'Italia, Documenti, Laterza, Roma-Bari.

Calomiris, C. W. (2008), *The Subprime Turmoil: What's Old, What's New, and What's Next*, Proceedings of the Economic Policy Symposium Jackson Hole, Federal Reserve Bank of Kansas City, pp. 19-110.

Ciocca, P. (1978), "Note sulla politica monetaria italiana, 1900-1913", in G. Toniolo (ed.), *L'Economia italiana, 1961-1940*, Laterza, Roma-Bari.

Confalonieri, A. (1975), *Banca e industria in Italia 1894-1906, vol. II, Il sistema bancario tra due crisi*, Banca Commerciale Italiana, Roma.

———————— (1976), *Banca e industria in Italia 1894-1906, vol. III, L'esperienza della Banca commerciale italiana*, Banca Commerciale Italiana, Roma.

———————— (1982), *Banca e industria in Italia dalla crisi del 1907 all'ottobre 1914*, Banca Commerciale Italiana, Milano.

Corbino, E. (1938), *Annali dell'economia italiana*, vol V, Istituto Editoriale del Mezzogiorno, Napoli.

Cotula, F. and Raganelli, T. (1996), "Introduzione", in F. Cotula, T. Raganelli, V. Sannucci, S. Alieri, and E. Cerrito (eds.), *I bilanci delle aziende di credito 1890-1936*, Collana storica della Banca d'Italia, Statistiche storiche, vol. III, pp. 3-56, Laterza, Roma-Bari.

Fenoaltea, S. (2016), "The Measurement of Production: Lessons from the Engineering Industry in Italy, 1911", in C. Hanes and S. Wolcott (eds.), *Research in Economic History*, vol. 32, pp. 73-145.

Friedman, M. and Schwartz, A. (1963), *A Monetary History of the United States, 1867-1960*, Princeton University Press, Princeton, NJ.

Galanti, E., D'Ambrosio, R. and Guccione A. V. (2012), *Storia della legislazione bancaria, finanziaria e assicurativa. Dall'Unità d'Italia al 2011*, Collana Storica della Banca d'Italia, Contributi, Marsilio, Venezia.

La Francesca, S. (2004), "La crisi del 1907", in P. Pecorari (ed.), *Crisi e scandali bancari nella storia d'Italia*, Istituto Veneto di Scienze, Lettere, Arti, Venezia.

Massullo, G. (2001), "Economia delle rimesse", in P. Bevilacqua, A. de Clementi e E. Franzina (eds.), *Storia dell'emigrazione italiana, volume 1. Partenze*, pp. 161-183, Donzelli, Roma.

Ministero dell'Economia e delle Finanze. Dipartimento della Ragioneria Generale dello Stato (2011), *La spesa del bilancio dello Stato dall'Unità d'Italia*, Roma.

Moen, J. and Tallman, E. W. (1992), "The Bank Panic of 1907: The Role of Trust Companies", *The Journal of Economic History*, vol. 52, n° 3, pp. 611-630.

Natoli, S., Piselli, P., Triglia, I. and Vercelli F. (2016), *Historical Archive of Credit in Italy*, Banca d'Italia, Quaderni di Storia Economica (Economic History Working Papers), n° 36.

Odell, K. A. and Weidenmeier, M. D. (2004), "Real Shock, Monetary Aftershock: The 1906 San Francisco Earthquake and the Panic of 1907", *Journal of Economic History*, vol. 64, n° 4, pp. 1002-1027.

Pantaleoni, M. and Villain, G. (1925), "La crisi del 1905-1907", *Annali di economia*, vol. 1, n° 2, pp. 301-542, EGEA, Milano.

Schisani, M. C. (2008), *I caratteri originali del mercato finanziario italiano (1861-1914)*, in A. Cova, S. La Francesca, A. Moioli and C. Bermond (eds.), *Storia d'Italia. Annali*, *La Banca*, vol. 23, Einaudi, Torino.

Siciliano, G. (2001), *Cento anni di borsa in Italia. Mercato, imprese e rendimenti azionari nel ventesimo secolo*, il Mulino, Bologna.

———— (2002), "La regolamentazione delle Borse valori in Europa e negli USA agli inizi del Novecento", *Rivista di Storia Economica*, n° 2, pp. 131-151.

Sprague, O. M. W. (1908), "The American Crisis of 1907", *The Economic Journal*, vol. 18, n° 71, pp. 352-372.

Sraffa, P. (1922), "The Bank Crisis in Italy", *The Economic Journal*, vol. 32, n° 126, pp.178-197.

Tallman, E. W. and Moen J. R. (2012), "Liquidity Creation without a Central Bank: Clearing House Loan Certificates in the Banking Panic of 1907", *Journal of Financial Stability*, vol. 8, n° 4, pp. 277-291.

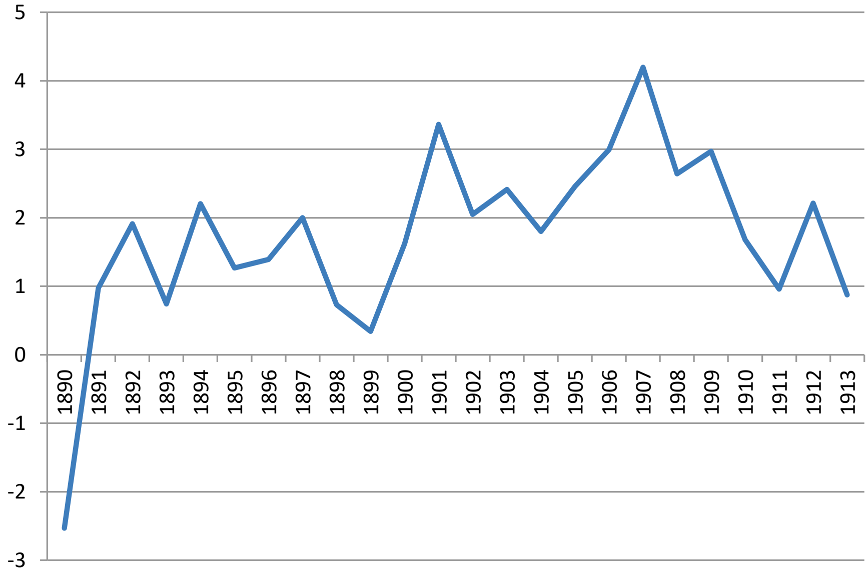
Toniolo, G. (forthcoming), *Storia della Banca d'Italia.* Tomo I, *1893-1943. Formazione ed evoluzione di una banca centrale*, Collana Storica della Banca d'Italia, Contributi e Saggi, Il Mulino, Bologna.

