Italy[1]

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The Bank of Italy's work on historical monetary and financial statistics (HMFS) started in a systematic way in the mid-1980s as one of the main goals of the research project for the Bank's centennial in 1993. Under the supervision of a scientific committee and the Bank's economic history unit, which was set up for the purpose, data sets for micro data were built up on central bank balance sheets and bank balance sheets (Caron and Di Cosmo (1993), Cotula et al (1996), respectively). Building on these, consistent long time series of money and banking aggregates were produced.[2] As part of the research project for the Bank's centennial, the subseries statistics within the newborn "Collana Storica della Banca d'Italia" (Historical Series of the Bank of Italy) was set up, to publish financial and real data, to document the original sources and the statistical reconstructions.[3]

Another large set of historical monetary and financial statistics was also collected as part of the Bank's research project for the 150th anniversary of Italian unification (Toniolo (2013)). New long time series for monetary and banking aggregates since 1861 to the present were provided (Barbiellini Amidei et al (2016), Bonis et al (2012), respectively), together with an extended and rich data set for micro data on the Italian banking system (Natoli et al (2016)).[4]

Finally, since 2013 the Bank of Italy has reorganised and enriched its website section on historical statistics (set up in 2000), publishing time series and data sets originally available only in internal archives. In particular, these include data on official discount rates, banks and other financial institutions, monetary aggregates, financial

1 This chapter is the result of a team collaboration, the warmest thanks go to Bank of Italy - Economic History Division colleagues Paolo Croce, Elena Genito and Paolo Piselli. The author gratefully acknowledges comments by Michael Bordo, Claudio Borio, Maria Stella Chiaruttini, Riccardo De Bonis, Marc Flandreau, Alfredo Gigliobianco, Clemens Jobst, Marco Molteni, Francesco Vercelli, the steering committee and all the members of HMFS for suggestions and comments on previous versions of the work. The author alone is responsible for any remaining errors. The views expressed are those of the author and do not necessarily reflect the views of the Bank of Italy.

2 Previously, in the 1960s, a first-generation long time series of money and banking aggregates for Italy was provided as result of a project led by De Mattia (1967), a Bank of Italy director, aiming at a partial but adequate balance sheet data reconstruction for the Italian banking system, by institutional category, with a focus on the banks of issue.

3 In this subseries, eight volumes have been published so far, with data reconstructions on banks of issue, the banking system, Italian trade, and national accounts over the long run. All the volumes published in the other subseries (Documents and Analysis) also contain data reconstructions by contributing scholars and Bank researchers as well as extended statistical appendixes (notably the volumes on the post-war Italian economy, which include a remarkable set of monetary and banking statistics since mid-1930s to mid-1960s). The book series "Collana Storica della Banca d'Italia" aims at fostering and facilitating research in economic history by publishing statistics, documents, analyses on the history of central banking, and on Italian economic history in general. The entire Historical Series (47 volumes up to now) are freely accessible on the Bank's website, www.bancaditalia.it/pubblicazioni/collana-storica/index.html?com.dotmarketing.htmlpage.language=1.

4 Also new historical national accounts (Baffigi (2013)) and trade statistics (Federico et al (2012)) were obtained.

accounts, bond yields and house prices.[5] Some notable features of the Bank of Italy's historical statistics web section include the section for micro data and other large archives (as in the cases of the data set on bank balance sheets from 1890 to 1973 and the data set on bank of issue balance sheets from 1894 to date) and the richness of technical documentation (metadata) for users.

The following chapter provides a brief sketch of territorial and other structural developments in the Italian monetary and financial system and how they affect the coverage and interpretation of historical monetary and financial statistics. We then describe the available series for credit, benchmark interest rates and house prices, and explain how they can be properly used and potentially improved given the sources available.

1. Background

Italian unification, historical borders and the political system

The political unification of Italy was the result of a long historical process.[6] The unified Kingdom of Italy was established only in 1861: after a failed attempt in 1848, unification was achieved through the expansion of the Kingdom of Piedmont and Sardinia, with the annexation of Lombardy, a vast part of central Italy and all of the south. The Veneto was conquered in 1866, and Latium and Rome in 1870. Trento, Trieste and Istria were annexed in 1919. Between the final decades of the 19th century and World War II, the Kingdom of Italy also had colonial dominions in the Mediterranean, in Libya and in eastern Africa. The current boundaries of Italy were defined after the World War II, when Italy lost her colonies and Istria. In the following pages, for the data taken into consideration, reference will be made to the historical borders and not to the current ones. Excluding data prior to 1861, the impact of territorial changes on the comparability of data is very limited and derives from the acquisition of the previously Austrian territories of the Veneto in 1866, Trentino Alto Adige and Trieste in 1920 (Istria only until 1943).

The Kingdom of Italy was a constitutional monarchy and inherited the 1848 Constitution of the Kingdom of Piedmont (*Statuto Albertino*), which thus remained in force for a century until the actual republican constitution came into force in January 1948.[7] The Kingdom of Italy ceased to exist in 1946, after the wartime defeat and the war of liberation from Nazi occupation. After a referendum in June 1946, the Italian

5 Historical statistics on the Bank's website include not only money, banks and finance data but also economic indicators on house prices, public debt, exchange rates, foreign trade, national accounts, labour and capital stock, regional industrial production, innovation activity; see www.bancaditalia.it/statistiche/tematiche/stat-storiche/index.html.

6 At the end of the Renaissance, the Italian peninsula was divided into several regional states which, with few exceptions, ended under the influence or the direct control of foreign powers, mainly France, Austria and Spain. Southern Italy was ruled by the Kingdom of Naples, with Sicily formally constituting a different political entity (the Kingdom of Sicily). Northern and central Italy were more fragmented, as the main political entities were the Kingdom of Piedmont and Sardinia, the Duchy of Milan, the Republic of Venice, the Grand Duchy of Tuscany, and the Papal States.

7 The Kingdom of Italy was ruled under the House of Savoy until the end of World War II. The Fascist government formalised a dictatorship in 1925, after coming to power in 1922. The regime was formally loyal to the crown and did not require an amendment of the Statuto Albertino.

state became a parliamentary republic, without repudiation of the predecessor state's commitments. The central government, while recognising and promoting local autonomy, continued to be the sole sovereign borrower. In this respect, the regions, planned since 1948, but established only in 1970, played a decidedly secondary role and borrowed only very limited amounts.

Currency and monetary regime

After the political unification, the lira of the Kingdom of Piedmont and Sardinia was adopted as the national currency as the "lira italiana" and remained so until the introduction of the euro in 1999.

From 1862, the lira replaced the various local currencies of the previous regional states, but the issue of banknotes was not unified, as most of the banks of issue of the pre-unitary regional states retained the right to issue: these were the Banca Nazionale Toscana, Banca Toscana di Credito and Banca Romana operating in central Italy (the first as regional and the other as provincial banks) and the Banco di Napoli and Banco di Sicilia in the south (as trans-regional banks), while the Banca Nazionale nel Regno d'Italia, the former Ligurian-Piedmontese bank of issue, operated throughout the country.[8] At the birth of the Italian state, the international monetary system was still dominated by metallic coinage; in Italy, as in many other countries, the development of banks of issue and modern banking based on deposits was still at an embryonic stage.

