

Currency Competition, Fiscal Policy and the Money Supply Process in Italy from Unification to World War I

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I. Introduction

There are several reasons, other than the trivial excuse that it has not been told before to the English speaking world, for telling both economic historians and monetary economists the monetary "story" of Italy from 1861 to 1914. First, with the current nostalgia for the gold standard and its salutary effects on nominal magnitudes, the Italian experience stands out as the classical example that the existence of a rule and formal adherence to it do not guarantee stability. In particular, the rule was not sufficient to discipline Italian politicians who went off the gold standard whenever "force majeure" dictated it. On the contrary, the system behaved as if it were on the standard when domestic money was inconvertible into specie but fiscal and monetary policies generated stable outcomes. Second, exchange rates, for a few years, were relatively flexible in the period under consideration. This provides us with the opportunity to assess how the rate of exchange reflected differential developments in the money markets at home and abroad. Finally, the Italian banking system was characterized by a high degree of currency competition among several banks of issue. Competition in central banking was not only tolerated but, for some time, encouraged by a very liberal (in the British sense) Parliament. The

supply of Italian money, thus, was not independent of the structure of the banking industry.

Our objective is to "describe" the money supply process for the 53 years under review by weaving into it the considerations made above. In the following three sections we review the structure of the banking industry, the intellectual environment in which this industry was operating and Italy's adoption of a national monetary standard. In the remaining sections we concentrate on those events and facts which have uniquely affected the Italian money market and, hence, nominal magnitudes. Our method of analysis will be quantitative but not econometric, for having done the econometrics elsewhere (see Fratianni and Spinelli (1984) and Spinelli (1983)), we want to tell our interpretation of this period of monetary history as simply as possible and draw some conclusions.

II. The Banking structure, Liberalism and Real Politik

Before Italy unified politically in 1861 few among the many states that peppered the peninsula had a central bank in the modern sense of the world; the majority had only commercial banks. More precisely, there were three banks of issue: the Banca Nazionale (heretofore BN) in Piedmont, the Banca Romana in the Papal States and the Banca Nazionale Toscana in the Grand Duchy of Tuscany. The other banks, Banco di Napoli in Naples, the Banco di Sicilia in Palermo, the Banca Toscana di Credito per le Industrie ed i Commerci d'Italia in Florence, the Banca degli Stati Parmensi in Parma, the Stabilimento Mercantile di Venezia in Venice and the Banca Pontificia per le Quattro Legazioni in Bologna, issued either registered notes transferable to a third party by signature or bearer notes having fiduciary characteristics. Austrian money was the common means of payment in the Kingdom of Lombardy and Venice which was part of the Austro-Hungarian Empire. More details on the origins and nature of these banks are to be found in Appendix 1.

BN soon emerged as the growing central bank, benefiting from the expansionist policies of Piedmont (1848-1870) that led to the unification of Italy. As the Piedmont sphere of influence enlarged so did BN's. Only Tuscany offered successful resistance to the market penetration of BN, but only up to the time Florence was made capital of Italy in 1865.¹

Yet, despite this rising power of BN, the "central" banks of the former independent states, be they true or pseudo-banks of issue, retained their prerogatives to issue notes or equivalent paper.²

It is interesting to speculate why BN was not immediately appointed to be Italy's only central bank upon unification. Garelli (1879) and De Mattia (1969), among others, suggest that the Piedmont ruling group had to proceed slowly towards the establishment of a single bank of issue so as not to antagonize strong local commercial and banking interests, in other words real politik considerations. We believe there is more than that. To begin with, there is evidence that Piedmont showed no regard whatsoever to local pressure groups on other economic issues. For example, a common tariff, the Piedmont tariff, was passed in a very autocratic manner.³ But more important, it was the weight of the intellectual environment that decisively favoured currency competition to prevent Prime Minister Cavour from creating a single bank of issue.

Francesco Ferrara, the distinguished economist who became Minister of Finance in 1867, led the group of those who believed that the money industry was no different from others and thus

¹ On that occasion a royal decree authorized BN to raise its capital and open a branch in Florence.

² With the exception of Banca di Parma, Banca Pontificia per le Quattro Legazioni and the Stabilimento Mercantile di Venezia which were suppressed.

³ Corbino (1931a, p. 143) says that "...not only there was no preparatory work, a necessity for a country that switches from one regime to another, but also no consideration was given to the wide differences in economic structures existing among the regions".

should not enjoy protection from the State.⁴ His major ally was Parliament; his most formidable opponent the Prime Minister Cavour who, despite his strong belief in economic liberalism, had become convinced of the importance of a single central bank.⁵

Even before unification Cavour tried twice, in 1851 and 1856, to make BN notes legal tender and take over the Treasury operations. Both proposals were rejected by the Piedmont legislative branch. The tug of war between the pro-monopolist executive and the pro-competition Parliament continued in the 1860s. As an indication of the importance of this issue, the Sella government was forced to resign in 1865 for having submitted a bill in Parliament that would have consolidated the Treasury with BN.

Our point is that competitive central banking was not a historical accident but the result of the relative power of the intellectual-liberalism-regional-politics coalition over that of the executive branch of government strongly identified with BN.⁶

III. *Adoption of a National Monetary Standard*

Upon unification the central authorities deliberated on what type of national monetary standard best suited the nation. Four options were considered: a gold standard, a silver standard, a gold-silver standard and paper money inconvertible into specie. The last alternative was quickly ruled out as an inferior solution to the first three. The first option was believed to be superior to the silver standard both on theoretical grounds and on the prospect that Europe would eventually adopt gold. At the micro level BN was the strongest advocate for a gold standard, having established a

⁴ For an appreciation of his position read Ferrara (1867). Among well-know economists of the time, Garelli (1867) was on the side of Ferrara, whereas Busacca (1870) favoured a monopoly of issue.