Figures

Figure 1

GDP growth rate

(annual data; 1890-1913; constant prices; per cent)

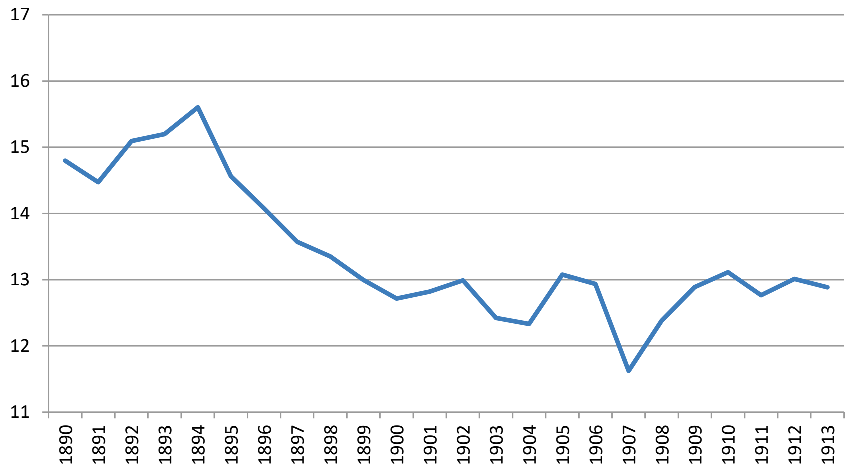


Source: Baffigi (2013).

Figure 2

Public expenditure

(annual data; 1890-1913; per cent of annual GDP)

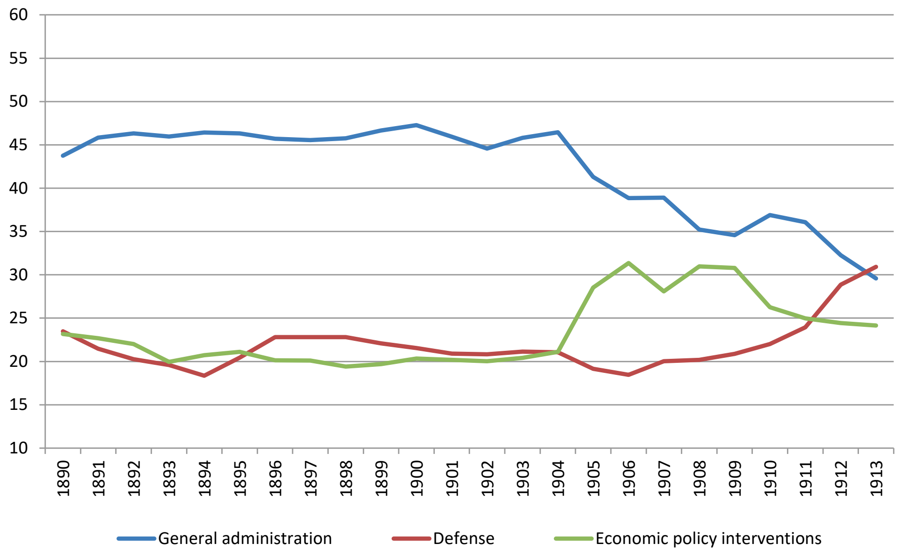


Sources: Baffigi (2013); Ministero dell'Economia e delle Finanze (2011).

Figure 3

Public expenditure: main items

(annual data; 1890-1913; per cent of total public expenditure)

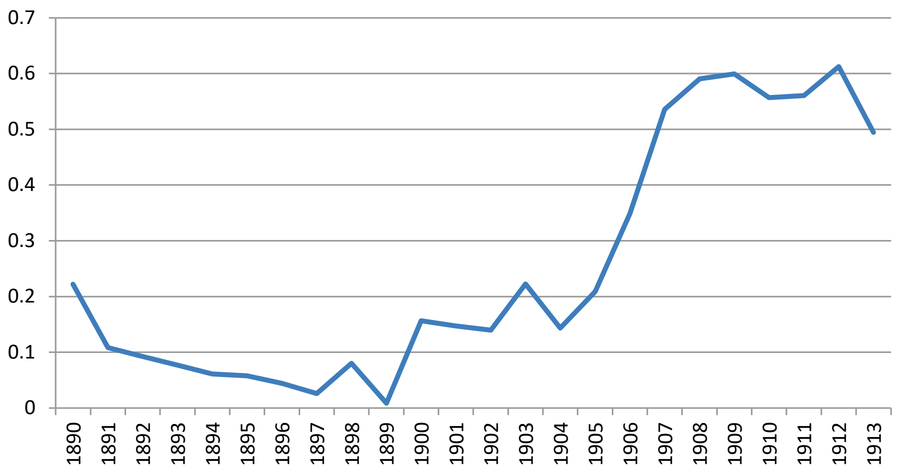


Source: Ministero dell'Economia e delle Finanze (2011).