The chosen monetary regime was based on a bimetallic silver-gold standard, as already adopted by the Kingdom of Piedmont and Sardinia, but in fact it was increasingly a gold-based regime. Until the outbreak of World War I, Italy was on a regime of convertibility in 1860–65, 1883–87 (formally until 1893), and in 1902–14 (in this last case only de facto). In between, Italy experienced two long periods of corso forzoso (forced legal tender of banknotes not being convertible into gold), a condition that was imposed on account of domestic and international crises and wars from 1866 until 1882,[9] and again between 1894 and the beginning of the 20th century. In 1893, following a severe banking crisis, the issuance of notes was reformed by law: the two Tuscan banks of issue were merged with the Banca Nazionale to establish the Bank of Italy, which was also put in charge of the liquidation of the Banca Romana. Thus, the number of banks of issue was reduced from six to three, although the Bank of Italy was responsible for as much as three quarters of the banknote circulation and slightly less of their lending (Chiaruttini (2020a)). The Bank was still a company owned by private shareholders, continuing to carry out commercial lending activities, although its operations were limited to those specified by law.[10]

8 In 1874, the BNRI alone had 67 offices, the Banco di Napoli nine and the Banco di Sicilia seven, in comparison with the Bank of France's 68, the Bank of England's nine, the Oesterreichische Nationalbank's 24, and the Bank of Spain's 14 (Astore et al (2022)).

9 The imposition by law of corso forzoso for the banknotes of Banca Nazionale in 1866 favoured a broader distribution of (its) banknotes among the population. In 1866, a free circulation of multiple European currencies with France, Belgium and Switzerland within the Latin Monetary Union was conceived, but the Union was effective only for a short period, even though it officially survived until the 1920s.

10 In particular, only lending through discount and secured advances was allowed, to private operators, banks and, with limitations, to the Treasury. Real estate and unsecured lending was no longer allowed. The Bank of Italy also became the provincial treasurer for the Italian state.

In the first decade of the 20th century, Italy managed to maintain a stable exchange rate vis-à-vis foreign currencies pegged to gold, effectively mimicking a gold standard rule in the absence of an official gold peg. By contrast, at the end of World War I, the value of the lira experienced a dramatic drop both in its external (exchange rate) and internal (price level) value.[11] A U-turn took place in 1926–27 with the government decision to revalue the lira against sterling (the so-called Quota 90).[12] At the same time, the Bank of Italy was also granted the monopoly of issue and given supervisory powers over the banking system. These initiatives allowed a return to gold convertibility, which was formally declared by law in December 1927. In 1935, with the beginning of the Ethiopian war, convertibility was de facto suspended. In 1936, following the devaluation of the pound and the dollar, the government decided on a 41% devaluation of the lira. Subsequently, the 1936 Banking Law, which converted the Bank of Italy into a public institution, marked its final transition from a bank of issue into a modern central bank with three functions: control of money, lender of last resort and banking supervision. Its commercial banking activity was discontinued and its ownership was limited to public entities only.

After World War II, Italy joined the Bretton Woods system, implementing a monetary policy aimed at a fixed exchange rate with the US dollar. With the collapse of the fixed exchange rates system in 1971–73, the lira experienced a marked instability in both its internal and external value.[13] In 1972, Italy entered the European snake agreement, only to leave it less than a year later. In 1979 Italy joined the European Monetary System and since 1999 it has been part of the Eurosystem, adopting the euro as official tender from the currency's inception.[14]

Financial system and regulatory framework

Even though the first savings banks (casse di risparmio) were created in the 1820s and the first ordinary credit banks in the 1840s, at the time of the unification the Italian banking system was still dominated by the banks of issue,[15] which were complemented by a small number of saving banks in some northern provinces and few joint stock banks in the main cities. Given the undeveloped state of deposit banking, the main source of funds for bank credit was banknote issuance.[16] Thus, the banks of issue constituted the principal system of financial intermediation in the

[11] This resulted from intensive money creation to sustain post-war fiscal unbalances and bailout policies for the banking sector. In 1917, after the restrictions introduced during World War I, the Istituto Nazionale per I Cambi con l'Estero (National Institute for Foreign Exchanges) was established to control international capital movements. In 1945, it became the Ufficio Italiano dei Cambi (Office for Foreign Exchanges), an operating arm of the Bank of Italy.

[12] Deflationary measures were imposed through a contraction of both circulation and credit from the Bank of Italy, and short-term public debt was consolidated through a compulsory conversion.

[13] The regulatory framework on international capital movements in place between 1917 and 1990 was based on two fundamental principles: that (i) everything was forbidden except what was explicitly allowed; (ii) the market for foreign exchange was strictly a state monopoly. The restrictions imposed over time and tightened again in the 1970s were progressively relaxed in the 1980s. In 1990, within the European Community policy framework, free international capital mobility was implemented.

[14] The conversion rate of the Italian lira into euros was established as 1 euro = 1936.27 Italian lire by the Council of Finance Ministers of the European Union on 31 December 1998.

[15] Banks of issue appeared in the first half of the 19th century.

[16] By accepting banknotes, the public funded the banks of issue, which could in turn provide credit to their clients.

economy, which was characterised by a low, albeit increasing, degree of financial deepening. In 1874, the first all-embracing law on the issuance of notes legalised and regulated the oligopoly of the six authorised institutions.

It is only in the 1870s that we start to see banks operating at national level without being note issuers. Of particular importance were the banche mobiliari (investment and industrial credit banks) which were initially funded mainly with foreign capital from France and then Germany. After the 1893–94 crisis and the collapse of the two largest banche mobiliari there was a shift in the structure of the credit system: the newly established universal banks, backed by German capital, captured a steadily increasing share of financial intermediation, thanks to the disappearance of banche mobiliari and at the expense of the surviving banks of issue.[17]

Following the financial and banking distress of the early 1920s, the first banking regulation covering all banks was introduced in 1926. This made the Bank of Italy responsible for the supervision of almost all categories of bank.[18] With the royal decree (R.D.L. 7 September 1926, no 1511) a public register of all deposit-taking institutions (albo delle aziende di credito) was instituted at the Ministry of Finance. New banks, branch openings, mergers and acquisitions were to be henceforth authorised by the Ministry, on the advice of the Bank of Italy. Banks had to regularly send accounting reports and balance sheets to the Bank, which was entrusted with supervisory powers (Molteni and Pellegrino (2021), Toniolo (2022)).

Bank regulation was strengthened in 1936 as a response to the 1930s crisis, when the collapse of the whole system was prevented only by the rescue of the three largest universal banks through a massive intervention by the government and the Bank of Italy, and the establishment of the state-owned financial holding IRI (Istituto per la Ricostruzione Industriale) to reorganise Italy's main industries and banks.