⁵ (1879, p. 1148) and Corbino (1931a, p. 281).

⁶ This should not suggests that Parliament had a fully coherent view of monetary affairs. Indeed at times it acted inconsistently.

long tradition of converting its notes into that metal.⁷ However, two crucial factors played for silver: the dominance of silver coins in the South of Italy and the commercial and financial interaction between Italy and countries using silver as medium of exchange. In the words of the lawmakers of 1862

“The frequent and important exchanges we have with France, Germany and other nations using silver as legal tender as well as the consideration that Italian public debt instruments are traded in markets where silver is used... argue against a reform [read adoption of a gold standard] that, if agreed simultaneously with the principal nations of Europe, would be optimal”.⁸

A compromise was reached by instituting a formal bi-metallism. Formal because in reality silver was made the junior partner in the association. The adopted standard was so similar to those of Belgium, France and Switzerland that these four countries formed the Latin Monetary Union in 1865.⁹ Their coins circulated in each other's territory with equivalent legal-tender characteristics.

The legal ratio between gold and silver was set at 1/15.5, a formula so established in Europe as to have acquired the status of a natural law.¹⁰ The legal ratio, however, did not reflect prevailing market conditions. The gold discoveries of the mid-century in Australia, California and Russia produced a fall in the price of gold relative to silver. In addition, the demand for silver rose in Europe during the American civil war, further depressing the price of gold.¹¹ According to Gresham's law silver would have been driven out of circulation.

The lawmakers, waiting for the comprehensive monetary standard bill to pass the legislative process, resorted to a stop-gap

⁷ BN suspended convertibility in 1859 for a few months and from 1848 to 1851.

⁸ Corbino (1931a, p. 338).

⁹ Greece joined three years later.

¹⁰ The fact that Isaac Newton had worked on this ratio may account for its mystique.

¹¹ This argument comes from De Mattia (1959) who states that the demand for silver rose as Europe switched from American to Asian textiles during the civil war.

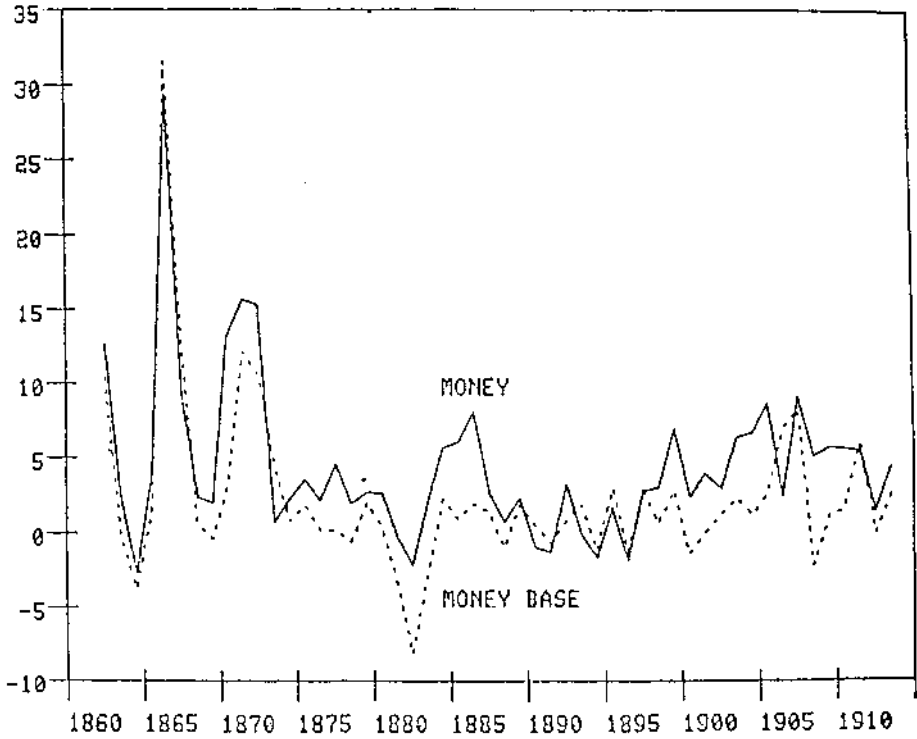
solution. They made gold trade at the legal ratio in the North, where was dominant, and at market rates in the South, where silver was dominant. The stop-gap solution, based on the notion of market segmentation, did not work. Arbitrage profits were earned by selling gold for silver at the legal ratio in the North and exchanging silver for gold at market ratios in the South. This situation lasted only a few months until March 1862 when the national monetary standard bill was enacted. This bill turned out to be a superb example of reconciling form with substance. Gold and silver would trade at a fixed ratio of 1/15.5, but the law at the same time redefined the silver content in coins from .900 to .835 purity, thus raising the effective gold-to-silver price ratio to 1/14.38, very close to prevailing market prices. Formally the Italians were adhering to the standard of Belgium, France and Switzerland, while avoiding the effects of Gresham's law.¹² Both gold and silver circulated at home but internationally gold was the preferred medium.¹³

The 1862 monetary standard bill abolished pre-unification coins and paper monies which were exchanged for the new coins. Italy left the Latin Monetary union in 1866 when it declared the lira inconvertible. In the sections that follow we analyze the money supply process for five distinct periods. The formal quantitative basis of our analysis is contained in four graphs: Graph 1 shows annual growth rates of the money stock and the money base; Graph 2 the government budget deficit as a percent of GNP; Graph 3 the exchange rate lira-French franc; and Graph 4 the domestic and world rates of inflation.