Figure 4

Trade deficit

(annual data; 1890-1913; millions of euros; current prices)

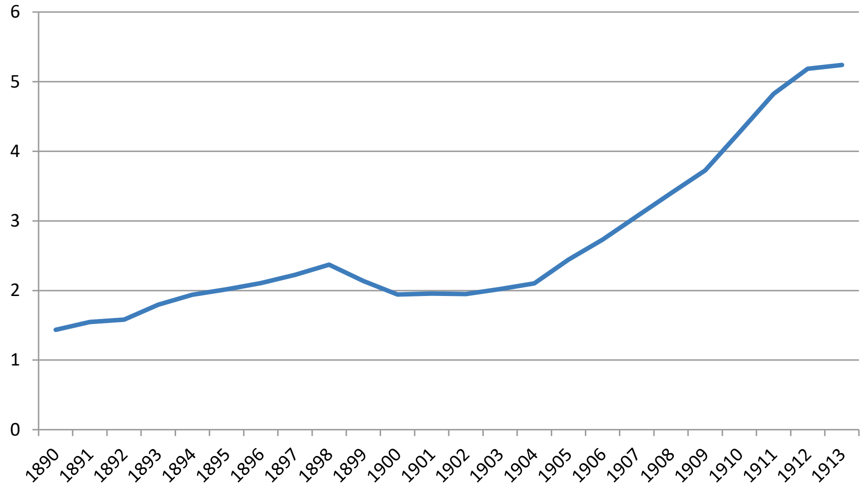


Source: Baffigi (2013).

Figure 5

Circulation: banknotes over metal

(annual data; 1890-1913)

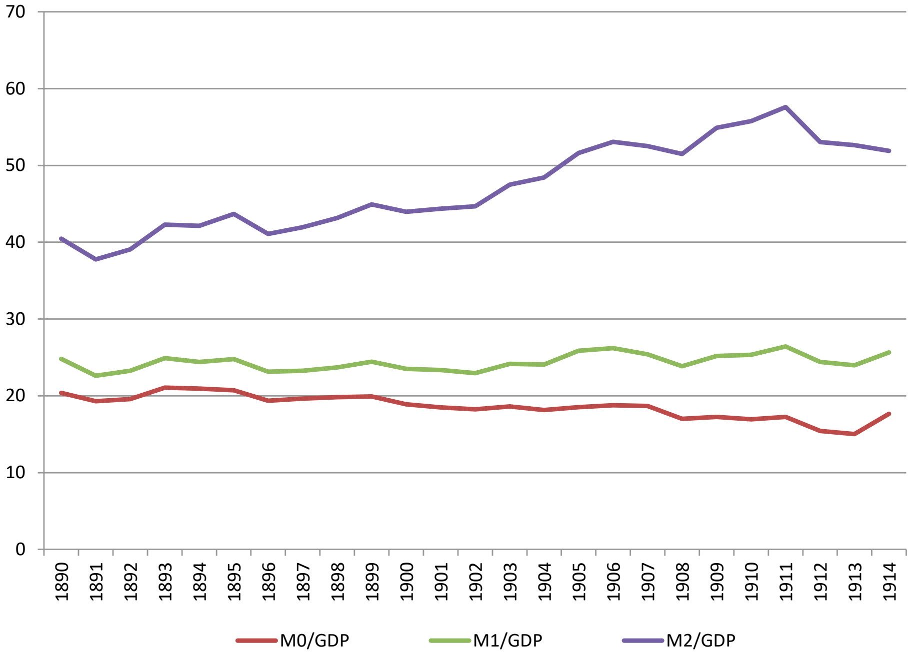


Source: Barbiellini Amidei *et al.* (2016).

Figure 6

Monetary aggregates

(annual data; 1890-1913; per cent of annual GDP)

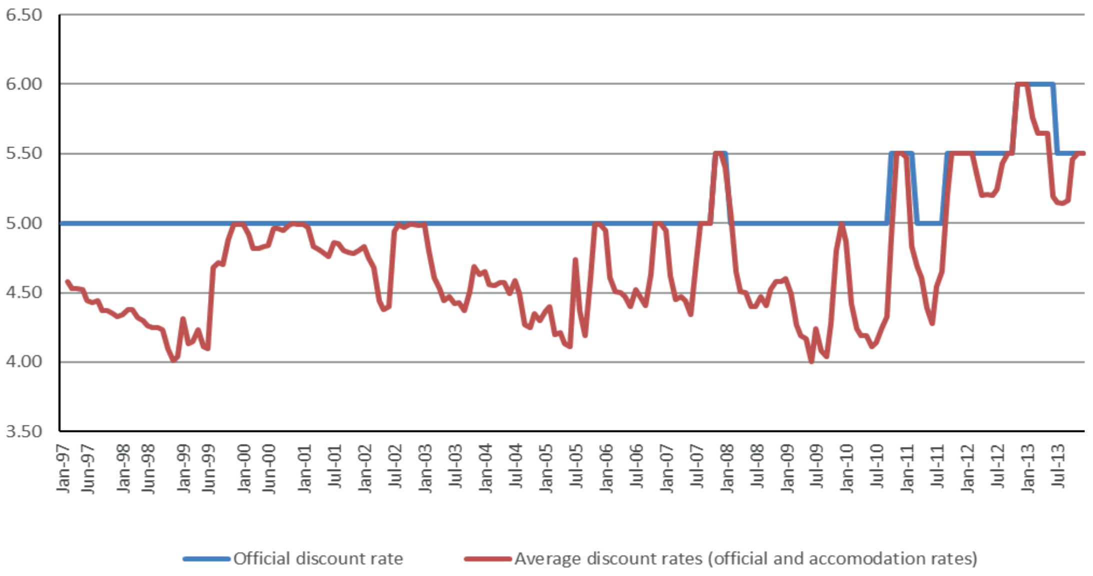


Sources: Barbiellini Amidei *et al.* (2016); Baffigi (2013).

