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Explorations from a Modern European Perspective

Michel Lescure and Michael Moss, Editors

COMITÉ POUR L'HISTOIRE ÉCONOMIQUE
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REASSESSING THE CAPITAL STRUCTURE OF THE LARGEST ITALIAN FIRMS: BANKS, MARKETS AND INTER-FIRM FUNDING, 1950-1970

Fabio LAVISTA and Giandomenico PILUSO

Introduction

The capital structure of enterprises is a rather obscure subject when it comes to assessing its precise composition and actual size, especially with regard to the distant past prior to the 1980s, as balance-sheet data are usually scarcely reliable and largely heterogeneous, both over time and across space. The very measure of capitalisation is rather problematic, not only because such a measure can clearly vary, even significantly over sectors, but essentially because empirical evidence offers a huge variety of values.[1] Besides, firms' financial statements and balance sheets in the past commonly provided rather poor information, because of lax legislation and fuzzy accounting practices, in terms of detail, rigour and completeness. Such financial reports constitute a rough representation of the actual financial performance of firms, at least compared to the most common present-day standards. The unsophisticated accounting techniques, the frequent manipulation of the profit and loss figures through window dressing actions, and the lack of external auditing contributed to reduce the quality of the financial information at our disposal to assess the capital structure of firms, at least prior to the 1970s-1980s. In the end, what we do actually know about the capital structures of firms is a matter of debate and inquiry, although some attempts to shed light on them have been made in the last twenty years.[2] On the whole, however, the literature provides relatively patchy evidence and only for the more recent decades, from re-constructing

1. Jean Tirole, *The Theory of Corporate Finance*, Princeton and Oxford, Princeton University Press, 2006, pp. 95-102.
2. Colin Mayer, "New Issues in corporate finance", *European Economic Review*, 32, 1988, pp. 1167-1189; Raghuram Rajan and Luigi Zingales, "What do we know about a capital structure? Some evidence from international data", *Journal of Finance*, 50, 1995, pp. 1421-1460.

and assessing the financial patterns of firms, and when it does, generally only of the largest ones. In fact, the current literature offers a great variety of empirical evidence, although it generally focuses on specific given moments, such as benchmark years or short-term and recent spans, rather than charting complex dynamic, long-term processes.[3]

This common approach implicitly tends to emphasise the role played by either internal funds or by financial markets and intermediaries, typically by banks. As a result, it probably tends to cause an overall misperception of how a firm actually funds its working capital and longer-term investments. Firstly, flawed by a sample selection bias, it over-estimates the relative weight of the largest firms which can have access to financial markets in shaping general tendencies, ignoring the relevance of stock markets within each national financial system. Secondly, it plays down other types of financing, such as inter-firm credits, as big businesses, due to their relative market power, tend to have higher levels of liquidity *vis-à-vis* small- and medium-sized enterprises of contractors and sub-contractors. Thirdly, it presents problems with regard to its ability to capture more nuanced phenomena related to business cycles and long-term tendencies. Moreover, some studies have depicted as common financing patterns those that emphasise the real weight of internal financing *vis-à-vis* external financing.[4] This, perhaps, may represent a naïve stance on the actual structure of corporate finance: in fact, retentions as a typical source of self-financing may be in the form of the cash that shareholders consent to leave in the firm.[5] On the whole, such distortions have a statistical cause, ranging from the sample selection to the absence of sufficiently long-term time series, or a conceptual flaw descending from the very nature of the firm and, above all, its investors.

On the other hand, a different approach, centred on the complex – and much discussed for their implications and outcomes – inter-firm credit relations, stresses the relevant role played by non-financial firms as financial intermediaries.[6]

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3. Claudio Borio, "Patterns of corporate finance, Bank for International Settlements", Working Paper, 27, 1990; C. Mayer, "Financial systems, corporate finance and economic development", in G. Hubbard (ed), *Asymmetric information, Corporate Finance and Investments*, Chicago, NBER, Chicago University Press, 1990; John R. Graham and Campbell Harvey, "The theory and practice of corporate finance: evidence from the field", *Journal of Financial Economics*, 60, 2001, pp. 187-243.

4. Raghuram Rajan and Luigi Zingales, "The great reversals: the politics of financial development in the 20th century", *Journal of Financial Economics*, 69, 2003, pp. 5-50.

5. J. Tirole, *The Theory of Corporate Finance*, *op. cit*., pp. 97-100.

6. A comprehensive discussion of the topic is provided by Michel Lescure, « Le pouvoir de la dette : le crédit inter-entreprises, instrument de financement ou mode de coordination ? », *Entreprises et histoire*, 2014, 77, pp. 6-21.

This kind of credit relationships has a widespread relevance affecting short-term credit relations outside the banking sector, firms' funding costs and the effectiveness of monetary policies having a significant impact on both micro-economic and macroeconomic performances of individual varieties of capitalism.[7] The historical relevance of inter-firm credit relations has frequently been pointed out when considering small- and medium-sized enterprises, especially those operating in industrial districts.[8] The Italian case is a good case in point as the implicit informal co-ordination amongst small enterprises associated with inter-firm credit relations represents a relatively long-term feature of such a variety of capitalism.[9]

This paper aims to provide a relatively different perspective on the ways in which firms actually financed their working capital and longer-term investments during the Golden Age, which was characterised in Europe by high growth rates. The paper re-constructs and analyses the capital structure of from 140 to more than 180 large Italian firms, belonging to both manufacturing and services sectors, from 1950 to 1970. Relying upon an original and new dataset, the paper deals with a relatively broad sample of largest listed firms. The first section of the paper provides a discussion of the source and its limits. The second section compares the sample selected for this dataset and the previous datasets at our disposal. The third section presents and discusses the financial structure of the sample for benchmark years by illustrating the sources of liabilities and the overall capitalisation levels reached by the sample as a whole. The fourth section specifically focuses on the trade debts and credits attributable to the firms within the sample as both a major finding and a novelty emerging from the research project. Finally, the fifth section draws some conclusions.