In order to break the tight links between banks and industry, which had been pinpointed as the main cause of the 1930s banking crisis, a "functional specialisation according to maturity" was imposed in 1936 (R.D.L. 12 March 1936, no 375; R.D.L 17 July 1937, no 1400). The Italian banking system was subdivided into two different sectors: short-term liability credit institutions were to extend short-term loans, whereas medium and long-term liability ones were to extend medium and long-term loans.

The deposit banks (aziende di credito) category was de facto limited to short-term lending. These included the three former universal banks (henceforth known as "banks of national interest"), public law credit institutions (istituti di credito di diritto pubblico; among them the two former southern banks of issue), the joint stock banks (aziende di credito ordinarie), savings banks (casse di risparmio), pawn banks (monti di pietà), cooperative banks (banche popolari) and rural and artisans' banks (casse rurali e artigiane).

17 Nonetheless, direct lending by the banks of issue to the public (net of credit to banks and private bankers) in the form of discounts at year-end still stood at 17.5% of the total discounts by the joint stock and cooperative banks in 1912 (A'Hearn (2005)).

18 Savings banks and pawnbrokers, the only categories previously supervised (apart from banks of issue), remained under the supervision of the Ministry of Agriculture, Industry and Commerce (Molteni and Pellegrino (2021)).

The medium/long-term lending category was made up of publicly controlled entities defined as "special credit institutions" (istituti speciali di credito). In Italy, even before the regulations introduced in 1936, there had always been intermediaries specialised in the supply of long-term credit. These included intermediaries for the funding of construction and real estate purchases, and for the support of agriculture (istituti di credito fondiario and istituti di credito agrario). In the 1920s, the creation of istituti per il credito all'industria e alle opere pubbliche (also called "istituti Beneduce") led to an increase in long-term credit. After the 1936 Banking Law was enacted, long-term credit developed in particular since the 1950s with the creation of new national and regional special credit institutions and the establishment of "special credit sections" within the public law banks. Impetus was also imparted to long-term credit by the policy decision to increase subsidised credit and later on by a relaxation of the rules on maturity transformation, increasing the scope for short-term banks to offer medium- and long-term financing too.

The 1936 banking law underpinned the Italian banking system until 1993, when the current testo unico (single rulebook) on banking and credit was introduced. In the 1990s, the new Banking Law (D.L. 1 September 1993, no 385) abolished the banking system's maturity specialisation, and the rules on maturity transformation were gradually loosened, as well as constraints on banking competition.

The Italian financial system has traditionally been centred on banks, with the stock market playing an ancillary role. Italian stock exchanges, established in various Italian cities since the beginning of the 19th century, were regulated under state law after the Code of Commerce was enacted in 1865. In the second half of the 19th century, Genoa was the main stock market, but Milan moved ahead in the 20th century. In reaction to the 1907 crisis, the first all-embracing regulation of the joint-stock market was introduced in 1913, but a specific authority to supervise listed public companies and the financial market was established only in 1974 in the shape of the Commissione Nazionale per le Società e la Borsa (CONSOB). By the end of the 20th century, the Italian stock market was privatised and the Borsa Italiana S.p.a. was created, merging together all smaller regional stock markets.

Finally, the cassa depositi e prestiti (savings and loans banks), founded in 1850 with banking functions along the lines of the French caisse des dépôts et consignations, historically played an important part in the Italian financial system. From 1857 onwards this state-owned financial institution undertook the financing of public investment, lending money to the Italian central and local governments, using the Italian postal system savings as its source of funds. In 2003, it became a joint stock company owned by the Ministry of Economy and Finance, with minority stakes held by various banking foundations.

Banking and financial crises

Modern Italy's first 70 years saw a number of banking and financial crises. The historical dating of Italian financial and banking crises, based on a combination of studies whose chronologies agree for the most part,[19] is as follows: 1866, 1868, 1873,

[19] Reinhart and Rogoff (2009), Schularick and Taylor (2012), De Bonis and Silvestrini (2014), and Bartoletto et al (2018). These studies, as in the case of other multi-country studies (eg Babecky et al (2014)), do not rely on a single specific definition of crisis. There is no universally accepted definition

1887, 1891,1893, 1907, 1914, 1921, 1928, 1930–31, 1935, 1990–95 and 2011. However, when one crisis has followed close after another, such cases might easily be described as a single episode of financial distress, as in the cases of the 1887, 1891 and 1893 crises, which were interlinked and triggered by adverse economic conditions and the 1887 downturn in the real estate market. Likewise, the period 1930–35 can be considered a single period of financial distress, as a consequence of the Great Depression. The 1928 crisis, originating in the default of the Catholic banks (banche cattoliche), is a new episode in the internationally agreed list of banking crises.[20]

2. Credit

The collection of credit statistics in Italy was strongly influenced by the development of banking regulations. Before the 1926 Banking Law, the first consistent regulation of the banking system, the availability and quality of credit statistics was unsatisfactory. Starting from 1926, some statistics began to appear in Istat publications,[21] in the Bank of Italy's annual reports, and in the Italian Banking Association's yearbooks. The quality and availability of statistics improved considerably with the Banking Law of 1936. Since then, credit institutions have been subject to Bank of Italy provisions on the technical form of balance sheets and on the periodical transmission of reports and data to the central bank. A dedicated bulletin began to be published by the banking supervision unit in 1936. After World War II (when the collection of information from banks was interrupted), the main source of banking statistics became the new Bulletin published by the Bank's Economic Research Department.

of financial crisis, nor is it easy to distinguish the different types of financial crisis (eg banking, currency, sovereign debt), since they quite often occur simultaneously. A currency crisis and a currency devaluation might lead to a banking crisis. Alternatively, a banking sector or public debt crisis could raise doubts about the sustainability of an exchange rate and lead to a currency crisis. Definitions of banking crises are quite often vague and hard to compare. How extensive must the level of insolvency among banks be to constitute a crisis? For instance, Grossman (1994) defines a banking crisis as occurring when (i) a high proportion of banks fails; (ii) an especially large or important bank fails; and (iii) failures of the type described in (i) or (ii) are prevented only by extraordinary and direct intervention by the government or some other actor. Bordo et al (2001) argue that a banking crisis occurs when "most or all" of the aggregate net worth of the banking system is eroded. In addition, given the paucity of detailed data on bank failures and on bank net worth from the 19th and early 20th century, catalogues of banking crises that rely on quantitative definitions are likely to be inconclusive (Grossman (2016), Reinhart and Rogoff (2009)). Additionally, as to the concept of systemic banking crisis, qualitative judgment is often used to select such episodes, thus confirming the absence of a quantitative rule in classification criteria (Chaudron and de Haan (2014)). Finally, there is considerable disagreement in many cases about when a particular crisis ended (it is easier in general to find information on the exact timing of the onset of a crisis) since the underlying indicators typically return to their normal levels only gradually (Babecky et al (2014)).

20 Toniolo (1993) has investigated its characteristics. In 1926 the Credito Nazionale and about 50 Catholic banks were on the verge of bankruptcy. The crisis reached a peak in 1928–30 and the Banco di Napoli (a bank of issue until 1926) was hit by the financial collapse of the Catholic banks (Bartoletto et al (2018)).