Figure 7

Discount rates

(monthly data; 1897-1913)

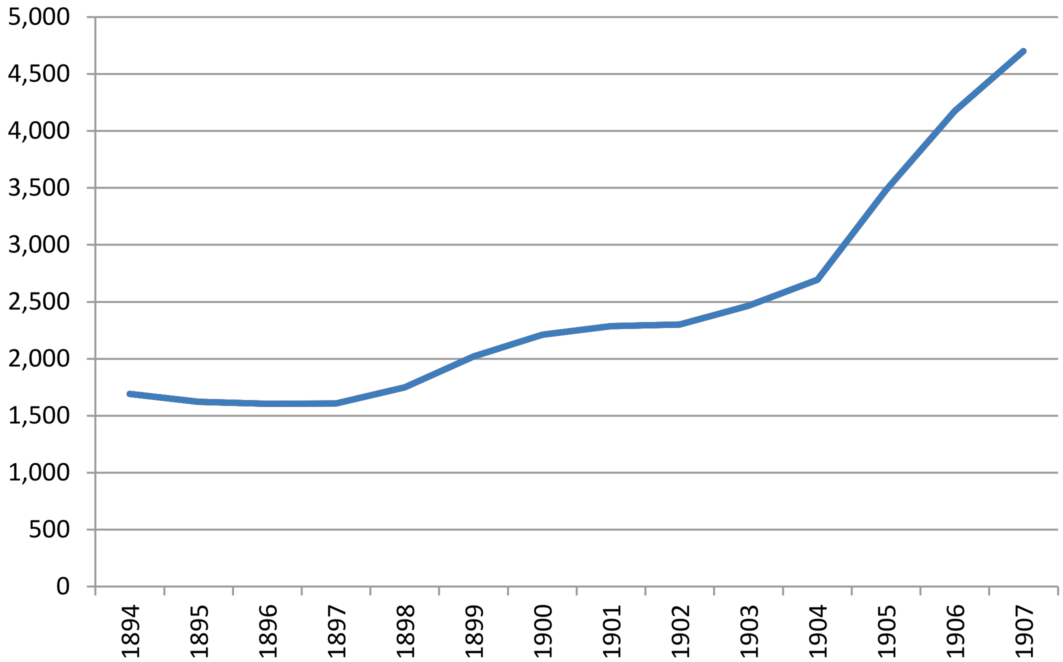


Source: Ciocca (1978).

Figure 8

Limited company capital

(annual data; 1894-1907; millions of liras)

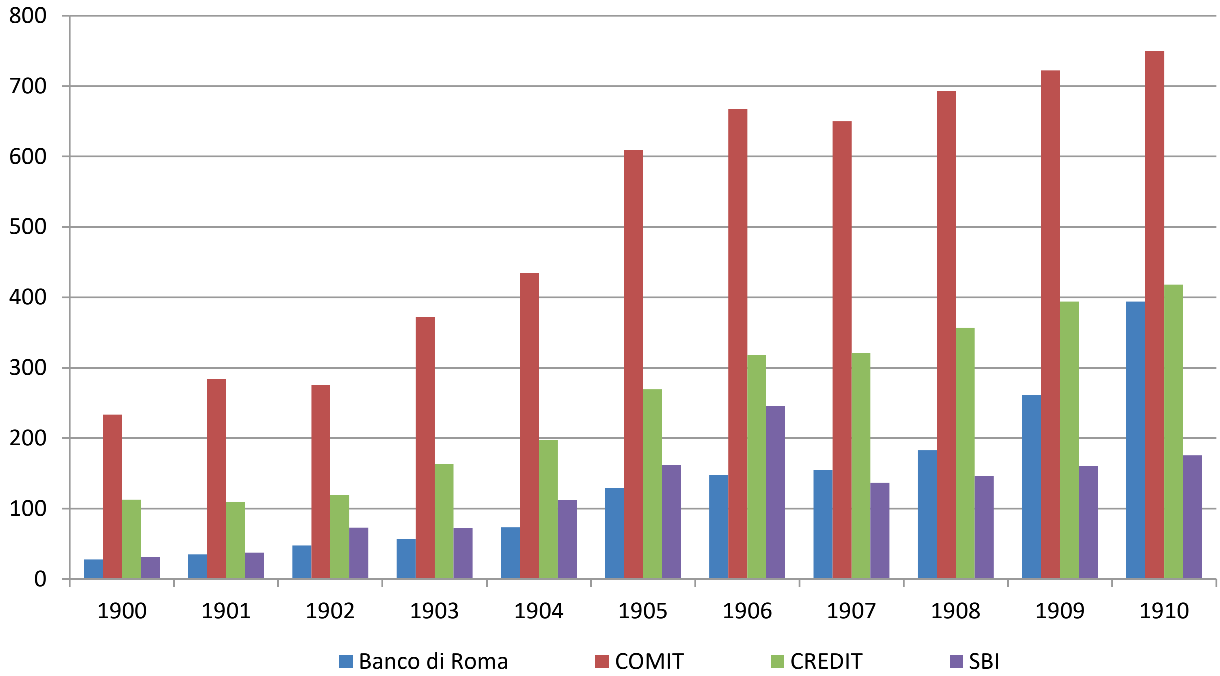


Source: Confalonieri (1976).