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7. Asli Demirgüç-Kunt and Vojislav Maksimovic, "Firms as Financial Intermediaries: Evidence from Trade Credit Data", World Bank Policy Research, Working Paper n° 2696, 2001; Mitchell Petersen and Raghuram Rajan, "Trade Credit: Theories and Evidence", *The Review of Financial Studies*, 10, 3, 1997, pp. 661-691.

8. Jonathan Zeitlin, "Industrial districts and regional clusters", in Geoffrey Jones and Jonathan Zeitlin (eds), *The Oxford Handbook of Business History*, Oxford, Oxford University Press, 2008, pp. 218-243; Michel Lescure, "Banking and Finance", in *ibidem*, pp. 319-346.

9. Giuseppe Conti and Giovanni Ferri, « Banche locali e sviluppo economico decentrato », *in* Fabrizio Barca (ed), *Storia del capitalismo italiano dal dopoguerra ad oggi*, Rome, Donzelli, 1997, pp. 429-466; Giuseppe Conti and Giovanni Ferri, « Banques locales et soutien au développement décentralisé de PME en Italie », *in* Michel Lescure and Alain Plessis (eds), *Banques locales et banques régionales en Europe au XX^e siècle*, Paris, Albin Michel, 2004, pp. 82-108; Francesca Carnevali, *Europe's Advantage: Banks and Small Firms in Britain, France, Germany, and Italy since 1918*, Oxford, Oxford University Press, 2005.

THE SOURCE AND ITS LIMITS

This paper offers a first analysis of the financial structure of large Italian firms, by relying on a new dataset compiled by collected balance sheet data from 1950 to 1970. The dataset has been built on data digitalised from a source collecting balance sheet figures covering more than twenty years, from the late 1940s to the 1970s. The dataset has been compiled from a section of the yearbook *Indici e dati relative ad investimenti in titoli quotati nelle borse italiane*, published by *Mediobanca* from the late 1940s (1947). The high degree of detail of the financial and capital structure provided by the source represents its main strength, thus making this dataset a unique source for the structure of the liabilities of the largest Italian companies, as it contains well-specified and harmonised data on the capital structure of large firms prior to the 1970s. The sample is largely, but not exclusively, constituted of non-financial firms listed on the Italian stock market, whose total assets coincide, and often abundantly exceed, those of the top 200 manufacturing firms previously studied for the period.[10] This paper analyses firms' balance sheets data only for benchmark years, albeit at shorter time intervals in comparison with previous studies (every five years instead of the ten-year intervals).[11] Although this dataset is not suitable for the investigation of the financial behaviour of small- and medium-sized firms, it represents an interesting means of looking at the general picture as the largest firms included in the sample tended to acquire a net position in terms of trade credit *vis-à-vis* their smaller suppliers and contractors, and by so doing acted as financial intermediaries.[12]

Until the mid-1970s balance sheet figures provided poor information about the actual capital structure of firms, and virtually none about the inter-firm credit relations. What we do know strongly depends on the nature of the data

10. Leandro Conte and Giandomenico Piluso, "Financing the largest Italian manufacturing firms. Ownership, equity, and debt (1936-2001)", *in* Andrea Colli and Michelangelo Vasta (eds), *Forms of Enterprise in 20th Century Italy: Boundaries, Strategies and Structures*, Cheltenham, Edward Elgar, 2010, pp. 132-158. This paper also presents and analyses a smaller sample of the 20 largest Italian manufacturing firms using data from the same source to specify infra-group debts: Mediobanca (ed), *Indici e dati relative ad investimenti in titoli quotati nelle borse italiane*, Milan, Mediobanca, 1951-1971, pp. 146-149.

11. Renato Giannetti and Michelangelo Vasta, *Evolution of Italian Enterprises in the 20th century*, Heidelberg-New York, Physica-Verlag, 2006.

12. Charles W. Calomiris, Charles Himmelberg, Paul Wachtel, "Commercial Paper, Corporate Finance and the Business Cycle: A Microeconomic Perspective", NBER, Working Paper 4848, 1994. See also the theoretical approach proposed by Mike Burkart and Tore Ellingsen, "In-kind finance: a theory of trade credit", *American Economic Review*, 94, 2004, pp. 569-590.