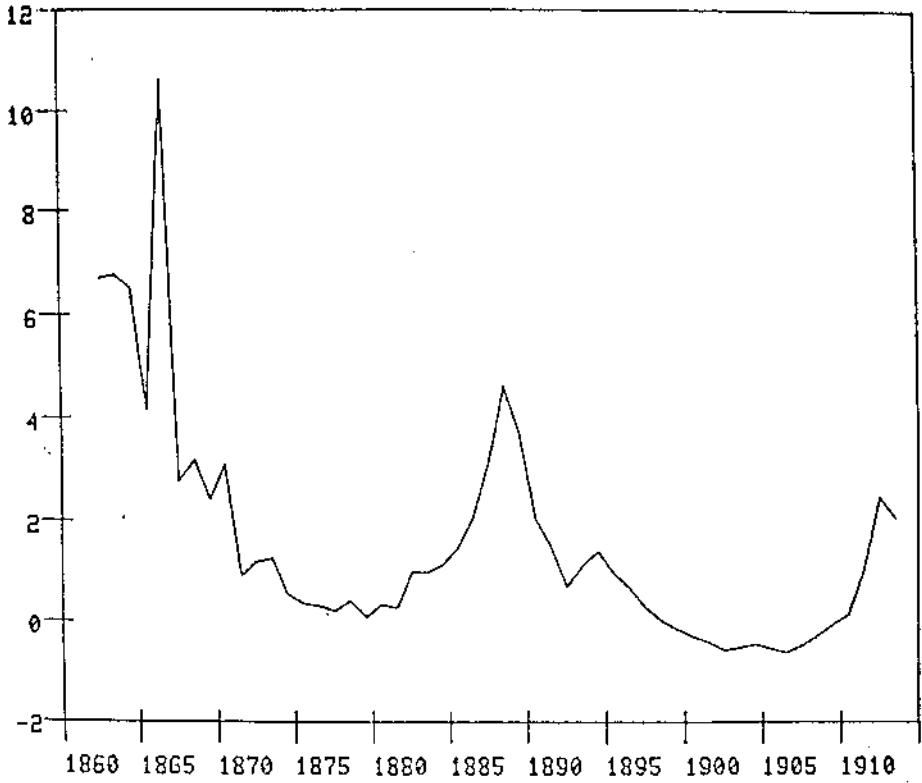
¹² Switzerland had a purity ratio of .8. In 1866 Belgium, France and Switzerland adopted the Italian standard.

¹³ Arbitrage considerations suggest that Italy would have been a net importer of silver coins with .9 purity. The extent of this activity was limited by transportation and melting costs.

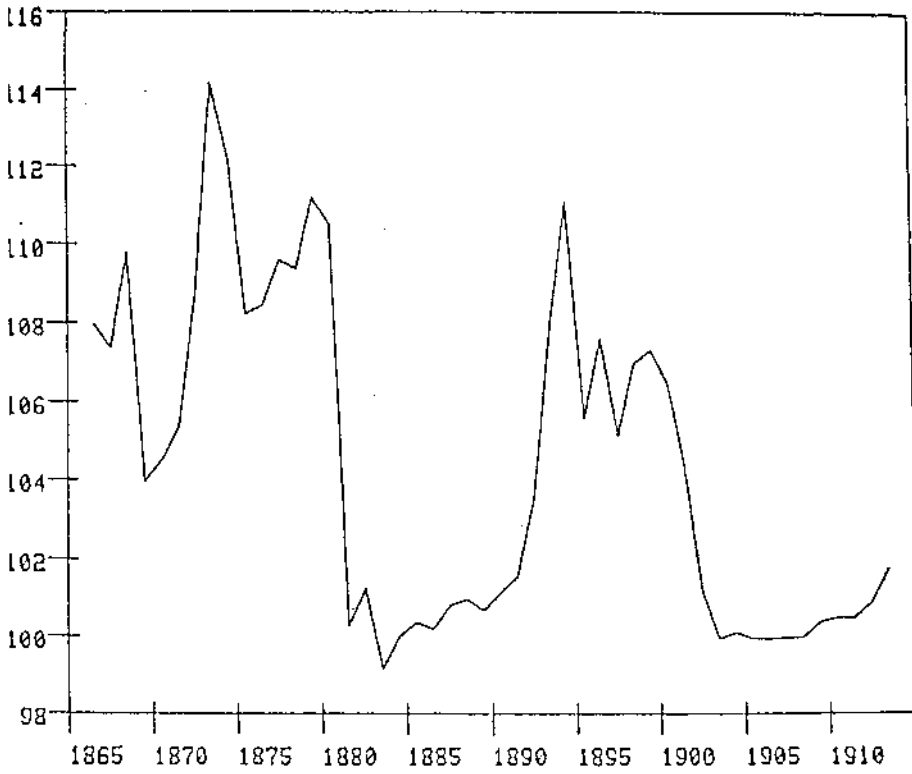
**Graph 1: MONEY AND MONEY BASE
(ANNUAL PERCENT CHANGE) (1862-1913)**