Figure 9

Total assets of the mixed banks

(annual data; 1900-1910; millions of euros)

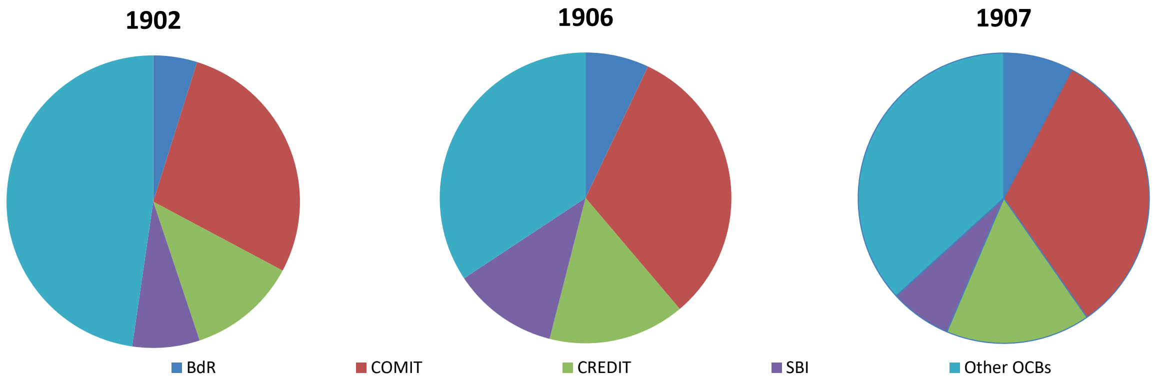


Source: Natoli *et al.* (2016).

Figure 10

Total assets across the banking sector.

(annual data; per cent)

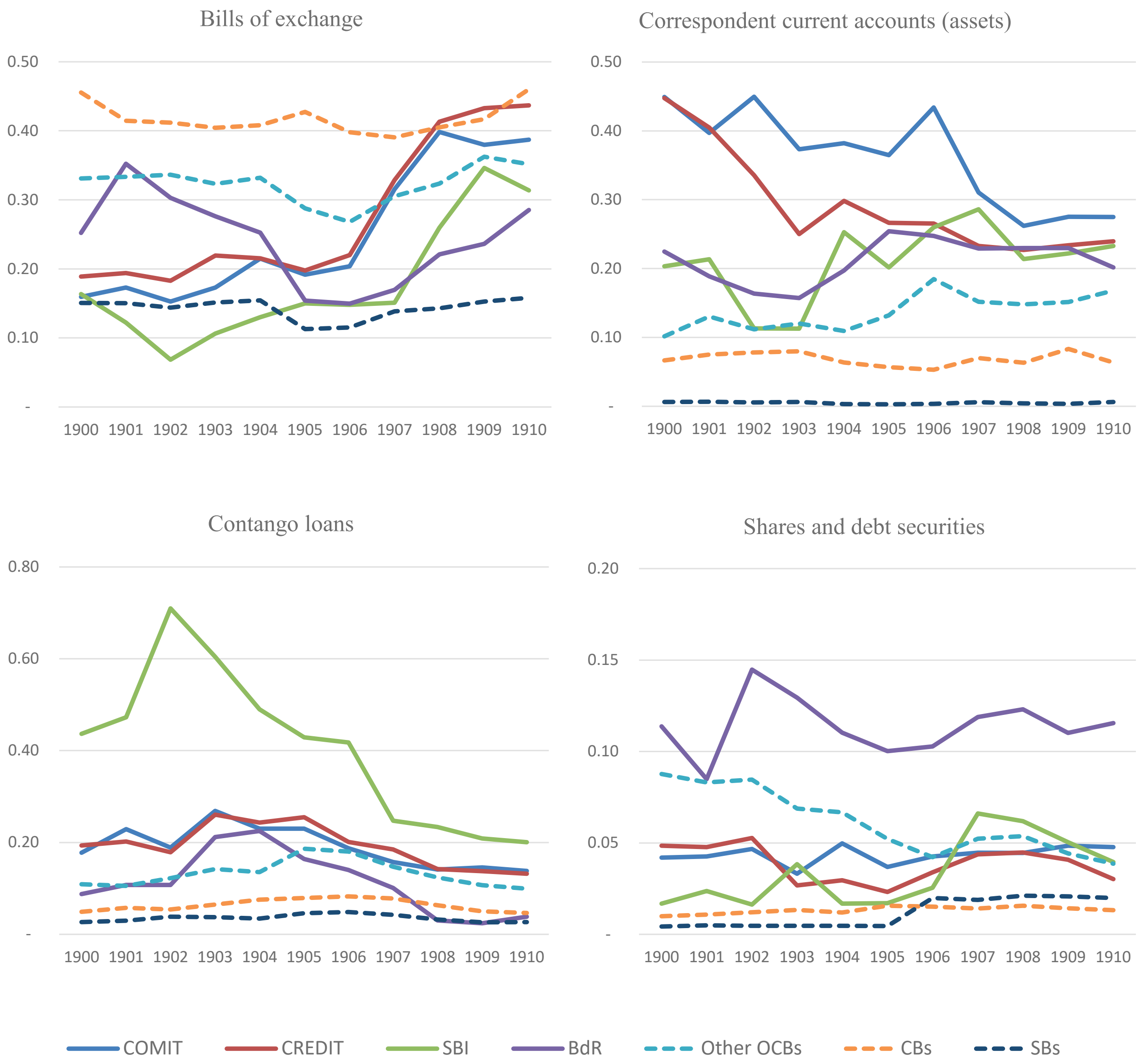


Source: Natoli *et al.* (2016).