21 The first census of the Italian population was in 1861. In general, the statistics were collected and assembled by the Divisione di Statistica Generale (General Division of Statistics) of the Ministry of Agriculture, Industry and Commerce. In 1926, Istat (Italy's Central Institute of Statistics) was established. Between the mid-1930s and the end of the 1940s, the war and the political context made the collection and elaboration of statistical data very challenging.

Current statistics on banking activity are published monthly in Banks and Money: National Data and the tables are available in the Bank of Italy Statistical Database with data since 1999.

A complete set of historical time series for the period 1861–2010 is available in De Bonis et al (2012), a recent statistical reconstructions part of the Bank's research project for the 150th anniversary of Italian unification. De Bonis and co-authors reconstruct at historical borders the main credit aggregates along with the major other asset and liability variables by institutional category (special credit institutions included), building on the historical data reconstructed by previous Bank research projects. Their data are sourced from De Mattia (1967) for the period 1864–89; Cotula et al (1996) for the period 1890–1936; Garofalo and Colonna (1999) for the period 1937–65; and the Bank of Italy's statistical supervisory reports for the period 1966–2010.

The main gaps in the older Italian credit statistics, as well as in the recent reconstruction by De Bonis et al (2012), are the coverage of (i) rural and artisans' banks (the current mutual cooperative banks) up to the mid-1960s;[22] (ii) banking houses (ditte bancarie, usually companies owned by a private banker) up to 1925, as their balance sheets were not available, and they are included in the De Bonis et al (2012) reconstruction only from 1926.

Unlike current statistics, the historical reconstruction of De Bonis et al (2012) do not include among banks the cassa depositi e prestiti, do not include bad loans and active repos in loans, and disregard credit to non-resident counterparties.

In the next two sections, the data and sources for credit by lending and borrowing sector are described in detail.

2.1 Credit across different lending sectors

Credit from banks of issue, annual time series for the aggregate of Bank of Italy and other banks of issue from 1861 to 1936, are available thanks to De Bonis et al's (2012) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website.[23] The source is De Mattia (1967), who collected the balance sheets of Italian banks of issue for the period 1845–1936[24] and reconstructed a homogeneous set of balance sheet items as well as time series of credit aggregates.

The data (according to historical borders) include credit to general government; various public institutions; banks; other financial institutions; firms and other residents. The data include all forms of credit: discount lending on bills of exchange,

22 Rural and artisans' banks were very small banks with an insignificant share of national deposits, but in some cases a locally significant presence and at times numbering more than a thousand institutions. Pre-1965 balance sheets are available on paper for a large sample of rural and artisans' banks, but collecting data is very costly.

23 For the period prior to the unification of Italy, no harmonised statistics are available so far, but some important attempts to reconstruct overall series were carried out by Chiaruttini (2020b) and are work in progress by Astore et al (2022).

24 The (micro) data for balance sheets of banks of issue are also published in Caron and Di Cosmo (1993) and are available on the Bank of Italy's website (I bilanci degli Istituti di Emissione 1894–1990): for the Bank of Italy from 1894 to 1990 (monthly data since 1936), and for the other two banks of issue (Banco di Napoli and Banco di Sicilia) from 1894 to 1926. Historical along with current Bank of Italy balance sheet data are also available online at IBIS – Bank of Italy Historical Balance Sheet series.

collateralised advances typically secured by public and private securities, and secured mortgage lending (when allowed). The time series end in 1936, when the commercial banking activities of banks of issue were discontinued by the new Banking Law that marked the Bank of Italy's final transformation into a modern central bank, focused on the function of monetary control. From 1926, when the monopoly on issuance was granted to the Bank of Italy, there are no further data for the Banco di Napoli and Banco di Sicilia.

Short-term loans extended by all categories of banks, annual time series for 1861–2010 are available thanks to De Bonis et al's (2012) historical reconstruction and accessible in the Historical Statistics section of the Bank's website. For the institutional characteristics of short-term vis-à-vis long-term credit see the background section. Regarding the distinction between short-term and medium- and long-term loans, it is worth recalling that, up to 1993, the two aggregates are based on the maturity specialisation of the banking system (as described in Section 1). From 1994, they are based on the effective maturity of loans (shorter/longer than 18 months up to 1997, shorter/longer than 12 months since 1998; De Bonis et al (2012, p 11). Data include loans granted to residents; households, non-financial corporations and general government; interbank loans are excluded by estimation. Loans have been reconstructed net of bad debts. All categories of banks are considered, including rural banks and special credit institutions.[25]

The main sources of De Bonis et al (2012) for this reconstruction are De Mattia (1967) from 1864 to 1889 and Cotula (1996) from 1890 to 1936. Both built long time series of credit aggregates (along with all the banking asset and liability items available in original sources) by bank category from the aggregation of individual balance sheet data.[26] Banks were required originally to file monthly (interim) accounts at the District Court according to the Commercial Code of 1882; later, as a consequence of the 1926 banking legislation (Decree Law, 7 September 1926), balance sheets had to be sent to the Bank of Italy, which was responsible for bank supervision and direct inspections of banks (Natoli et al (2016)). The credit series in De Bonis et al (2012) are estimated for the first years after unification. For the period 1890–1936, they integrate Cotula et al's (1996) credit aggregates with (i) additional pawn banks (Monti di Pietà) and rural and artisans' banks data taken from De Mattia (1967); (ii) balance sheet data for special credit institutions; and (iii) estimates (based on a sample of balance sheets) for banking houses (ditte bancarie) since 1926.

From 1937 to 1965, the source is Garofalo and Colonna (1999), who collect banking statistics from the Bulletin of the Bank of Italy's Economic Research Department (Bollettino). De Bonis and co-authors integrated these credit series with ad hoc estimates, eg data on rural and artisans' banks (today's mutual cooperative

25 The statistics of banking houses (ditte bancarie), small private banks, are included only from 1926 onwards, with estimates based on a sample of balance sheet data, as their balance sheets were not available earlier. In the 1920s and the 1930s, their market share was around 2% of total bank loans (De Bonis et al (2012, p 6)).

26 Differently from De Mattia (1967), Cotula et al (1996) made available the whole data set of bank financial statements. The data set of Cotula et al (1996) was subsequently extended to 1973 by ASCI (Historical Archive of Credit; see Natoli et al (2016)), a recently completed Bank of Italy Economic History Unit project, containing data on more than 2,500 banks, covering 90% of the deposits of the whole banking system. The financial statements included in ASCI for the 1937–73 period come from documents collected by the Bank of Italy for supervision purposes, under the Banking Act of 1936.

banks) as provided by the Italian Federation of mutual and cooperative banks. From 1966 to 2010, their credit aggregates are based on the Bank of Italy's statistical supervisory reports.