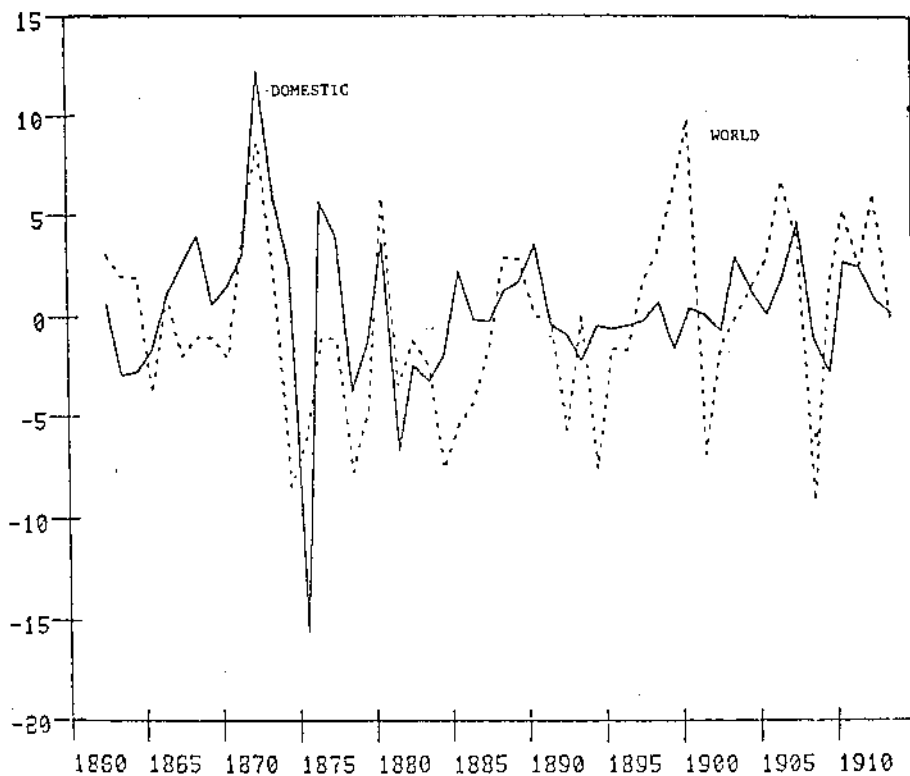
Graph 2: BUDGET DEFICIT TO GNP RATIO (1862-1913)



Graph 3: EXCHANGE RATE LIRA-FRANC (1866-1913)



Graph 4: THE DOMESTIC AND WORLD RATES OF INFLATION



IV. *The Money Supply Process: 1860-1866*

The bulk of the money stock from 1860 to 1865 consisted of coins. BN notes although convertible into specie, circulated irregularly. BN was relatively unknown outside Piedmont and the public preferred the brand name "coins" to the brand name "BN notes". During the five years under consideration the money stock followed the pattern implied by the Humeian price-specie mechanism. The Italian money stock rose in 1862 and fell two years later reflecting changes in the world money market.¹⁴

The government budget deficit rose to an all-time high, averaging about six percent of GNP during these five years.¹⁵ The cumulative trade deficit rose to an equivalent order of magnitude, as theory would predict. Net capital inflows, averaging 120 million lire a year, prevented massive outflows of gold. These flows, in turn, were responding to a high interest-rate differential in favour of Italy.¹⁶ At one point the yield on long-term government bonds was 7.28 percent in Italy and 3.29 percent abroad. The discount rate was moving in a manner consistent with the observations made by Lindert (1969).

The persistence of high budget deficits and capital inflows and the prospect of an imminent war against Austria raised apprehension in the financial markets. Besides the expectations of the lira becoming inconvertible, Italy was perceived as a high-risk country. Italian bond prices fell on all exchanges, but more abroad than at home, despite the fact that bond coupons were paid in gold abroad and in paper money in Italy. In Paris the price of *Rendita Italiana*, a long-term government bond, fell from 80 in 1860 to a low of 37.5 in May 1866. The same instrument was quoted in

¹⁴ Cf. Supino (1929, p. 15) and Cornaro (1931, p. 18).

¹⁵ For an analysis of Italian public finances refer to Fratianni and Spinelli (1982).

¹⁶ It is amusing to note that economists of the period explain the large capital inflows in terms of the sympathy Italy inspired in European financiers as well as the good auspices of the French emperor. Cf. Willis (1901) and Corbino (1931a).

Florence at a price of 4.5 to 6.5 percent higher than in Paris.¹⁷ The discrepancy between external and internal prices naturally prompted profitable arbitrage. People at home converted bank deposits into gold that was subsequently used to purchase bonds abroad which would be resold at home for a profit. The extent of this activity was so large that it imperilled the liquidity of several banks. BN, its reserves having fallen from 80 to 50 million lire from October 1865 to April 1866, rationed discounts and advances to its clientele.¹⁸

Inconvertibility was announced on May 1, 1866. It lasted virtually uninterruptedly until 1927. Massive budget deficits were the decisive factor in the decision. However, it is instructive to note that the inconvertibility decision was backed by two powerful pressure groups, manufacturing industry and agriculture, on the one hand, and BN on the other. The first group was pressing for a devaluation of the lira as a means to discourage imports and promote exports. BN believed that inconvertibility would favour her expansion programme. Evidence for this proposition comes from Corbino (1931a, p. 292) who reports that BN rejected government advice to raise its discount rate to attract capital, whereas similar advice in the past was promptly heeded.

It turned out that BN came out of this period with a much stronger position. Government requested a large loan from BN which, in return, obtained that its notes become inconvertible — *corso forzoso* in the language of the time, monetary base in the language of modern monetary economists. The notes of the other banks of issue were made legal tender — *corso legale* in the language of the time. While all notes were accepted media of exchange, *corso legale* notes could be exchanged, upon request, for

¹⁷ In 1866 the Florence market was quoting Rendita Italiana at 56.54 vs. 54.08 abroad; in 1867 the discrepancy was 53.3 vs. 50.02.

¹⁸ Even Ferrara, the staunch opponent of inconvertibility, expresses doubts on how long convertibility can be sustained (Cornaro (1931, p. 31)). Ferrara (1868) and (1893) provide an assessment of this historical episode.