Figure 11

Composition of assets

(annual data; 1890-1910; per cent of total assets)

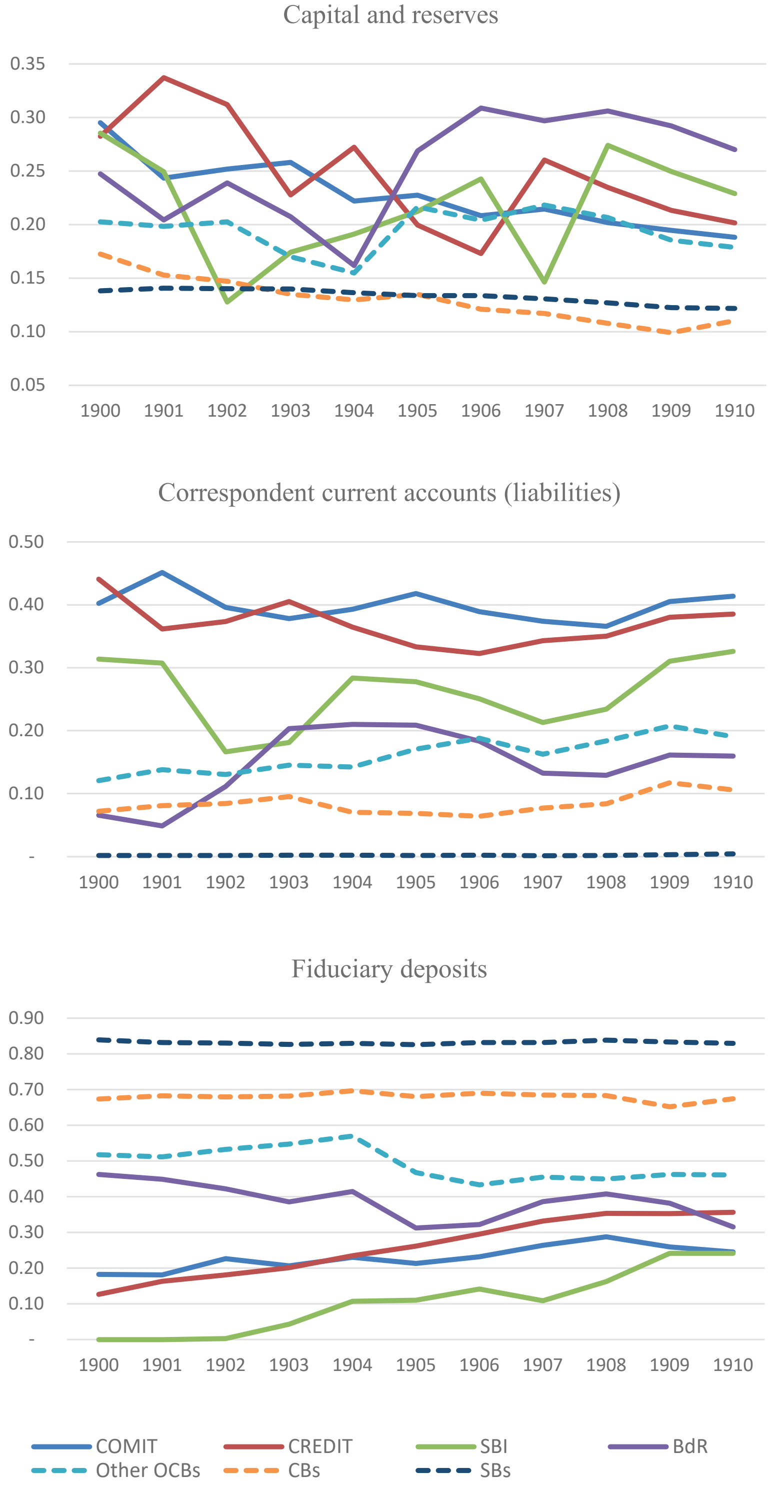


Source: Natoli *et al.* (2016).

Figure 12

Composition of liabilities

(annual data; 1890-1910; per cent of total liabilities)



Source: Natoli *et al.* (2016).

Figure 13

Milan Stock Exchange Index

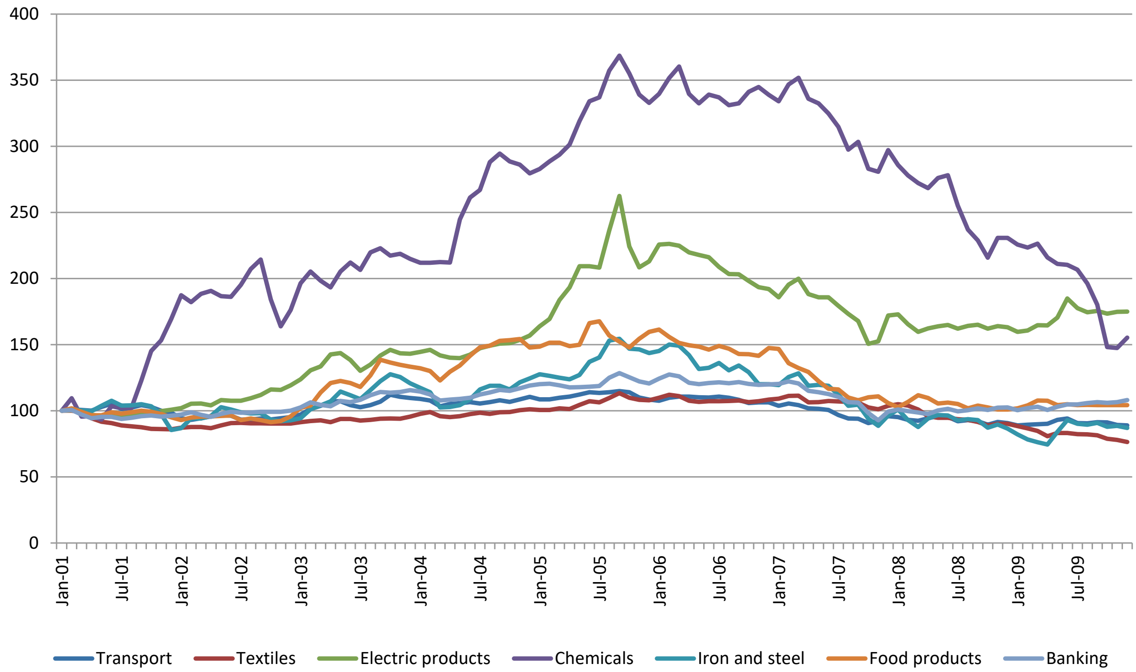
(monthly data; 1901-1909; index; Jan. 1901=100)

Source: Baia Curioni (2000). Index based on 70 securities.

