



It's not about the money: New evidence on U.S. reconstruction aid in Italy, 1947–68

Marco Martinez 

Institute of Economics, Sant'Anna School
for Advanced Studies Pisa

Correspondence

Marco Martinez

Email: m.martinez@santannapisa.it

[Correction added on 18 December 2024,
after first online publication: The
copyright line was changed.]

Abstract

This paper studies the economic impact of foreign aid on Italian firms. In particular, I study the different effects of three main forms of aid: Export–Import Bank loans, Marshall Plan European Recovery Program (ERP) ‘dollars’ loans and the Marshall Plan ERP ‘lire’ loans. In all programmes, the United States sent technologically advanced machinery to allow for a modernization of the technology of Italian firms, but the conditions of such loans differed. This paper tests how crucial such different features have been for the effectiveness of firm reconstruction aid. By creating a new dataset on recipient firms and linking it to a large comprehensive firm-level dataset (Imita.db), I compare the effects on the performance of firms. I find that the Export–Import Bank loan raised the long-run profitability of firms, but that firms which received more flexible forms of Marshall Plan aid (‘ERP-lire’) raised their performance much more than Export–Import Bank recipients. Recipients who only received funds provided with long delays (‘ERP-dollars’) did not benefit from them. This evidence suggests that rather than receiving foreign aid per se, the most crucial features of reconstruction aid in Italy have been obtaining the requested goods on time and adjusting requests to receive the most needed productive goods.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial](https://creativecommons.org/licenses/by-nc/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes.

© 2024 The Author(s). The *Economic History Review* published by John Wiley & Sons Ltd on behalf of Economic History Society.



KEYWORDS

Export–Import Bank, foreign aid, Marshall Plan, postwar reconstruction, technology transfer

During the reconstruction phase that followed the Second World War, Italian businesses required significant technological modernization to compete internationally and export high-quality products to foreign markets. Meanwhile, the United States began to establish the Western economic system. Over the decade 1947–57, the United States provided two major forms of aid to enterprises in relatively backward Italy as part of its ‘politics of productivity’: Export–Import Bank and Marshall Plan loans.¹ Although the programmes differed greatly in detail, the U.S. aid to firms primarily consisted of sending technologically advanced machinery to Italian firms: the slogan ‘*meno maccheroni, più macchinari*’ (less macaroni, more machinery) embodied the ideology of productivity that the United States diffused across Western Europe.²

Although the effects of U.S. aid on the economy of receiving countries in the history of the post-Second World War European reconstruction period have been widely debated (see section I), there is a growing consensus on the positive effects of such aid on the economy of receiving countries. Among the different forms of U.S. aid, the European Recovery Program (ERP, or Marshall Plan) received the largest attention among researchers. De Long and Eichengreen defined the ERP as ‘history’s most successful structural adjustment program’, and Luce dates back the beginning of the ‘American Century’ from this programme.³ In recent interpretations, the Marshall Plan is often presented as a prerequisite for the economic prosperity of Italy in the late 1950s and early 1960s.⁴ Moreover, recent studies on Italy found large quantitative effects of the Marshall Plan infrastructure reconstruction,⁵ and of the U.S. Technical Assistance and Productivity programme on the productivity of receiving enterprises.⁶ The exchange of managerial practices, also with technical visits to American firms, was particularly important in this process.⁷

The question on which features of the Marshall Plan made it successful has been contested. For example, Gianni Toniolo argued that the Marshall Plan has been important to Italian growth not much for its size (2 per cent of Italy’s gross domestic product, or GDP, in 1948–52), but because it allowed post-war settlement by loosening the ‘dollar gap’ of Europe thanks to the import of U.S. materials and goods.⁸ The plan had strong political motives, such as societal stability to prevent the communist threat, and it may be considered part of other Cold War diplomacy instruments, such as the North Atlantic Treaty.⁹ Some scholars on the history of the Marshall Plan also stressed

¹ Maier, ‘Politics of productivity’; D’Attorre, ‘Possiamo essere prosperi’.

² D’Attorre, ‘Possiamo essere’, p. 74.

³ De Long and Eichengreen, ‘Most successful structural adjustment program’. See also Eichengreen, ‘The European economy’, pp. 52–70.

⁴ See especially Fauri, ‘Marshall e l’Italia’.

⁵ Bianchi and Giorcelli, ‘Reconstruction aid’.

⁶ Giorcelli, ‘Long-term effects’.

⁷ See Kipping and Bjarnar, ‘Americanisation of European business’; Zeitlin and Herrigel, ‘Americanization and its limits’; and for a focus on Italy, Lavista, ‘The controversial Americanisation’.

⁸ Toniolo, ‘Italy’s economic growth’, p. 20. See also Graziani, ‘Lo sviluppo’, p. 42.

⁹ For Italy, see Ginsborg, ‘Storia d’Italia’, pp. 152–3.



that economic narratives frequently marginalize the role of political elements in explaining the success of the programme.¹⁰

However, none of these contributions explicitly addressed the central question of how specific aspects of the programme, influenced as they were by political and economic factors, contributed to its economic success. As a result, the prevailing narrative is able to assess the positive benefits of the programme on many economic indices at the macro-economic level, but it can only provide preliminary explanations for the underlying mechanisms of the largest foreign aid programme in history.