BN notes but not vice-versa. The monopoly right granted by the government to BN elevated its notes to the role of bank reserves. In fact, banking regulation prescribed that BN had to maintain a gold cover of 1/3 against its notes but other banks had to satisfy the same reserve against their notes in circulation with a gold ratio of 1/3 and BN notes ratio of 2/3. It comes as no surprise that BN notes rose relative to those of other banks.

The money stock increased by 29 percent in 1866 and by 9 percent in 1867, despite a surge in the currency-deposit ratio following the announcement of inconvertibility.¹⁹ The latter produced a quick and strong impact on the exchange rate which moved from the parity value of 100 to 108 (cf. Graph 3). The trade account improved but capital outflows more than offset this improvement. Specie, mostly silver coins, left the country.²⁰ This, in turn, produced a shortage of small-denomination coins that was met by notes clandestinely issued by individuals and banks.²¹

V. The Money Supply Process During "Corso forzoso" (1867-1883)

No sooner was inconvertibility announced than Parliament set up a commission to study the feasibility of a return to convertibility.²² Its November 1868 report called for a gradual reduction in BN notes as a necessary condition for re-entry into the gold standard. Parliament went along with the recommendations, placing the ceiling on BN circulation at 750 million lire. The outcome was deflation with the growth rate of the money base

¹⁹ This theme is developed in Fratianni and Spinelli (1984).

²⁰ According to the literature between 400 and 600 million lire of silver coins went to France.

²¹ Note the parallel with the 1970s when "clandestine" notes emerged again to meet an excess demand for small-denomination money.

²² Formally the Commissione Parlamentare di Inchiesta was created on March 10, 1868. Its report was delivered on November 28 of the same year.

falling to zero at the end of the 1860s. The inflation rate declined and the lira appreciated with respect to the franc.

Soon after budget deficits again expanded and so did base money. The Minister of Finance, Sella, displayed a strong preference to monetize a rising portion of budget deficits on the ground that doing it otherwise would have raised government "costs". The ceiling on BN circulation was relaxed so as to permit the government to borrow from the bank. The money base and the money stock rose, respectively, by 12 and 15.6 percent in 1871.²³ Both the exchange rate and the domestic inflation rate reached their highest value of the entire period 1861-1914.

Budget deficits had discernible effects on the banking industry where the relative position of BN emerged reinforced. BN was the government's main financier and used this privileged relationship to consolidate market leadership. We recall that BN issued fiduciary (inconvertible) notes against specie reserves. Other banks issued legal tender notes but convertible on demand in BN notes against reserves of specie and BN notes. Finally, there were institutions printing paper money clandestinely.

There was discontent among many bankers who assessed their industry as chaotic and subject to unfair competition. Parliament responded by passing a sort of reorganization act on April 30, 1874. For the purpose of this paper the salient element of the legislation was to block entry in the "central bank" industry.²⁴ The latter becomes an officially sanctioned oligopoly. A consortium of six banks was granted power to print fiduciary money *on behalf* of the State.²⁵ The latter used part of the newly created money to repay its debt to BN whose old notes were swapped against the new ones. This creative accounting was clearly aimed at treating all

²³ The difference between the two growth rates is mostly accounted for by a falling currency-deposit ratio. Compare this episode to 1866 when the growth of the money multiplier was negative because of a rising currency-deposit ratio.

²⁴ The reader may find useful to recall that Peel's Act of 1844 in the United Kingdom had similar objectives.

²⁵ Consortium notes were not subject to reserve requirement.

banks equally in that their stock of notes in circulation could not exceed three times the sum of their subscribed capital as of December 1873 and their reserves of metal and consortium notes. A royal decree of September 9, 1874 spelled out explicitly the ceiling on notes in circulation by institutions.²⁶

The literature agrees that the 1874 law was so preoccupied with distributional issues among banks that it failed to address the paramount problem of reducing the global amount of money in circulation while raising specie reserves, both of which were pre-conditions for a return to convertibility. Corbino (1931b p. 353), furthermore, gave low marks to the legislation for having failed to spell out tough guidelines concerning the supervisory activity of banks by government. Corbino's concern, as well as others', was the economic damage from overissue. When currencies trade at flexible prices a bank that overissued would see the price of its notes fall relative to the notes of other banks. It would gain short-run profits but at the expense of a falling market share in the long run (see Klein (1974). Thus a wealth-maximizing bank would be untempted by the lure of overissue. For reasons which are not altogether clear all notes apparently were trading at par, thus encouraging overissue until it became massive as in the case of the Banca Romana (see below).

Despite these criticisms, the public became convinced that the period of easy money was over. After 1875, in fact, the stock of consortium money stabilized, in response to the government having balanced the budget (the first balanced budget since unification). BN circulation remained within the ceiling and other banks' notes actually fell. Consequently, the money base fell; the money stock rose slightly due to a rising multiplier. As we have noted repeatedly, the changes in monetary aggregates affected quickly and potently nominal magnitudes. The lira-franc exchange rate fell

²⁶ 450 million lire for BN, 63 million for Banca Nazionale Toscana, 15 million for Banca Toscana di Credito, 45 million for Banca Romana, 146.5 million for Banco di Napoli and 36 million for Banco di Sicilia.

from 114 to 108. The domestic rate of inflation dropped from 6 to -16 percent in 1875, reflecting not only the monetary slow down, but also the domestic recession and more importantly the precipitous drop in international prices following the opening of the Suez Canal (cf. Graph. 4).