and their sources.[13] From the mid-1960s, the Italian largest manufacturing firms – the top 200 sample – were characterised by relatively high (and dramatically increasing) levels of debt against equity capital: the negative peak of indebtedness was reached in the late 1970s, affecting particularly the steel industry and state-owned enterprises (SOEs). Eventually, the financial fragility linked to under-capitalisation, particularly in SOEs, severely prevented the most indebted firms from recovering completely from the productivity losses suffered in the previous decade and, in the end, paved the way for the privatisations of the early 1990s.[14] In addition, the need for detailing the liabilities provides no substantial empirical evidence as to trade credit and relatively modest evidence as to other types of inter-firm credit forms (typically, infra-group financing). The new dataset gathers information on a varying, but substantial, sample of the largest Italian firms over two important decades after WWII: from a period of decreasing liquidity constraints and high investment rates (1950-1962), which fostered productivity and income *per capita* growth, large firms shifted to a phase of growing debts and sharply declining investment rates (1963-1970). The dataset may shed a different light on the actual capital structure of the largest Italian firms, not only because it comprehends both manufacturing and services firms, but, above all, because it provides a better detail of the whole range of liabilities. It particularly covers a better specification of liabilities as to their debt maturity and the variety of funding sources (including infra-group credits and loans from employees and suppliers). In fact, the dataset not only presents data on trade debts and credits as well as on inter-firm credit, but also on an unusual aspect of finance, usually overlooked by scholars: "loans" made by employees through their firms' pension funds, and other similar funds, implying forms of wage retention as deferred income.[15]

The main strength of the sample is its better detailing of the liabilities structure, which can be summarised as follows: i) short-term credit and longer-term

13. The main source for balance sheet data for Italy is represented by Credito Italiano and Assonime, *Notizie statistiche*, 1908-1984, digitalised as Imita.db. Michelangelo Vasta, « Appendice. La fonte e il dataset Imita.db », *in* Renato Giannetti and Michelangelo Vasta, *L'impresa italiana nel Novecento*, Bologna, il Mulino, 2003, pp. 429-434; Fulvio Coltorti and Area Studi Mediobanca, "L'Annuario dell'Assonime", *in idem*, *Grandi gruppi e informazione finanziaria nel Novecento*, Rome-Bari, Laterza, 2011, pp. 179-181.

14. Leandro Conte and Giandomenico Piluso, "Finance and Structure of the State-Owned Enterprise in Italy. IRI from the Golden Age to the Fall", in Franco Amatori, Robert Millward and Pier Angelo Toninelli (eds), *Re-appraising State-Owned Enterprise: A Comparison of the UK and Italy*, London-New York, Routledge, 2011, pp. 119-141.

15. A good few of the largest companies had their own pension funds, or equivalent funds, meant to offer specific benefits to what can be assumed as a more skilled workforce.

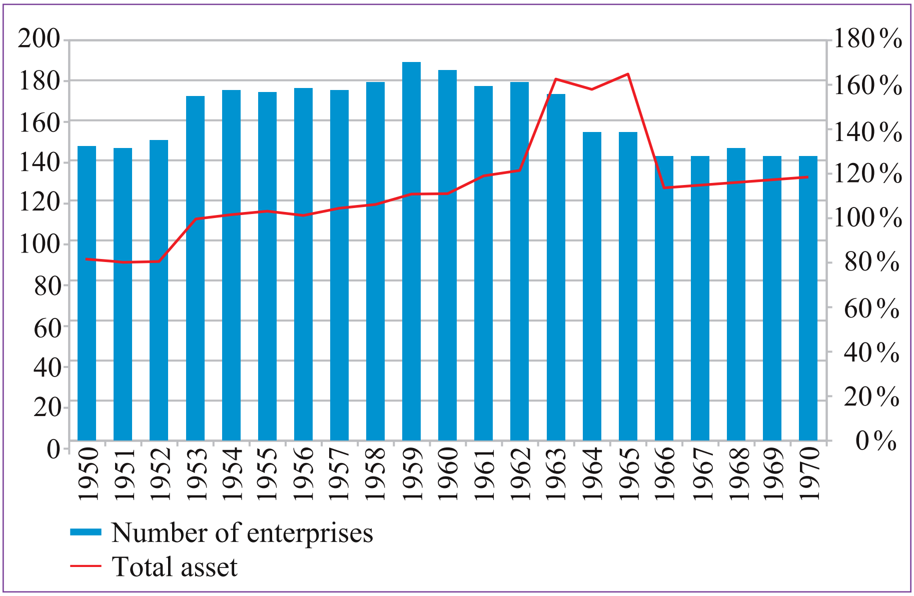
loans *vis-à-vis* banks and special credit institutions, such as Istituto Mobiliare Italiano (IMI); ii) bonds and other securities (placed on the bond market); iii) trade debts (and credit on the other side); iv) infra-group debts; and v) loans from the employees, such as pension funds and similar funds.

A COMPARISON OF SAMPLES

The capitalisation of the 140-180 firms of the sample (comprising both manufacturing and services enterprises) includes from *circa* 90 per cent to 160 per cent of the total assets of the top 200 manufacturing firms included in the Assonime sample (which follows Chandler's criterion of the top 200 enterprises ranked by total assets), although it generally represents narrower values, from 100 to 120 per cent of that sample in 14 years out of 21 (Figure 1).