Figure 14

Sectoral Milan Stock Exchange Indexes

(monthly data; 1901-1909; index; Jan. 1901=100)

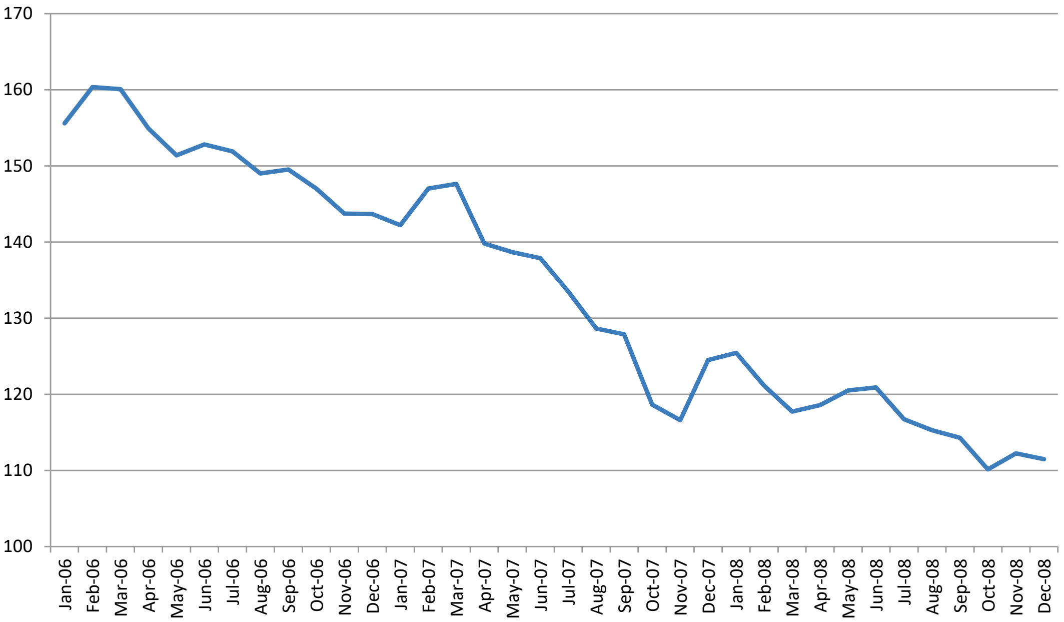


Source: Baia Curioni (2000).

Figure 15

Milan Stock Exchange Index: the 1907 financial crisis

(monthly data; 1906-1908; index; Jan. 1901=100)



Source: Baia Curioni (2000). Index based on 70 securities.

PREVIOUSLY PUBLISHED "QUADERNI" (*)

N. 1 – *Luigi Einaudi: Teoria economica e legislazione sociale nel testo delle* Lezioni, by Alberto Baffigi (September 2009).

N. 2 – *European Acquisitions in the United States: Re-examining Olivetti-Underwood Fifty Years Later*, by Federico Barbiellini Amidei, Andrea Goldstein and Marcella Spadoni (March 2010).

N. 3 – *La politica dei poli di sviluppo nel Mezzogiorno. Elementi per una prospettiva storica*, by Elio Cerrito (June 2010).

N. 4 – *Through the Magnifying Glass: Provincial Aspects of Industrial Grouth in Post-Unification Italy*, by Carlo Ciccarelli and Stefano Fenoaltea (July 2010).

N. 5 – *Economic Theory and Banking Regulation: The Italian Case (1861-1930s)*, by Alfredo Gigliobianco and Claire Giordano (November 2010).

N. 6 – *A Comparative Perspective on Italy's Human Capital Accumulation*, by Giuseppe Bertola and Paolo Sestito (October 2011).

N. 7 – *Innovation and Foreign Technology in Italy, 1861-2011*, by Federico Barbiellini Amidei, John Cantwell and Anna Spadavecchia (October 2011).

N. 8 – *Outward and Inward Migrations in Italy: A Historical Perspective*, by Matteo Gomellini and Cormac Ó Gráda (October 2011).

N. 9 – *Comparative Advantages in Italy: A Long-run Perspective*, by Giovanni Federico and Nikolaus Wolf (October 2011).

N. 10 – *Real Exchange Rates, Trade, and Growth: Italy 1861-2011*, by Virginia Di Nino, Barry Eichengreen and Massimo Sbracia (October 2011).

N. 11 – *Public Debt and Economic Growth in Italy*, by Fabrizio Balassone, Maura Francese and Angelo Pace (October 2011).

N. 12 – *Internal Geography and External Trade: Regional Disparities in Italy, 1861-2011*, by Brian A'Hearn and Anthony J. Venables (October 2011).

N. 13 – *Italian Firms in History: Size, Technology and Entrepreneurship*, by Franco Amatori, Matteo Bugamelli and Andrea Colli (October 2011).