VI. *The brief return to convertibility (1883)*

A bill containing plans to end *corso forzoso* and return to specie convertibility was submitted to Parliament on November 15, 1880. The plan called for floating 644 million lire of government bonds, to be placed mainly in foreign markets. Bond buyers would pay in gold, silver, or foreign exchange.²⁷ With the proceeds of the bond sale and by issuing 340 million lire of State notes convertible into specie the government would withdraw from circulation 940 million lire of consortium notes.²⁸ Holders of these notes would be entitled to exchange them for gold at par. In light of the fact that paper money was selling at a 10 percent discount relative to gold, the exchange arrangement would grant a subsidy to note holders. It is unclear why the lawmaker felt compelled or persuaded to make the par provision; possibly ignorance. Ferraris (1879a) rationalizes the rule as a way to "save the honour of the State".

The bill also spelled out that bank reserves would have to consist exclusively of specie and that all sight liabilities of banks would be subject to conversion.

The mere discussion of the bill in Parliament instigated expectations that a more prudent money supply policy was in the making which, in turn, would pave the way for a return to convertibility. Again as in the past, the key element in the turn around of these expectations was the prospect that the government would be running smaller deficits than in the past. Public finances dominate

²⁷ The bulk would be in gold, 400 million lire.

²⁸ 44 million were allocated to repay another BN loan.

all other variables. Both exchange and domestic inflation rates responded quickly to the anticipated fall in the growth rate of the money stock.²⁹

The law was passed on April 1, 1881 and the bond sale generated an inflow of 444 million lire of gold and 200 million of silver. Priced to yield a rate of return of 5 percent, the bonds were sold through three consortia of English, French and Italian banks.³⁰ With this transaction out of the way, the government on March 1, 1883 felt confident enough to announce that *corso forzoso* would end on the following April 12. Capital flowed into Italy and the lira fell to gold parity. As Graph 3 shows, for a period paper money enjoyed a premium over gold (i.e., the exchange rate fell below the gold parity of 100).

What forces were at work underlying the appreciation of the lira? We have already referred to the favourable expectations that acted as a boost to the demand for money. On the supply side, the foreign loans had engineered an increase in the gold-to-paper-money ratio available to the public. Theory would predict a fall in the price of paper money to gold and hence an appreciation of the lira in the exchange markets. Somewhat more formally, let P_{12} = the relative price of money to gold, P_{13} = the relative price of money to goods, P_{32} = the relative price of goods to gold. The increase in the gold stock and the fall in the supply of paper money imply a decline in both P_{13} and P_{32} and, hence, a decline in $P_{12} = P_{13} \cdot P_{32}$. But P_{12} is the exchange rate between a country using gold and paper money and the rest of the world on a gold standard, as measured in Graph 3. Thus, although the internal price of money to gold was fixed, the exchange markets was signalling an appreciation of paper money relative to gold.

²⁹ The reader may find it useful to compare this episode with the approval of the 1819 law in the United Kingdom (cf. Viner, p. 134)).

³⁰ The British banks, led by Baring and Hambro, placed 200 million. French banks, led by Banque d'Escompte, also placed 200 million, leaving the Italian BN and Credito Mobiliare with the remaining 244 million. Cf. Corbino (1933, p. 395).

Another fixed price was causing unintended specie flows. The official exchange rate of silver for gold had remained at 18.5/1, whereas the market rate had been rising to reach 21/1 by 1886. According to Gresham's law, gold flowed out of the country while silver flowed in.³¹ Banks, free to use either silver or gold, used exclusively the latter in conversion transactions.

In sum, this episode shows the dominant role played by public finances in influencing inflation expectations and the impact on the exchange rate of an open market operation that alters the relative supplies of gold and paper money.

VII. *Overissue and the failure of Banca Romana*

The budget deficit increased again in the middle of the 1880s.³² This was taking place against the background of a commercial war with France, Italy's major trading partner. The price of Rendita Italiana fell in Paris more than in Italy. Arbitrage activity prompted capital outflows. Specie for an amount equal to one third of the 1881 bond sale found its way abroad from 1887 to 1891. The lira depreciated and banks raised the transaction costs of conversion, while at the same time issuing prescribed limits.

The banks' ability to overissue was facilitated by the 1874 law that foresaw pecuniary penalties for such an outcome. Given that supervisory activity was perceived to be lax (cf. De Mattia (1969)), the expected cost of the penalty was quite low. More fundamentally, the fact that exchanges among different notes were formally occurring at par reduced the costs of overissue.

The literature reports that banks at this time expanded their holdings of real assets, mostly buildings in and around Rome.

³¹ From 1883 to 1885 gold exports jumped from 8.2 to 101.3 million. Silver imports went from 50.7 to 103.7 million.

³² On the expenditure side military outlays rose dramatically. On the revenue side the tax on flour (macinato) was abolished while the price of salt was reduced. For fiscal year 1888-1889 the government projected a deficit of 932 million on 1546 million of tax revenues.

These investments were speculative. The Banca Romana was a leader in overissuing and acquiring risky assets. On June 30, 1891 there was a liquidity crisis in the making, to which government responded by legalizing the excessive currency in circulation. The specie cover was lowered from one-third to one-fourth.³³ The obligation of a debtor bank to convert its note liabilities into notes of the creditor bank — so called *riscontrata* — was relaxed, thus encouraging excessive circulation.³⁴

The government appointed a team of auditors to inquire into banking malpractices. The experts' report, released on January 18, 1893, revealed that Banca Romana had twice as many notes in circulation as permitted by law. There was a run on the bank which brought about its failure. The distrust in the industry spread and was reflected in the sharp depreciation of the lira. Parliament was quick in passing a law aimed at restructuring again the banking system. BN merged with the two Tuscan banks and acquired the name of Banca d'Italia (BI) which was entrusted with the task of absorbing the liabilities of the defunct Roman Bank. The latter's notes were withdrawn and replaced by BI notes. In this manner the overissue of Banca Romana was legalized. The law explicitly prohibited the BI, Bank of Naples and Bank of Sicily — the three remaining banks of issue — from creating paper money without direct State supervision. The new ceiling on circulation could be exceeded only if banks lent to the government.³⁵ After four years banks were compelled, over a fourteen-year period, to reduce circulation up to the point where notes were three times the banks' net worth.³⁶ In addition, the bullion reserve requirement was to be raised to 40 percent within a year. Notes were legal tender in the

³³ The note ceiling for the entire system was raised from 755 to 1064 million lire.