Figure 1

A comparison of samples: number of enterprises and total assets, 1950-1970

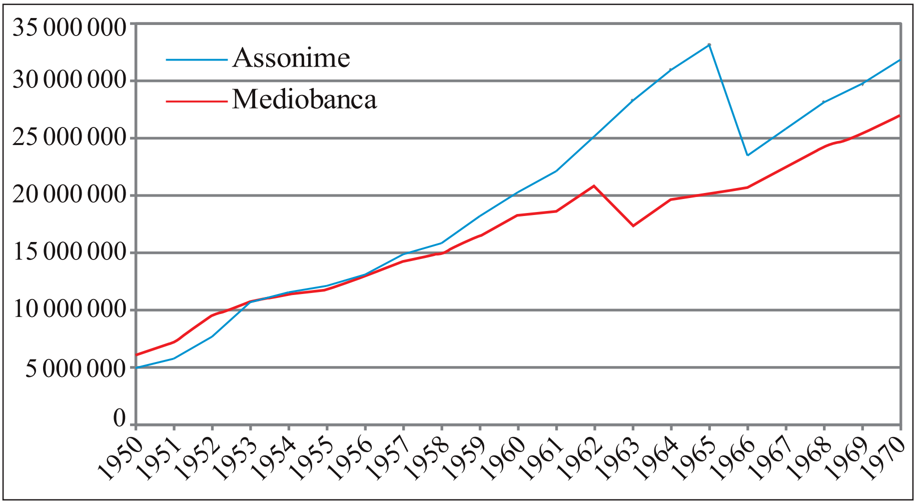


Sources: Mediobanca (ed), Indici e dati relativi ad investimenti in titoli quotati nelle borse italiane*, Milan, 1951-1971.*

A comparison of the two samples may prove whether and, if so, to what extent the new dataset provides a representative sample in relation to the Assonime sample: a comparison between total assets at constant values (1970 lire) shows an almost perfect correlation between these samples over the two decades. A few exceptions to such a general trend are observable. As Figure 2 shows the samples lines diverged in the mid-1960s when the total assets of our sample maintained the surge that began in the mid-1950s, whilst the total assets of the top 200 manufacturing firms first experienced a modest decrease matching the tight monetary policy stance unexpectedly adopted in 1963 by the Bank of Italy, and subsequently, after the return to a more accommodating monetary policy, stabilised until they converged in an upward trend in the late-1960s.[16]

Figure 2

The total assets of the two samples over business cycles: a comparison, 1950-1970



Sources: Mediobanca (ed), Indici e dati relativi ad investimenti in titoli quotati nelle borse italiane, *Milan, 1951-1971; Assonime, Notizie statistiche, Roma, Assonime, 1950-1970.*

16. On monetary policies by the Bank of Italy in the early 1960s see Leandro Conte,« L'azione della banca centrale dal 1948 al 1989 », in Alberto Cova et *alii* (eds), *Storia d'Italia*, *Annali*, 23, *La Banca*, Turin, Einaudi, 2008, pp. 672-674.

The way our sample's line moves in the figure suggests a form of behaviour which is less influenced by monetary policy, even if not necessarily correlated with major trends and business cycles. In fact, on the one hand, it shows a certain lag when reacting to the restrictive monetary policies adopted in the early 1960s. On the other hand, it replicates all of the major trends of economic growth and business cycles, albeit to a more marked degree during the entire second decade. These minor inconsistencies within the behaviour of our sample might be associated either with composition effects or with the fact that the firms included had better access to the capital market as listed companies. In contrast, the overall structure of their liabilities seems to be more in line with what is observable within the previous sample. Furthermore, the new dataset not only provides a higher degree of detail in terms of maturity, but also of relative claims associated with different contracts, and, even more importantly, previously unavailable information about credit relations outside the formal capital market.

THE DEBT STRUCTURE OF THE ITALIAN FIRMS

The new dataset should allow us to present the capital and liabilities structure of the largest Italian firms in a better way. Previous findings indicate a sharp financial deterioration from the late 1960s[17] and a relatively low level of trade credit in the following decades.[18] What should we expect from the new data covering two decades of relatively high economic and productivity growth? Does the liabilities structure that we can now identify from these data vary over the two decades as a whole? Were the largest Italian firms characterised by a comparatively high degree of leverage? How did they cope with liquidity constraints implicit in undercapitalisation? Are the components of trade debts and credits – hitherto understood as being marginal – more relevant as a consequence?

The leverage rate within the sample confirms a certain degree of undercapitalisation of the largest Italian firms. In particular, as Figure 3 shows, as a whole, they attained a higher level of leverage during the 1960s, as the Italian

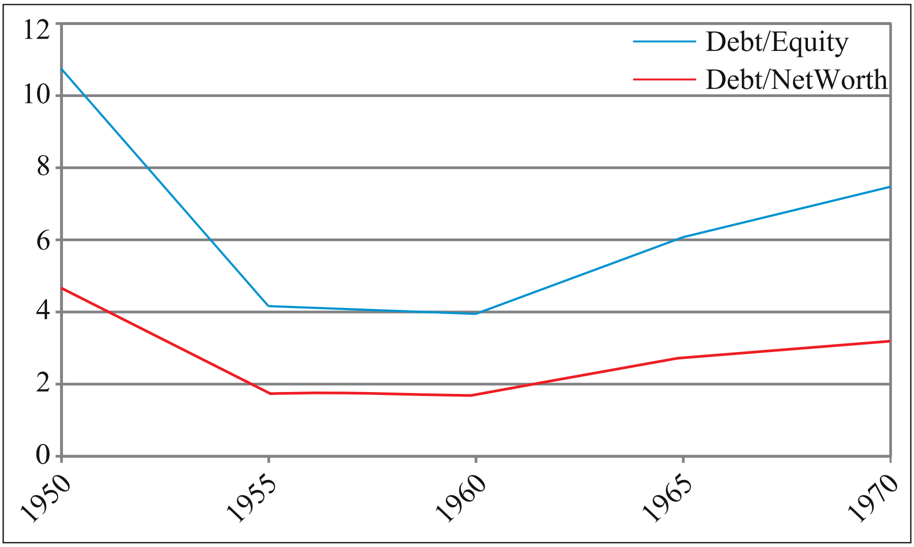
17. L. Conte and G. Piluso, "Financing the largest Italian manufacturing firms", *op. cit.*, pp. 140-146.