Long-term loans extended by all categories of banks, annual time series since 1861 to 2010, are available thanks to De Bonis et al (2012) historical reconstruction and accessible in the Historical Statistics section of the Bank's website. Data from 1861 to 1936 are sourced mainly from De Mattia (1967), who collected balance sheet data of special credit institutions as from 1867 (istituti di credito fondiario, istituti di credito agrario and istituti per il credito all'industria e alle opere pubbliche). Data for the first years after unification are estimated. De Mattia's long-term credit series are also integrated with balance sheet data for single special credit institutions. From 1937 to 1965, the source is Garofalo and Colonna (1999), who collected banking statistics from the Bulletin of the Bank's Economic Research Department (Bollettino). *Long-term loans* for the post-1936 period also include those of the special credit sections active in some short-term banks. De Bonis and co-authors integrated these credit series with information drawn from other Italian banking studies (eg de Cecco and Asso (1994), Piluso (1999)). From 1966 to 2010, their credit aggregates are based on the Bank of Italy statistical supervisory reports.

Total loans extended by all categories of banks, the sum of short and long-term loans, are available thanks to De Bonis et al's (2012) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website.[27]

Loans by institutional category of banks, annual time series from 1861 to 1993, are available thanks to De Bonis et al's (2012) historical reconstruction, and are accessible in the Historical Statistics section of the Bank's website. Statistics distinguish between joint stock banks (aziende di credito ordinario, with detail for "banks of national interest" or ex-universal banks; figures for banking houses are included), savings banks and pawn banks (casse di risparmio and monti di pietà), cooperative banks (banche popolari), rural and artisans' banks (casse rurali e artigiane), banks of public law (istituti di credito di diritto pubblico), special credit institutions (istituti speciali di credito, previously istituti di credito fondiario, istituti di credito agrario and istituti per il credito all'industria e alle opere pubbliche).

2.2 Credit across different borrowing sectors

Credit from banks of issue across different borrowing sectors, annual balance sheets data from 1894 to 1990 (monthly since 1936) are available thanks to Caron and Di Cosmo's (1993) historical reconstruction, and are accessible in the Historical Statistics section of the Bank's website. Data refer to Bank of Italy from 1894 to 1990, and to the other two banks of issue, Banco di Napoli and Banco di Sicilia, from 1894 to 1926. Up to 1935, data are available for central government; an aggregate of banks; special credit institutions; other public institutions and non-financial sector (firms and individuals). Since 1936, detailed data are available for central government; banks; special credit institutions; an aggregate of public institutions (up to the 1940s, when

[27] For the "Total loans" historical series, there is a direct correspondence to the data in Table BSIB0600 – "Loans by sector of economic activity, residents of Italy – Other residents series of current data" (Issue "Banks and Money: National DataF) accessible in the Bank of Italy Statistical Database with data since 1999 (once current data on loans are adjusted for non-performing loans, in Table BSIB0900 – "Non-performing loans by sector of economic activity of residents of Italy, Residents of Italy – Other residents", as explained in the annex to historical data).

the ban on Bank of Italy commercial banking activities was enacted, these data include expiring credit to non-financial sector). Micro data are downloadable from the Bank's website. Current (from 1990) Bank of Italy balance sheet data are also available on line at IBIS – the Bank of Italy Historical Balance Sheet series.

Short-term loans extended by banks by institutional and economic sector, annual time series since 1936 to 1988 (monthly since 1974) are under construction in Barbiellini Amidei et al (forthcoming) and will be accessible in the Historical Statistics section of the Bank's website in 2023. Data (referring only to residents) are detailed for public institutions; individuals; financial sector; and 20 economic sectors. The main historical source is the Bank's Economic Research Department Bulletin (Bollettino (1946–88)).

Total loans by institutional sector, annual time series from 1950 to 2004 are available in Bank of Italy (2013) and are accessible in the Historical Statistics section of the Bank's website. The loans are part of the financial liabilities side of a Bank historical reconstruction of Italian financial accounts (Bonci and Coletta (2008)). Data are detailed for public sector; households; firms; financial sector; and rest of the world.

3. Interest rates

The Bank of Italy currently publishes on its online Statistical Database interest rate data in three areas: (a) Official Eurosystem interest rates; (b) bank and interbank interest rates; and (c) government bond yields. Official Eurosystem interest rates are available on a monthly basis from 1999.[28] Bank interest rates on deposits and loans are available on a monthly basis from 1995;[29] interbank deposit rates are available on a monthly basis from 1990. Current statistics on long-term government bond yields are available on a monthly basis from 1993.[30] Current statistics on short-term government bonds yields are available on a monthly basis from 1971 with some initial gaps.[31]

Regarding historical interest rates data, excluding official rates, we mainly rely on the recent statistical reconstructions part of the Bank research project for the 150th anniversary of Italian unification: De Bonis et al (2012) for banking interest rates, and Piselli and Vercelli (2023) for short and long-term government bond yields. Fully meaningful historical national money market rates are not available up to the second

28 Methodological notes about sources and methodologies of current yield statistics can be found at www.bancaditalia.it/pubblicazioni/metodi-e-fonti-note/metodi-note-2022/MFN_note-met_20221115.pdf.

29 They are published in the Banks and Money: National Data publication. The bank interest rate data distinguish outstanding amounts or new flows of loans and deposits, broken down by counterparty sector (non-financial corporations; households).

30 They are published in the Financial Market publication. Gross yields of all benchmark government long-term bonds are provided: three-, five-, 10-, and 30-year BTP (Treasury bonds), CCT (floating rate Treasury notes) and CTZ (zero coupon Treasury certificates).

31 They are published in the Financial Market publication. Gross yields of all benchmark short-term government bonds are provided: BOTs (Buoni Ordinari del Tesoro, Ordinary Treasury Bills, discount securities) with six- and 12-month maturities.

half of the 20th century.[32] Additionally, up to the early 1920s, official rates were not fully informative about the complex Italian money market(s), as a result of various factors, including the territorial segmentation of the national credit market and the Bank of Italy being in competition with ordinary banks for its commercial activities (Barbiellini Amidei et al (2016); Chiaruttini (2020, 2022a)). An aspect in relation to the interpretation of historical interest rate data concerns the extent to which interest rates were fully market-based for a long period since the end of the 19th century. The stickiness of short-term interest rates in the years between the two world wars is a well documented empirical regularity; a money market was lacking in which demand for and the supply of liquidity could be matched via sufficiently flexible rates. Additionally, in the 1950s, banks could not hold interbank accounts and, until the early 1970s, an inter-bank cartel for determining deposit and lending interest rates was in force (Albareto (1999)). In fact, it should be noted that, until the 1980s, there was no single fully effective money market in Italy. In 1962, the ban on banks holding reciprocal deposits (dating back to 1943) was abolished, and the exemption of such deposits from the reserve requirement laid the foundations for an interbank money market.[33] Only in the second half of the 1960s did the Bank of Italy embark on large-scale open market operations, via the buying and selling of securities (Cotula (2003)).[34] In the 1970s, efforts were intensified by the Bank to enhance its ability to conduct monetary policy through the financial markets (Cotula (1989)). To this end, in 1975, both the auction mechanism for the placement of Treasury bills (BOTs) and the issuing procedures were modified, expanding the types and number of subscribers (previously restricted to banks) and, at the same time, a reform of reserve requirements was undertaken.[35] At last, with the introduction of a competitive auction system for issuing Treasury bills (1983) and the development of a fully functioning interbank deposit market, a true money market came into being in the mid-1980s. Finally, in 1990, a screen-based Interbank Deposit Market (Mercato Interbancario dei Depositi, MID) was launched.