³⁴ Recall that *riscontrata* is not symmetrical. While BN notes are reserves for other banks, the latter's notes have to be converted into notes of the submitting or creditor bank. This on-demand obligation was transformed into a 10-day obligation.

³⁵ The new ceilings for the three banks are 800, 242 and 55 million lire, respectively.

³⁶ Effectively the law mandates the targeted ceilings for BI, Bank of Naples and Bank of Sicily be 630, 190 and 44 million lire, respectively.

provinces where the issuing bank had a branch, but had to be converted, upon request, into specie at market prices or in State notes. Banks were restricted on how many deposits to accept and were forbidden to lend in overdraft form. Finally, the creation of bank notes was directly supervised by the government.

Unlike the 1874 and 1881 legislation, which produced positive effects in the short run but less in the long run, the 1893 law went the other way. The immediate response of the market to the barrage of new restrictions was very eloquent: the lira continued to depreciate, prices of Rendita Italiana fell and the outflow of specie increased.³⁷ What worried the markets was the absence of a mechanism that would have reduced the current stock of currency and brought back Italy into the gold standard club.

Symptoms of insolvency crises emerged with banks seeking new deposits. Some of them failed. In the early part of 1894 the government expanded its State circulation while authorizing banks to raise theirs.³⁸ Simultaneously, to stem liquidity crises, conversion of currency into specie was suspended; the system returned to formal inconvertibility. The *riscontrata* was further limited in that the creditor bank could exchange bills of the debtor banks up to a maximum of the stock of notes of the creditor bank owned by the

³⁷ It is instructive to refer to Corbino (1934) on this subject who states that when paper money depreciates by more than 10 percent relative to specie, it pays off to export even silver. As to differences in prices of Rendita Italiana and arbitrage activity we quote (p. 378) "prices quoted in Paris were higher than those quoted in Rome. This is perfectly natural for the cost of money was lower in Paris than in Italy and thus, for a given coupon, a bond would carry a higher price in France than at home. But it is also equally logical that such differences could not last for they brought about movement of capital". And on page 299 "Banking crises and a higher exchange rate led to falling prices of Italian bonds abroad and, in turn, at home. Since the Rendita Italiana was a claim highly traded throughout the European exchange its price quickly reflected changes in economic conditions that would affect its value". Corbino is simply saying that markets were very efficient.

³⁸ State notes were increased from 350 to 600 million. BI increased its circulation by 90 million, Bank of Naples by 28 million and Bank of Sicily by 7 million. The reserve-deposit ratio is changed to one third.

debtor bank. We deduce from this that the relative price among different notes must have moved against the smaller banks the lawmaker wanted to protect.

VIII. *The good 1900s*

Matters improve in the mid 1890s. A cyclical upswing in activity and a concomitant rise in prices raised the demand for money. On the supply side of the money market, budget deficits were reduced and the three banks of issue instituted a program to control notes in circulation in view of the legal provision to reduce currency over a fourteen-year period.³⁹ Specie reserves grew by 43 percent in 1895, 48 percent in 1900 and reached a maximum of 57 percent in June 1914. Simply put, banks of issue went beyond the objectives set by the 1893 law.⁴⁰ The lira appreciated and fluctuated around gold parity. Ironically, with conditions for convertibility finally restored, there was no significant movement in favour of a return to the gold standard.⁴¹ Italian bonds scored price gains and the government exploited the situation by converting more than 8 billion lire of high-coupon into lower-coupon debt from 1902 to 1906.⁴²

The government budget was back in the red in 1911-1912 as

³⁹ Corbino (1934, p. 375 and p. 391) remarks that the balance sheets of banks improve. Surprisingly, Treasury ministers push for circulation expansion but unsuccessfully. The next increase in circulation ceilings takes place in 1907 with BI allowed to go up to 660 million, Bank of Naples up to 200 million and Bank of Sicily up to 48 million. The reserve ratio is kept at 40 percent. The ceilings can be exceeded provided the specie cover is 100 percent; otherwise, the violating bank is subject to a progressive tax rate on the notes in question ranging from a minimum of 1/3 of the discount rate to a maximum 7.5 percent.

⁴⁰ It should be noted that a large production increase of gold permitted many central banks in the world to accumulate specie reserves.

⁴¹ There is intervention in the exchange markets by the three banks of issue so as to keep the lira within the gold points. Similar practices were carried out in other countries. Cf. Bloomfield (1957) and Ciocca (1978).

⁴² The most significant transaction involved the reconversion of the 5 percent coupon debt into 3.5 coupon debt. For details read Corbino (1938, pp. 341-347).

Italy went war against Libya (cf. Graph 2). Although the bulk of the deficit was financed by debt, the growth rate of money base was affected as well (Graph 1). In October 1911 the tax on excessive circulation was reduced from 7.5 to the level of the discount rate — refer to note 36. By year end note circulations was 210 million lire higher. The lira depreciated.⁴³ With the Libyan war out of the way, the country yearned for a return to the gold standard: it was 1913 one year before World War I.

IX. *Conclusions*

The most significant conclusion of our study is that fiscal policy and money supply were closely intertwined in the period under consideration. The deterioration of public finances was responsible for the inconvertibility decision of 1866, the monetary explosion of 1866-1867 and 1870-1872, the second inconvertibility, the difficulties of the early 1890s and the 1911-1912 shock. Budgetary improvements, on the other hand, were quickly followed by exchange rate appreciations and lower domestic rates of inflation, for example the period after 1874 and the mid-1890s.