18. Data on trade and debt credits are referred to following periods, namely to the 1980s and 1990s. On the 1980s, C. Mayer, "New issues in corporate finance", *op. cit.*, pp. 1167-1189; J. Tirole, *The Theory of Corporate Finance*, *op. cit.*, pp. 96 and 99, Tabb. 2.2 and 2.5; on the 1990s, see Giuseppe Marotta, "Is Trade Credit More Expensive Than Bank Credit Loans? Evidence from Italian Firm-Level Data", *Applied Economics*, 37, 2005, 4, pp. 403-416.

stock market dramatically slowed down and a laxer monetary policy provided a strong incentive to substitute the equity component with (mounting) debts that were abundantly on offer. The indicators used to measure the level of undercapitalisation – the ratio of debt to net worth and the ratio of debt to equity – move overall together, almost synchronously throughout the entire twenty-year period. Both of these measures of undercapitalisation roughly doubled from 1960 onwards[19], reducing the ability to fund longer-term investments by the largest firms. Moreover, as an important measure of the diminished efficiency of the stock market from the mid-1960s onwards, a tendency to diverge between the ratio of debt to net worth and the ratio of debt to equity can be observed in the last of our benchmark years (Figure 3), a tendency which progressed perilously throughout the ensuing decade.

Figure 3

The leverage level of the largest Italian firms in five benchmark years, 1950-1970



Sources: Mediobanca (ed), Indici e dati relativi ad investimenti in titoli quotati nelle borse italiane*, Milan, 1951-1971.*

19. The relatively high level of leverage in the first benchmark year is due to monetary phenomena, namely high inflation, of the post-war period.

In terms of capitalisation the sample confirms the tendency of the largest Italian firms to lose the comparative advantage they had acquired in the 1950s. The deepening undercapitalisation reduced their prospective competitiveness and appears consistent with the macroeconomic trend of decreasing investment rates clearly recognisable from the early 1960s.[20] In this regard, the new dataset provides a neat confirmation of the previous findings but better specifies the extent of the observed phenomena. It adds some data about the cause of already known trends: the divergence between the ratio of debt to net worth, and the ratio of debt to equity depended on the unfolding crisis in the stock market, plainly visible in the 1970s.[21] This point may also explain the changing composition of liabilities throughout the period, at least as an aggregate. Medium- and long-term loans significantly increased from the early 1960s, probably as a combined result of supporting monetary policies and institutional arrangements which robustly fostered the relative weight of the bond market and of special state credit institutions ("istituti di credito speciale"), such as IMI and Crediop, within the financial structure. From the early 1960s, after a short-lived monetary tightening in 1963, the Bank of Italy adopted an accommodating stance in order to support aggregate liquidity and the bond market, largely dominated by issues of SOEs and special credit institutions.[22] Such factors substantially boosted the percentage of the medium- and long-term loans within the debt structure of the sample; whilst the slight decrease of the bonds and securities component depended upon mounting expectations of higher inflation (Figure 4).

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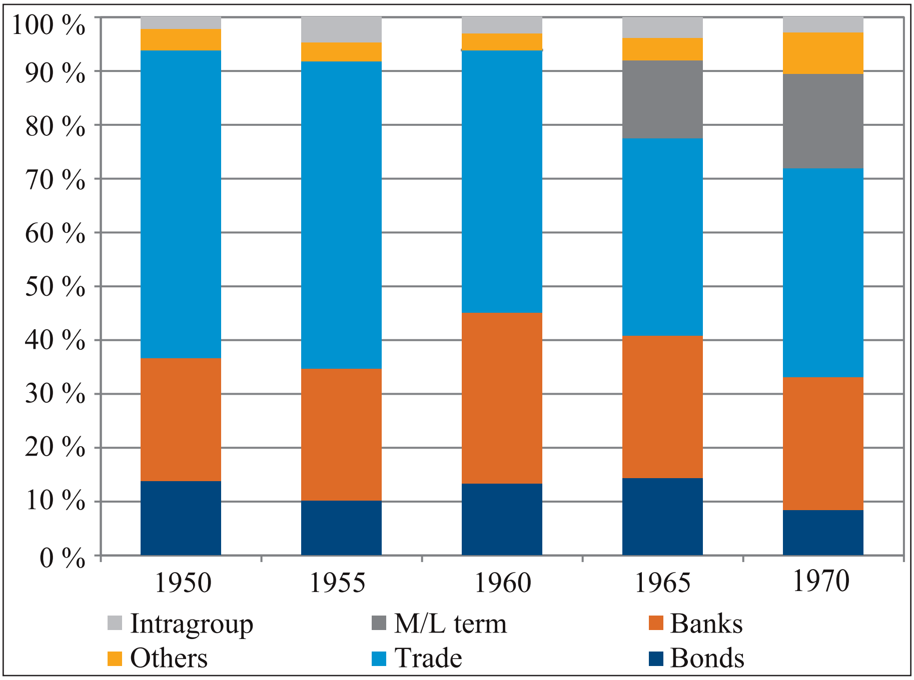
20. Nicholas Crafts and Marco Magnani, "The Golden Age and the Second Globalization in Italy", *in* Gianni Toniolo (ed), *The Oxford Handbook of the Italian Economy Since Unification*, Oxford, Oxford University Press, 2013, pp. 75-82.