[32] Neal and Weidenmier (2002) report, in the period 1885–1914, two rates for Genoa (both sourced from the Economist's The Banking and Commercial Gazette, weekly issues): a bank rate and an open market rate (The Neal-Weidenmier Gold Standard Database: https://ebutts05.tripod.com/nealweidenmiergsd/). While for the first it was possible to verify the coincidence with the official discount rate of the Bank of Italy, about the nature and original source of the second it was not possible to find any additional information. Furthermore, while Genoa was the main financial market In the second half of the 19th century, it was definitely not the only important one. Further, Milan became pre-eminent at the beginning of the 20th century and Genoa was never the central money and banking marketplace.

[33] In the same year, the issuing system for Treasury bills (BOTs) was changed, putting an end to tap issues – ie at a fixed rate and without predetermined amounts. It shifted to a system of monthly auctions, in which the quantity of securities offered was commensurate with the cash requirements of the Treasury and the allotment price – determined with the marginal auction system – would fluctuate as required to balance the supply and demand for BOTs.

[34] It should, however, be mentioned that between 1966 and the beginning of 1970 the monetary authorities aimed at pegging the long-term bond yields via interventions in the financial markets.

[35] A primary market for BOTs, as suited to controlling the monetary base and providing warning signs of monetary stress and excessive Treasury requirements, was gradually created at the Bank of Italy's initiative from the second half of the 1970s. Between the late 1970s and the 1980s, further refinements were made to the way in which BOTs were placed at auctions and in the Bank of Italy's operations on the same securities, in order to achieve a more consistent control of bank reserves between successive auctions. Day-to-day control of bank liquidity benefited from the launch in late 1979 of open market repurchase agreements. See Cotula (2003) and Mulone (2006).

Regarding the main gap in interest rate historical statistics, the following – in addition to the paucity of data for Italy before its political unification – should be mentioned: higher frequency bond yields data; corporate bond yields;[36] and mortgage interest rates.

In the next three sections, the data and sources for government bond yields, banks of issue/central bank rates, and banking sector interest rates are described in detail.

3.1 Government bond yields

Long-term government bond yields are available on an annual and monthly basis from 1862 to 2016 thanks to Piselli and Vercelli's (2023) historical reconstruction. They are accessible in the Historical Statistics section of the Bank's website. The bonds covered in the index change over time to reflect the benchmark government bonds in the Italian financial market in the different historical phases. Over the whole period up to 1937, the yield is a simple average of the yields of six different bonds. The rendita (consols), irredeemable bonds issued for decades after Italian unification, are considered as the main reference from 1862 to 1937. To keep track of significant new government bond issues, the yield of IV, V and VI prestito nazionale (irredeemable national loans), issued during and after World War I, are included from 1917 to 1937; in the 1935–37 period the new rendita 5% and the prestito littorio (both consols) are also considered. From 1938 to 1988, the yield is computed as a weighted average of yields of all residual consols as well as of all the BTPs (buoni del tesoro poliennali, long-term treasury bonds) and other redeemable bonds with maturity longer than one year.[37] Since 1989, the yield is a weighted average of the yields of a wide sample of long-term government bonds with more than one-year maturity, as traded on the Italian stock exchange in Milan.

Piselli and Vercelli's (2023) main historical sources in the reconstruction of long-term government bond yield's time series are Bianchi (1979; tab. 3 and tab. 5) [38] from 1862 to 1937; Bank Economic Research Department Bulletin (Bollettino) from 1938 to 1988. From 1989, the source has been the Economic Research Department internal statistical archives.

Short-term government bond yields are available on an annual basis from 1862 to 2016, and a monthly basis before 1914 and after 1971, thanks to Piselli and Vercelli's (2023) historical reconstruction, and they are accessible in the Historical Statistics section of the Bank's website. Over the entire period, the BOT (buoni del tesoro ordinari, ordinary treasury bills) with maturity of one year or less are considered. The

36 A research project is under way at the Bank of Italy to reconstruct from 1937 the annual and monthly time series of average yields of bonds, traded at Italian stock exchanges, as issued by private companies, state-owned industrial holdings, as well as industrial special credit institutions (istituti di credito mobiliare), real estate special credit institutions (istituti di credito immobiliare) and territorial entities (see Barbiellini Amidei et al (2019)).

37 The methodology for computation of yields is described in detail in Rosania (1954).

38 Data refer to bonds traded in Italian Stock Exchanges. The rendita were also sold elsewhere in Europe, primarily in France and, although they were denominated in liras, holders of the debt had the privilege of converting their coupons into gold at the official exchange rate in Paris. Tattara (2003) explores the consequence of this on differences in domestic and foreign prices and yields. In addition, yields do not account for conversion risk (Flandreau and Zumer (2004)), although the rendita went through some significant conversions (1906 and 1934 being the most important).

series are obtained as a simple average of yields at the issue for each maturity until 1976, a weighted average thereafter.

Piselli and Vercelli's (2023) main historical sources in the reconstruction of short-term government bond yield's time series are Ministero del Tesoro (1988) from 1862 to 1913; Confalonieri and Gatti (1986; tab. LXXVI) from 1914 to 1937; and the Bank's Economic Research Department Bulletin (Bollettino) from 1938 to 1976. The source is the Bank of Italy's Statistical Database since 1977.

3.2 Central bank rates

Central bank discount rates, on a monthly basis from 1863 to 1998, are available on the Historical Statistics section of the Bank's website, including the dates of changes. The data go back to the Italian unification, before the establishment of the Bank of Italy, referring to Banca Nazionale degli Stati Sardi from 1863 to 1867, Banca Nazionale up to 1893 and subsequently, from 1894 to 1998, to its successor the Bank of Italy. As of 1 January 1999, with the start of Economic and Monetary Union, the Bank of Italy ceased to set the official discount rate.

The law establishing the Bank of Italy in 1893 provided that discounting activity could be carried out at a *normal rate* (tasso di sconto "normale") to bank, commercial and private customers on bills of exchange, checks and other financial securities (treasury bills, commodity pledge notes, coupons).[39] The maximum maturity of the underlying securities was set at four months. The way in which the "normal" discount rate is determined changed over time as the Bank evolved from a private banking institution – subject to public control due to the issuing activity carried out under government concession – into a central bank.[40] Under the Banking Law of 1936, the Bank of Italy's discount operations were restricted to credit companies only (those to commercial customers were discontinued).[41] Subsequently, discounting activity gradually lost its relevance, while the signalling value of the "tasso ufficiale di sconto"

39 Law no 449 of 10 August 1893 made it possible for the Bank of Italy to carry out only discount and advance operations. The same 1893 law, covering all issuing activity in Italy, also limited the Banco di Napoli and Banco di Sicilia to discounting and advance transactions, and also provided that the "normal" rate would be the same for the three issuing institutions. See Stefani (2003).