N. 14 – *Italy, Germany, Japan: From Economic Miracles to Virtual Stagnation*, by Andrea Boltho (October 2011).

N. 15 – *Old and New Italian Multinational Firms*, by Giuseppe Berta and Fabrizio Onida (October 2011).

N. 16 – *Italy and the First Age of Globalization, 1861-1940*, by Harold James and Kevin O'Rourke (October 2011).

N. 17 – *The Golden Age and the Second Globalization in Italy*, by Nicholas Crafts and Marco Magnani (October 2011).

N. 18 – *Italian National Accounts, 1861-2011*, by Alberto Baffigi (October 2011).

N. 19 – *The Well-Being of Italians: A Comparative Historical Approach*, by Andrea Brandolini and Giovanni Vecchi (October 2011).

N. 20 – *A Sectoral Analysis of Italy's Development, 1861-2011*, by Stephen Broadberry, Claire Giordano and Francesco Zollino (October 2011).

N. 21 – *The Italian Economy Seen from Abroad over 150 Years*, by Marcello de Cecco (October 2011).

N. 22 – *Convergence among Italian Regions, 1861-2011*, by Giovanni Iuzzolino, Guido Pellegrini and Gianfranco Viesti (October 2011).

N. 23 – *Democratization and Civic Capital in Italy*, by Luigi Guiso and Paolo Pinotti (October 2011).

N. 24 – *The Italian Administrative System since 1861*, by Magda Bianco and Giulio Napolitano (October 2011).

N. 25 – *The Allocative Efficiency of the Italian Banking System, 1936-2011*, by Stefano Battilossi, Alfredo Gigliobianco and Giuseppe Marinelli (October 2011).

N. 26 – *Nuove serie storiche sull'attività di banche e altre istituzioni finanziarie dal 1861 al 2011: che cosa ci dicono?*, by Riccardo De Bonis, Fabio Farabullini, Miria Rocchelli and Alessandra Salvio (June 2012).

N. 27 – *Una revisione dei conti nazionali dell'Italia (1951-1970)*, by Guido M. Rey, Luisa Picozzi, Paolo Piselli and Sandro Clementi (July 2012).

N. 28 – *A Tale of Two Fascisms: Labour Productivity Growth and Competition Policy in Italy, 1911-1951*, by Claire Giordano and Ferdinando Giugliano (December 2012).

N. 29 – *Output potenziale, gap e inflazione in Italia nel lungo periodo (1861-2010): un'analisi econometrica*, by Alberto Baffigi, Maria Elena Bontempi and Roberto Golinelli (February 2013).

N. 30 – *Is There a Long-Term Effect of Africa's Slave Trades?,* by Margherita Bottero and Björn Wallace (April 2013).

N. 31 – *The Demand for Tobacco in Post-Unification Italy,* by Carlo Ciccarelli and Gianni De Fraja (January 2014).

N. 32 – *Civic Capital and Development: Italy 1951-2001*, by Giuseppe Albanese and Guido de Blasio (March 2014).

N. 33 – *Il valore aggiunto dei servizi 1861-1951: la nuova serie a prezzi correnti e prime interpretazioni*, by Patrizia Battilani, Emanuele Felice and Vera Zamagni (December 2014).

N. 34 – *Brain Gain in the Age of Mass Migration,* by Francesco Giffoni and Matteo Gomellini (April 2015).

N. 35 – *Regional Growth with Spatial Dependence: a Case Study on Early Italian Industrialization,* by Carlo Ciccarelli and Stefano Fachin (January 2016).

N. 36 – *Historical Archive of Credit in Italy,* by Sandra Natoli, Paolo Piselli, Ivan Triglia and Francesco Vercelli (January 2016).

N. 37 – *A Historical Reconstruction of Capital and Labour in Italy, 1861-2013,* by Claire Giordano and Francesco Zollino (November 2016).

N. 38 – *Technical Change, Non-Tariff Barriers, and the Development of the Italian Locomotive Industry, 1850-1913,* by Carlo Ciccarelli and Alessandro Nuvolari (November 2016).

N. 39 – *Macroeconomic Estimates of Italy's Mark-ups in the Long-run, 1861-2012*, by Claire Giordano and Francesco Zollino (February 2017).

N. 40 – *The Roots of a Dual Equilibrium: GDP, Productivity and Structural Change in the Italian Regions in the Long-run (1871-2011)*, by Emanuele Felice (August 2017).

N. 41 – *The Fruits of Disaggregation: the Engineering Industry, Tariff Protection, and the Industrial Investment Cycle in Italy, 1861-1913*, by Stefano Fenoaltea (August 2017).

N. 42 – *The Age Distribution of the Labour Force as Evidence of Prior Events: The Italian Data for 1911 and the Long Swing in Investment from Unification to the Great War*, by Roberto Pezzuto (November 2017).

N. 43 – *Business Cycles, Credit Cycles, and Bank Holdings of Sovereign Bonds: Historical Evidence for Italy 1861-2013*, by Silvana Bartoletto, Bruno Chiarini, Elisabetta Marzano and Paolo Piselli (November 2017).

N. 44 – *Spleen: The Failures of the Cliometric School*, by Stefano Fenoaltea (March 2019).

N. 45 – *Migrazioni, demografia e lavoro in un paese diviso,* by Asher Colombo and Gianpiero Dalla Zuanna (September 2019).

N. 46 – *Breve storia delle barriere agli scambi in Italia,* by Matteo Gomellini (December 2020).

N. 47 – *Southern and Northern Italy in the Great Divergence: New Perspectives from the Occupational Structure*, by David Chilosi and Carlo Ciccarelli (March 2021).

N. 48 – *Lessons from the Early Establishment of Banking Supervision in Italy (1926-1936),* by Marco Molteni and Dario Pellegrino (October 2021).

(*) Requests for copies should be sent to:
Banca d'Italia – Servizio Struttura economica – Divisione Biblioteca
Via Nazionale, 91 – 00184 Rome – (fax 0039 06 47922059).
The *Quaderni* are available on the Internet www.bancaditalia.it