21. During the second half of the 1960s, concurrently with the economic planning policy adopted by the Italian centre-left governments, a large part of the private investment moved from the stock market to the less risky public bond market; Giangiacomo Nardozzi and Giandomenico Piluso, *Tra imprese e istituzioni: 100 anni di Assonime,* vol. 2, *Il sistema finanziario e la borsa*, Bari-Roma, Laterza, 2010, pp. 80-83.

22. Federico Barbiellini Amidei and Claudio Impenna,« Il mercato azionario e il finanziamento alle imprese negli anni cinquanta », *in* Franco Cotula (ed), *Stabilità e sviluppo negli anni Cinquanta*, vol. 3, *Politica bancaria e struttura del sistema finanziario*, Rome-Bari, Laterza, 2000, pp. 657-877.

Figure 4

The debt structure of the largest Italian firms in five benchmark years, 1950-1970



Sources: Mediobanca (ed), Indici e dati relativi ad investimenti in titoli quotati nelle borse italiane*, Milan, 1951-1971.*

Figure 4 also offers a measure of intra-group credits, a kind of inter-firm credit different from trade credit. If, as an aggregate component, infra-group credits represented a minor source of funding for the largest firms, some differences may be observed when analysing the behaviour of its two main components in terms of ownership, private ownership and that of the SOEs. The privately-owned firms and state-owned enterprises composing our sample behaved rather differently throughout the whole period, with the exception of 1957-1964. The private component was at a lower and relatively constant level (2-4 per cent), which decreased in the late-1960s as a consequence of difficulties in raising funds by major private holding companies. In contrast, SOEs used intra-group debts as a buffer in the presence of increasing levels of indebtedness to ease liquidity constraints through their ability to capture funds from specialised credit institutions and from the growing bond market thanks to the implicit guarantee provided by the state.[23]

If these tendencies are consistent with the previous findings, what is more astonishing – and hitherto substantially unaccounted for because of the absence of information – is the remarkable share of trade liabilities within the debt structure of the largest firms. In fact, the aggregate trade debts mattered significantly – as gross debts they accounted for more than 50 per cent of total debts – albeit in a decreasing measure from the late-1960s: this finding is consistent with evidence provided by Rajan and Zingales (Figure 4).[24]

INTER-FIRM CREDIT RELATIONS AND TRADE DEBTS: A RATHER UNDERESTIMATED LIABILITY

The fairly remarkable share of all of the trade debts as a major component of the firms' overall liabilities makes trade credits a really relevant variable when considering the complexity of the relationships between firms and their suppliers and customers, and is quite consistent with more recent analyses.[25] Trade debts played a pivotal role in the phase of higher economic growth contributing to ease liquidity constraints during the 1950s, jointly with rising retentions deriving from healthy profits. The slight reduction of trade debts from the early 1960s coincided with the appearance of medium- and long-term loans in the data, thus it could be regarded as an effect of more data details. Nonetheless, such a slowing down of trade debts might be associated with the end of the phase of highest economic growth and be attributed to a tendency that could have reduced suppliers' willingness to grant trade credit. The result was an increasing level of indebtedness (Figure 4).

Such an interpretation, although it does not completely exclude the effect of detailing data, may be confirmed by looking, on the one hand, at the ratio of trade debts to overall debts, and, on the other, at the ratio of trade credits to turnover, an indicator more closely related to cash flows. These ratios are examined by splitting the public and private components of the sample. The first ratio shows a rather clear dynamic: in the 1950s, the larger share of trade debt was that of the private component, accounting for between 40 and 60 per cent, whilst the SOEs' share represented an overall constant share over time varying between 30

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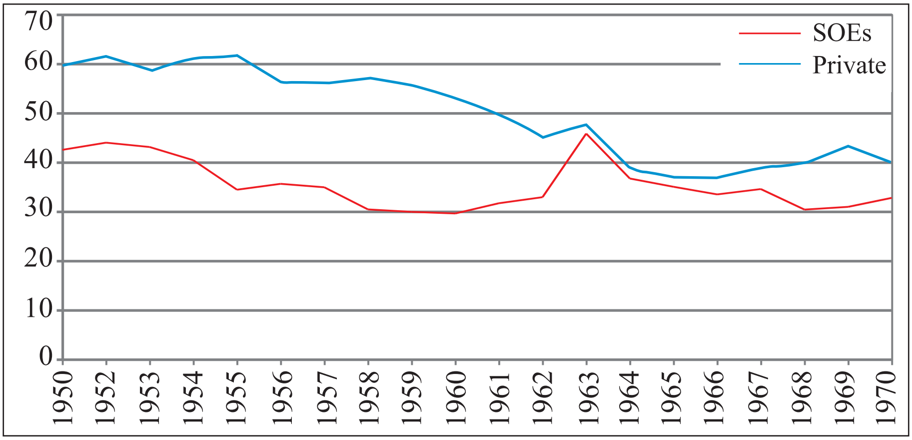
23. Leandro Conte and Giandomenico Piluso, « Il finanziamento dell'Iri e i rapporti con il sistema bancario (1948-1972) », *in* Franco Amatori (ed), *Storia dell'IRI*, vol. 2, *Il "miracolo" economico e il ruolo dell'IRI, 1948-1972*, Rome-Bari, Laterza, 2012, pp. 463-522.