40 The size of the normal discount rate was initially established by resolution, subject to government authorisation, of the Superior Council of the Bank of Italy (according to the 1893 law). Beginning in 1907, "the Minister of the Treasury [...] may promote variations in the normal discount rate [of the Bank of Italy as well as of the Southern issuing institutions] when he deems that market conditions require it" (Law of 31 December 1907, no 804, All. A). With the 1928 reform of the charter of the Bank of Italy, the power to set the normal discount rate passed from the Superior Council to the Governor, always retaining the requirement for ministerial authorisation. The Banking Law of 1936 gave the Governor of the Bank of Italy only the power to submit proposals concerning changes in the official discount rate to the Minister of the Treasury; the actual change was instructed by the Minister of the Treasury by his own decree. From 1936 to 1991, all changes in the Bank of Italy's official rates were ordered by decree of the Minister of the Treasury. The framework was finally changed in the early 1990s, when Law no 82 of 7 February 1992 gave the Governor the power to independently change the discount rate (and the interest on ordinary advances and fixed-term advances) by his own decree and in relation to the need to control market liquidity. As of January 1999, with the start of monetary union, the Bank of Italy ceased to determine the official discount rate.

41 Instead, advances to business customers continued to be allowed.

(official discount rate, as it has been termed since the Banking Act of 1936) has increased as a fundamental parameter of monetary policy.[42]

Alongside the official (normal) discount rate, from the 1893 law and until 1928, a *favourable rate* (tasso di favore), 1 percentage point lower than the "normal" rate, was provided for discounting bills presented at a discount by popular banks and agricultural credit institutions.[43]

Beginning in 1895 and continuing until 1928, a third rate was provided, the *reduced discount rate* (tasso di sconto ridotto), set by government decree as the lower limit for discount transactions, at the Bank's discretion, to particular categories of customers for bills of exchange with a maturity of three months or less, secured by first-class commercial and banking signatures.[44]

From the end of the World War I, the discount at a reduced or favourable rate was drastically reduced (as it was inconvenient for the issuing institution in the face of the taxation on increased banknote issuance), and then disappeared altogether at the end of the 1920s. Since the 1930s, the official discount rate has been the rate that effectively determines conditions in the money market at a given point in time.

Interest rates for ordinary advances (lending) are available, with the dates of changes, from 1893 to 1998 on the Historical Statistics section of the Bank's website.

Under the 1893 law, ordinary advances were to be secured by a pledge of securities or goods, to be granted only (from 1894) in the form of an overdraft line of credit, possibly renewable on maturity, initially defined as six months, reduced to four from 1907.[45] Ordinary advances were granted by the Bank of Italy to banks, as well as commercial and private customers, up to 1936. The method of determining the rate for advances was essentially the same as that for the discount rate, as outlined above. Ordinary advances were increasingly granted by the Bank of Italy to banks (especially

42 Beginning in 1969 and ending in 1986, there was a surcharge to the official discount rate – 1.5% between 1969 and September 1973, 3% thereafter – to be applied against credit companies that, in the previous six months, had used the operation for average amounts exceeding 1% of deposit and fiduciary funds subject to a reserve requirement or for the discounting of bills of exchange with special characteristics.

43 Discounting at the "favourable" rate was allowed up to an amount equal to half of the capital required for issuance purposes and subject to predefined overall limits, which were initially set at 70 million liras for the Bank of Italy, 21 million liras for the Banco di Napoli and 4.5 million liras for the Banco di Sicilia. These limits were then raised in 1907 to 100 million liras for the Bank of Italy, 30 million liras for the Banco di Napoli and 9 million liras for the Banco di Sicilia (Law 31 December 1907, no 804, All. A). The "favourable" discount rate has been present in the Italian legal system since 1885 (Article 2 of Law no 3167 of 28 June 1885), albeit without specifying its extent in relation to the "normal" discount rate.

44 The "reduced" and normal discount rates were the floor and ceiling, respectively, of the effective rates that the Bank of Italy (as well as southern issuing banks) applied in relation to the specific customer and type of securities presented for discount. The presence, alongside a "normal" rate, of preferential rates allowed issuing banks to apply different discount terms depending on the degree of riskiness of customers and made the Italian situation similar to that of most countries that adopted a gold standard. The number of rate classes with which institutions worked was reduced in times of monetary restraint, when discount was granted only at the highest rates. The normal rate tended to be changed infrequently and only at times when it was not sufficient for the purpose of governing circulation to bring all discount to the highest rate category. See Stefani (2003).

45 Law 31 December 1907, no 804, All. A.

from 1936 onwards) for liquidity management purposes.[46] Rates on discount and advance transactions were always aligned, with differences occurring only in a few limited periods.

Interest rates for fixed-term advances are available, with the dates of changes, from 1967 to 1998 on the Historical Statistics section of the Bank's website. Fixed-term advances were granted to banks by the Bank of Italy on a discretionary basis at their request in relation to temporary cash requirements. Fixed-term advances were introduced in 1967 as part of the Bank's refinancing function for the banking system. There were initially three maturities: eight-day, 15-day and 22-day; since 1992, the maturities can vary between one and 32 days. The interest rate for fixed-term advances initially coincided with that on ordinary advances. Since March 1969, a surcharge with increasing rates on top of the base rate has been in force for transactions subsequent to the first one put in place during any six-month period, as a penalty for excessive use of the instrument. From 1991, the surcharge has become a single one and is set subject to a limit of 1.75%. In the period 1992–98, the official discount rate and the rate on fixed-term advances corresponded to the lower and upper limits of the so-called official rate corridor, respectively.

The sources for the reconstruction of the historical series relating to the various types of rate are the official publications of the Bank of Italy and its predecessor institutions. For individual relevant subperiods, reference can be made to three publications that offer summaries, respectively, for the years: 1863–93: Calabresi (1933) pp 385–408; 1893–1958: Cotula et al (2003) p 600; 1958–98: Bank of Italy (2016) p 28.

3.3 Banking interest rates

Interest rates on deposits are available from 1861 to 2010 on an annual basis thanks to De Bonis et al's (2012) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website. Interest rates are taken from various sources and are estimated for the 1861–90 period and from 1937 to 1950. Deposits of all institutional categories of banks are considered.

De Bonis et al's (2012) main historical sources for the reconstruction of interest rates on deposits time series are Cotula et al (1996), from 1891 to 1936 (whose primary sources were original bank balance sheets); Garofalo and Colonna (2003), from 1891 to 1965 (whose primary sources were the Bank of Italy's Relazione annuale and the Italian Official Gazette); Garofalo and Colonna (1999), from 1951 to 1965

[46] Beginning in the late 1970s, the Bank of Italy also conducted open market repurchase agreements (Cotula (1989)) refinancing and lending operations. The former consisted of a purchase of securities by the BoI and a simultaneous commitment by the seller to repurchase the same securities at a predetermined price and on a predetermined date. The effect on the monetary base was thus expansionary, similar to that of an advance with a fixed maturity. In the lending transactions, the Bank of Italy initially acted as the seller of securities and the buyer agreed to sell them back to it at maturity, thus having a temporarily restrictive effect on the monetary base. The first refinancing operations were conducted in December 1979 and the first lending operations in May 1980. The duration and rate of the operation were variable, initially at the discretion of the monetary authority. Beginning in 1981 (and until 1998), when these operations were carried out using the auction method, the Bank of Italy also published – among the interest rates of the Central Bank's main operations – data on the marginal refinancing rate and the marginal lending rate, corresponding respectively to the minimum rate accepted on refinancing operations and the maximum rate accepted on lending operations carried out by the Bank of Italy during the period (Bank of Italy (2013)).