The second factor influencing the money stock was the competitive nature of the Italian central bank industry. Notes issued by the various banks were exchanged at par, although the true relative prices must have fluctuated. When combined with low expected penalties, the instances of overissue are not hard to explain. The tug of war between banks and the government had characteristics similar to the confrontation between speculators and central banks during fixed, but adjustable, exchange rates periods. The high probability, if not certainty, that government would legalize the excessive circulation, while maintaining prices of notes unchanged, raised the expected profits of the overissuing bank. Had

⁴³ The interpretation of what caused this devaluation is complicated by a concomitant deficit in the trade account and large emigration.

the latter faced a sharp drop in the price of her notes, its supply behaviour would have been different. The weak link in the system was government which maintained fixed relative prices among notes without actually controlling the aggregate amount of total currency in circulation. This weakness, in turn, had more of a political than an intellectual root: government borrowings were often the reason for breaking through the note ceiling.

In the competition to become the dominant bank in the industry, not all firms were equal. BN enjoyed a head start, being the bank of the Piedmont State, enjoying the support of the power groups and coming to the rescue of the State in times of crises. In exchange, BN was granted the privilege of having its currency elevated to the status of reserves for other banks; and assured in time to emerge as the monopolist of issue.

Fixed relative prices between specie and paper money and between gold and silver caused predictable Gresham-type effects. A great deal of the gold and silver inflow can be traced back to an official underpricing of one relative to the other.

Exchange rates, on the other hand, remained flexible throughout the period. Changes in market conditions were quickly reflected in the exchange markets. More than once — 1866, 1881 and 1894 — the onset of expectations about going off or returning to convertibility was sufficient to cause sharp depreciations or appreciations of the lira. Yet, the gold standard never acted as a strait-jacket. In times of trouble the politicians broke away without hesitation. On the other hand, exchange rate stability was achieved during a period of inconvertibility but prudent monetary management — evidence that supports the thesis that there are no good strait-jackets for a Houdini.

APPENDIX I:
The Italian Banks of issue before unification*

Banca Nazionale

The State of Piedmont floated a proposal for a central bank in 1840. The government gave authorization for the establishment of a private bank in Genoa in 1844. Three years later another private bank started business in Turin. In 1849 the government approved the merger of the two banks under the name of Banca Nazionale degli Stati Sardi, later to become the Banca Nazionale nel Regno (BN). The initial net worth of the bank was 8 million lire. In 1852 it rose to 32; by 1865 to 100 million. Upon the annexation of Lombardy into the Piedmont State, Cavour authorized BN to open a branch in Milan. Upon the annexation of Emilia, BN acquired the Banca di Parma and the Banca delle Quattro Legazioni. As the Piedmont State proceeded to build modern Italy, BN extended its reach. Tuscany posed the only resistance to BN's penetration. We have noted in the text that BN was *primus inter pares* among banks of issue. A crucial competitive advantage given to BN by the Italian government is to make its notes "corso forzoso", that is inconvertible in either specie or other bank notes.

Banco di Napoli (Bank of Naples)

The Banco delle due Sicilie (The Bank of two Sicilies) was established in 1816, two institutions in one. The first institution, known as Cassa dei Privati, operated like a private commercial bank. The second institution, known as Cassa di Corte, collected taxes and made disbursements on behalf of the Treasury of the Kingdom of the two Sicilies. The Cassa di Corte became extinct in 1862. The net worth of the Bank of Naples, i.e. the former Cassa dei Privati, rose from 7 million in 1816 to 41.5 million in 1878. The bank issued notes in exchange for specie or paper money without specie cover. The notes were transferable to a third party.

Banco di Sicilia (Bank of Sicily)

The Banco di Sicilia came into existence as a result of the merger of various banks in 1850. It operated in Messina and in Palermo. It issued registered notes transferable to a third party in exchange for specie. It also discounted bills and it lent.

Banca Nazionale Toscana

The Banca di Sconto di Firenze, a private institution founded in 1816, and a similar bank in Leghorn, founded in 1836, merged in 1857 to establish the Banca

* The interested reader is encouraged to consult Alberti-Cornaro (1931), Garelli (1879) and Supino (1895) for additional information.

Nazionale Toscana, with initial net capital of 30 millions. The main business of the bank was to accept interest-free sight deposits, interest-bearing deposits convertible into notes with one-month notification period and to discount commercial bills.

Banca Toscana di Credito per le Industrie e i Commerci dell'Italia

Founded in 1860 with a capital of 10 millions the bank accepted both interest-free and interest-bearing deposits and discounted commercial bills. It issued so-called cash notes.

Stabilimento Mercantile Veneto

With a capital of 2.1 Austrian florins this bank issued bear fiduciary notes.

Banca dello Stato Pontificio

This bank was started in 1834 and had branches in Ancona and Bologna. Upon the annexation of the Papal States by the Piedmont State the bank acquired the name of Banca Romana.

APPENDIX II:
Data definitions and sources

- Graph 1: The stock of money is defined as currency plus deposits. The money base is currency.
Source: De Mattia (1969).
- Graph 2: The government budget deficit is the difference between outlays and revenues of the Italian State as computed by Pedone (1967).
- Graph 3: The exchange rate is defined as number of lire per French franc.
Source: Borgatta (1933).
- Graph 4: The world inflation rate was computed as the percentage change of the Sauerbeck index. The domestic inflation rate was computed as the percentage change of the Italian wholesale price index.
Source: De Mattia (1977).

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