24. R. Rajan and L. Zingales, "What Do We Know about a Capital Structure?", *op. cit.*, pp. 1428-1433.

25. Mariassunta Giannetti, Mike Burkart and Toren Ellingsen, "What you Sell is What you Lend? Explaining Trade Credit Contracts", *in The Review of Financial Studies*, 24 (2011), 4, pp. 1261-1298.

and 40 per cent. What is most striking is the tendency of these two components to converge: the private and state-owned components tend to converge after the early 1960s, albeit towards lower levels, as debt levels soared and liquidity constraints were partially eased by the lax monetary policy adopted by the Bank of Italy in 1964 in response to a sudden, although short-lived, crisis. Within the private component, trade debt declined by up to 36 per cent in the debt structure from the peak of 62 per cent reached in the mid-1950s. The relationship between the process of convergence and the changing macroeconomic conditions seems to be confirmed by the similar reaction of private firms and SOEs to the 1963 monetary tightening: the sudden reduction of credit from the banking sector alternatively induced the large firms to correct the measure of trade debt upwardly, probably exerting a certain pressure on smaller firms (Figure 5).

Figure 5
The share of trade debt on the overall debt for the largest Italian firms, SOEs and private enterprises, 1950-1970[26]



Sources: Mediobanca (ed), Indici e dati relativi ad investimenti in titoli quotati nelle borse italiane*, Milan, 1951-1971.*

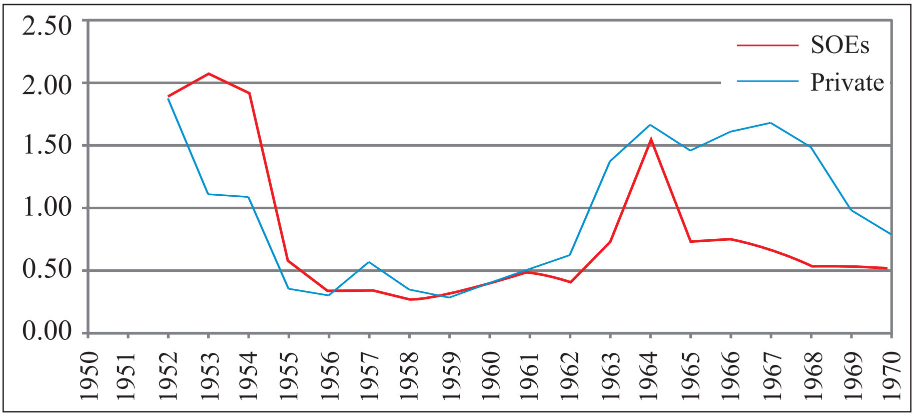
Yet, with regard to trade debt, the general trend appears evident from the time series and seems to be rather consistent with macroeconomic tendencies. The Bank of Italy's stance was designed to ease liquidity constraints, as the stock market entered a more and more downward trend, but ultimately failed to revive the higher growth rates of the previous decade. The epoch of high retentions and

26. The year 1951 is not reported due to the presence of some errors in the first version of the dataset currently under revision.

generous trade debt ended with the monetary tightening of 1963, although it provoked a minor peak in that same year. One may suspect that high profits created at least permissive conditions for high trade debt as supplier were likely to grant trade credits when disposing of ample margins of returns and thus liquidity. To a certain extent, such a view could be acceptable when looking at the second ratio, reflecting the assets' side dynamic, the trade credit to turnover ratio. The trade credit to turnover ratio provides a quite different perspective to the way the large firms behaved over these two decades. If we keep in mind that the trade debt of the largest firms should correspond to the credit given to them, because of their market power, we can easily argue that a reduction was likely to depend upon a weaker liquidity on the part of the smaller firms. This could explain how the two ratios moved throughout the 1950s and 1960s. In the second decade, profits decreased and liquidity shrank on the suppliers' side, where the smaller firms were clustered, whilst the public component probably benefited, on the one hand, from an implicit guarantee, because of state backing, and, on the other, from specific contracts *vis-à-vis* their suppliers and clients (for example Eni in the oil sector).[27]

Figure 6

The trade credit to turnover ratio for the largest Italian firms, 1950-1970[28]



Sources: Mediobanca (ed), Indici e dati relativi ad investimenti in titoli quotati nelle borse italiane*, Milan, 1951-1971.*

27. This trend is rather consistent with the confirmed higher sensitivity of smaller firms to business cycles because of their higher degree of dependency upon banking credits. Mark Gertler and Simon Gilchrist, "Monetary Policy, Business Cycles and the Behaviour of Small Firms", *Quarterly Journal of Economics*, 109, 1994, pp. 309-340.

28. In the years 1952 and 1953 the graph presents the truncated mean (5%) to avoid the distortions produced by some outliers, that reported errors in the financial statements.

As Figure 6 shows, on the whole, trade credit – fluctuating between 0.4 and 2 – appears to be rather elastic to liquidity constraints moving in a different, even an almost opposite way, in comparison to trade debt as a component of the debt structure. It decreased when profitability provided more internal funds from 1955 to 1962, and increase when profitability declined in the 1960s. Considering the size of the enterprises in the dataset, it seems possible to conclude that, during the so-called "economic miracle" (between the second half of the 1950s and the beginning of the 1960s), when profitability was high and, as a consequence, suppliers were willing to grant credit to large-sized enterprises, the latter benefited from trade credit. The end of the economic boom during the second half of the 1960s reversed the relationship: large-sized enterprises, which could easily access bank credit, started to grant credit to suppliers in order to ease their liquidity constraints and alleviate their financial difficulties. Besides, these sharp fluctuations in the ratio of trade credit to turnover suggests that SOEs were probably more inclined to lend to other non-financial firms because of their specific nature as state-backed organisations and because intra-group credit in this component was more pronounced.