(whose primary sources were Bollettino del Servizio Studi and the Economic Research Department internal statistical archives); and the Bank's Economic Research Department Bulletin (Bollettino) from 1938 to 1976. The contemporary sources are the Bank of Italy's Central Credit Register from 1964 to 2002, and the Eurosystem statistics since 2003.

Interest rates on securities issued by banks are available on an annual basis from 1861 to 2010 thanks to De Bonis et al's (2012) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website. Interest rates are taken from various sources and are estimated from 1861 to 1948. All institutional categories of banks are considered.

De Bonis et al's (2012) main historical sources in the reconstruction of interest rate on securities issued by banks time series are De Mattia (1967), from 1861 to 1936 (whose primary sources were original bank balance sheets); Cotula et al (1996), from 1891 to 1936 (whose primary sources were original bank balance sheets); Garofalo and Colonna (2003), from 1891 to 1965 (whose primary sources were the Bank of Italy's Relazione annuale and the Italian Official Gazette); Garofalo and Colonna (1999), from 1947 to 1965 (whose primary sources were Bollettino del Servizio Studi and the Economic Research Department's internal statistical archives); and the Economic Research Department internal statistical archives (in particular, the private bond yields index), from 1949 to 1997. Since 1998 the figures have been taken from the "10-day statistics" collected by the Bank of Italy from a representative sample of banks.

Interest rate on short-term loans is available on an annual basis from 1861 to 2010 thanks to De Bonis et al's (2012) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website. Interest rates are taken from various sources and are estimated for the 1861–89 period and from 1937 to 1950. All institutional categories of banks are considered. Only loans to counterparties resident in Italy are included.

De Bonis et al's (2012) main historical sources in the reconstruction of interest rate on short-term loans time series are De Mattia (1967), from 1861 to 1936 (whose primary sources were original bank balance sheets); Garofalo and Colonna (2003), from 1891 to 1965 (whose primary sources were The Bank of Italy - Relazione annuale and Italian Official Gazette); and Garofalo and Colonna (1999), from 1936 to 1965 (whose primary sources were Bollettino del Servizio Studi and the Economic Research Department internal statistical archives). The contemporary sources are the Bank of Italy's Central Credit Register from 1962 to 2002, and the Eurosystem statistics since 2003.

Interest rates on medium and long-term loans are available on an annual basis from 1861 to 2010 thanks to De Bonis et al's (2012) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website. Data are taken from various sources and are estimated up to 1964. The data refer to special credit institutions up to 1994, to all institutional categories of banks afterwards. Only loans to counterparties resident in Italy are included.

De Bonis et al's (2012) main historical sources in the reconstruction of interest rates on medium and long-term loans are Garofalo and Colonna (2003), from 1891 to 1965 (whose primary sources were the Bank of Italy's Relazione annuale and the Italian Official Gazette); Cotula (1998, 1999), from 1938 to 1964 (whose primary sources were original special credit institution balance sheets); Garofalo and Colonna (1999), from 1938 to 1964 (whose primary sources were Bollettino del Servizio Studi and the Economic Research Department internal statistical archives). The contemporary sources are the Bank of Italy Central Credit Register from 1965 to 2002, and the Eurosystem statistics since 2003.

4. Housing prices

An official housing price index for Italy is available from Istat official statistics from 2010 onwards only.[47] Available separately for existing and new houses, the index is computed according to Eurostat's *Technical manual on owner-occupied housing*. In addition, prices are available from Italian Revenue Agency (Agenzia delle Entrate) through its Real Estate Observatory (Osservatorio del Mercato Immobiliare, OMI),[48] which estimates house prices as from 2002 by location (at the level of single cadastral unit breakdown) and type of the residential property.

Historical housing data were only recently made available as a result of Bank of Italy's research projects. Cannari et al (2016) proposed an historical reconstruction of an index of housing prices as from 1927 to 2012, while Baffigi and Piselli (2018) reconstruct a series of housing prices per square metre, from 1927 to 2015. No quality-adjusted historical series is available, although data with breakdown by type of residential property are available for specific periods.

Nominal housing prices per square metre, nation-wide annual series, are available from 1927 to 2015 thanks to Baffigi and Piselli's (2018) historical reconstruction and are accessible in the Historical Statistics section of the Bank's website. Baffigi and Piselli (2018) build a nation-wide series of housing prices, (i) drawing housing prices from different coeval broad surveys collecting data in specific time periods, while (ii) splicing and estimating to cope with missing data.

Baffigi and Piselli's (2018) main historical sources in the reconstruction of their national housing price time series are the data collected in the *Mercato edilizio* (Housing market), the thorough and detailed statistical bulletin published by the Federazione nazionale Fascista della proprietà edilizia (National Fascist Federation for real estate, 1931, 1934–36, 1938), for the period 1927–38;[49] and the "Il Consulente immobiliare" (1966–2012) survey output, as elaborated by Cannari et al (2016), from 1966 to 2012.[50]

First, Baffigi and Piselli obtained a national housing price level for each year between 1927 and 1938 as a simple average of *Mercato Edilizio* (1931, 1934, 1936, 1938) granular data. They then computed price levels for the period 1966–2015

47 Available at http://dati.istat.it/Index.aspx?DataSetCode=DCSP_IPAB#.

48 Available at www.agenziaentrate.gov.it/portale/it/web/guest/schede/fabbricatiterreni/omi/forniture-dati-omi.

49 The National Fascist Federation for building property collected four-monthly residential house prices for about 90 provincial capitals, broken down by type and quality of the residential property as well as location (centre, suburban and outskirts).

50 "Il Consulente immobiliare" (a specialised magazine) has conducted a survey of market participants since 1966. This survey comprises data on all provincial capitals and, since 1998, over 1,000 other municipalities (see Zollino et al (2008)). The data are divided into two property categories (new and recently built) and three types of location (centre, suburban and outskirts).

referring to Cannari et al's (2016) housing price national index, from 1966 to 2012;[51] Istat's (2016) index for existing house prices for 2013–15 ("Indice dei prezzi delle abitazioni"); the Bank of Italy's (2016) benchmark housing price level in 2013, to obtain a homogenous price series over the period 1966–2015.[52] Finally, for the period 1939–65 on which no coeval data is available, Baffigi and Piselli (2018) estimate price levels between the benchmark years 1938 and 1966 using annual price dynamics as expressed by the residential investment deflator (drawn from the Bank of Italy's national account historical reconstruction; Baffigi (2013)).

A limitation of the historical reconstruction of the series before 1998 is that it is not fully representative of the whole national housing market, being based mainly on house prices in province capitals.

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[51] Cannari et al (2016) built their national index on the data of "Il Consulente immobiliare".

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