To summarize, the first ratio was higher within the private component because it represented a practice that allowed liquidity constraints to be eased in hard times (or comparatively so), whilst trade credits were more commonly linked to other intra-group lending practices, typical of SOEs. State owned enterprises were, in fact, characterised by more complex organisational structures, centred on multiple functional levels, which implied different multilevel financial flows. In fact, the major industrial state-owned groups – that is, Istituto per la Ricostruzione Industriale (IRI) and Ente Nazionale Idrocarburi (ENI) – had a super-holding company acting as a top agency, to which were allocated strategic functions and the task of coordinating their respective sectoral holding companies, such as Finsider and Finmeccanica for IRI. The sectoral holding companies were responsible as stockholders for their own sector-specific investments and the management of the numerous operational firms under their control.[29] Typically, and by definition, groups have infra-group financial flows, whose extent, frequency and size are a function of their respective size and organisational choices. In the Italian SOEs, the super-holding companies, IRI and ENI, had the explicit task of competing on the capital market *vis-à-vis*

29. Franco Amatori, "Beyond State and Market. Italy's Futile Search for a Third Way", *in* Pier Angelo Toninelli (ed), *The Rise and Fall of the State-Owned Enterprise in the Western World*, Cambridge, Cambridge University Press, 2000, pp. 128-156; Pier Angelo Toninelli and Michelangelo Vasta, "State-Owned Enterprises (1936-1983)", *in* Andrea Colli and Michelangelo Vasta (eds), *Forms of Enterprise in 20th Century Italy*, *op. cit.*, pp. 52-86.

private groups and enterprises for financial resources. IRI and ENI, for instance, issued bonds on a massive scale in order to obtain finance to distribute to their own sectoral holding companies and operational firms. Although formally state-owned operational enterprises were not prevented from directly obtaining loans on the capital market or from the banking sectors, major bonds issues were a function specifically assigned to the super-holding companies and, to a lesser extent, sectoral holding companies, that profited most from being able to gain access to the formal capital market through state-backed entities.[30]

On the whole, the empirical evidence gathered suggests that trade debt played a pivotal part within the liabilities structure of the largest Italian firms, much more than hitherto assumed and understood. As the data show, trade debts were much more significant than any other single source of funding for the largest firms in our sample, although they appear quite sensitive to both monetary policies and business cycles. In fact, institutional choices and the more related macroeconomic tendencies affected the percentage of trade debts and credits so that firms were not in condition to use them as an effective buffer against the cycles.

Conclusion

The new dataset provides interesting empirical evidence with regard to the top Italian firms for a period of twenty years that by and large coincides with the Golden Age. With regard to the major trends in capital structure, some previous findings have been confirmed by adding some specification to the general features. The largest Italian firms experienced increasing debt over both equity and net worth from the mid-1960s and the SOEs were more affected by such a deterioration within their financial structure, becoming more and more fragile financially. Undercapitalisation appears strongly related to economic policies, particularly to monetary policies, and overall inter-firm credit relations were also prone to such external pressure. The short tightening of monetary policy of 1963 constituted a major shock. This probably accentuated the institutional shock linked to the delisting of all of the major electric companies in the wake of the nationalisation of the power industry in 1963. Thus, this juncture actually represents a crucial moment in the evolution of the Italian economy thereby confirming previous hypotheses: a decrease of investments in physical capital resulted, paving the way for a drop in aggregate productivity growth rates.

30. L. Conte and G. Piluso, « Il finanziamento dell'Iri e i rapporti con il sistema bancario (1948-1972) », *op. cit.*, pp. 501-520.

Moreover, the dataset offers useful and relevant insights into how major firms actually raised internal and external funds to finance working capital and longer-term investments:

1. Trade debt and credit relations proved to be of overwhelming importance in regard to the debt structure and it's ratio to turnover. Although trade debts were rather (downwards) elastic in relation to firms' (declining) profitability, but not necessarily to monetary policies, trade credit moved in the opposite direction throughout the 1960s as might be expected. When profitability was high, large-sized enterprises used trade debts, granted by suppliers, as a substitute for other costlier forms of loans; when profitability began to decrease and suppliers suffered from increasing liquidity constraints, large-sized enterprises started to draw more on bank debt and to grant trade credit to suppliers, compensating for their declining profitability;
2. Intra-group credits were a matter of both institutional arrangements (and ownership) and related strategic choices, but they did not represent an important share of liabilities.

Such findings should encourage us to revise the current assessments of the capital structures of firms and how they actually fund their working capital and long-term investments. A proper revision should help us to reconsider the relationship between enterprises and financial institutions as well. As observed, inter-firm credit is a multifaceted matter in regard to the variety of contracts and institutional features to be taken into account. Undoubtedly, trade credits should not be overlooked when considering the financial structure of firms, and Italy during the Golden Age is no exception.

It means that heterogeneity is determined by the different legal systems adopted in different countries and by their changes over time.

TABLE OF CONTENTS

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