This study contributes to remedying this gap by investigating the micro-level impact of the fact that despite all U.S. aid having to be repaid by Italian recipient firms, there were important differences among sub-programmes. The foreign aid programmes under study are the Export–Import Bank loan (henceforth EIB), the Marshall Plan ERP-dollars loan (henceforth ERP-dollars) and the Marshall Plan ERP-lire loan (henceforth ERP-lire). The EIB was provided from 16 December 1947 and provided all types of productive goods requested by firms, ranging from raw materials to machinery. The programme conditions successfully adapted to the changing needs of firms. The ERP-dollars loan was provided from 3 December 1948, although there were delays of up to 1 year in the provision of machinery, and only allowed to import machinery from the United States. The administrative were particularly strict. The ERP-lire credit was opened on 21 August 1949. It emphasized a timely provision of machinery and provided large flexibility in terms of import conditions as a result. In this study, I gather the data needed to analyse the differences in impact of U.S. reconstruction aid on the outcomes for receiving enterprises.

This research investigates yearly balance sheet data of Italian firms who received Marshall Plan loans and of firms who were eligible for and received a similar type of aid, the EIB loan. Using propensity score matching and difference-in-difference methods, I find that the EIB loan was a source of profitability growth for Italian firms. Marshall Plan assistance which included ERP-lire loans was even more effective. This finding suggests that one of the fundamental features of the effectiveness of the Marshall Plan for Italian firms was not simply receiving more or less money, but receiving enough of it to acquire useful productive goods supplied on time.

I | HISTORICAL BACKGROUND: ITALY AND THE MARSHALL PLAN

Italy received many forms of reconstruction aid prior to, during, and after the well-known Marshall Plan. This section provides an overview of the debate on the effects on the Marshall Plan and its interaction with Italian domestic policies.

The period between 1955 and 1963 is often referred to as the ‘Italian Miracle’, as Italy was able to achieve the contrasting objectives of very high productive investments, equilibrium in the balance of payments, and monetary stability.¹¹ However, in 1947 the Italian economic situation was far from miraculous. Italy was lacking U.S. dollars, as other European countries.¹² Many essential goods could only be bought in the United States, and dollars kept in European reserves moved

¹⁰ Gimbel, ‘The origins’; Hogan, ‘The Marshall Plan’.

¹¹ Graziani, ‘Lo sviluppo’, p. 36.

¹² Frieden, ‘Global capitalism’.



to the United States, or to other countries that were believed to be safer.¹³ Another immediate problem was the high inflation rate, which peaked in 1947 before stabilization policies took place.¹⁴

The balance of payments was in a vicious circle: Italy needed imports to grow because it lacked raw materials, but to pay for imports, Italy also had to export, and to export, it also needed a competitive production structure. Importing raw materials and advanced machinery was thought to solve the issue of the balance of payments. Luigi Einaudi was the governor of the Bank of Italy between 1945 and 1948. Under the 'Linea Einaudi', Italy chose tight monetary policies to stabilize its currency. In this period, the state supported exporting enterprises, limiting internal consumption, and public expenditure.¹⁵ The main objective was financial stability, so large investment schemes were avoided until late 1949 to prevent excessive inflation.¹⁶

Italy extensively relied on foreign aid from 1943 to 1951 (see appendix table A1). By the end of 1947, Italy had already received 2.392 million 1947 USD in aid from the Allies, with the United States providing 80 per cent of it (see appendix table A1, panel A).¹⁷ Marshall Plan aid to Italy amounted to 1.079 million 1947 USD,¹⁸ under half of pre-Marshall Plan aid. However, unlike Marshall Plan aid, foreign aid up to 1947 aimed at the immediate relief of war-related destruction for civilians (providing pharmaceuticals and foodstuffs) and firms (providing raw materials), rather than 'projecting a new future'.¹⁹ Furthermore, with the exception of UNRRA aid, the Italian government could not predict for how long a given form of aid would be provided because it was provided on an irregular schedule.²⁰ Additionally, only a small portion (about 9 per cent) of such funds directly benefitted firms: of 110.1 million USD grants of raw materials from the United Nations Relief and Rehabilitation Administration (UNRRA), 80 per cent were accrued by Northern Italian firms. Most of the 102 million USD credit from the Export-Import Bank was devoted to firms located in the North (see section I and figure 2).

In addition to foreign aid, from the end of 1947 the Italian government provided a major financial credit of 65.7 billion lire (105.12 million USD) to 67 firms, known as the *Fondo Industria Meccanica* (FIM).²¹ The FIM targeted financially distressed firms in the mechanical sector. It gave these firms bailout financial resources. A main objective was to protect workers from unemployment, and this objective was accomplished. However, the financial effectiveness of the FIM has been questioned, especially because more than half of this substantial credit could not be repaid.²²

Figure 1 shows the remarkable GDP per capita growth of Italy from 1945 to 1963 (panel A) and the ratio of Marshall Plan funds to GDP between 1948 and 1953, which ranged between about 6 per cent and 1 per cent (panel B).

The most studied foreign aid programme by far is the Marshall Plan, or European Recovery Program (ERP). The main purpose of the ERP was to put Western Europe in a condition of

¹³ Gualerni, 'Ricostruzione e industria', pp. 40–1.

¹⁴ Banca d'Italia, 'Relazione per l'anno 1946'.

¹⁵ See Saraceno, 'Ricostruzione e pianificazione', among others.

¹⁶ De Cecco, 'Economic policy', pp. 156–80; Bottiglieri, 'Italia centrista'.

¹⁷ Kamarck, 'Politica finanziaria degli alleati', estimates that the costs of the Allied occupation to the Italian government were roughly equal to the amount of aid received by the Allies up to 1947.

¹⁸ Fauri, 'Marshall e l'Italia', p. 176.

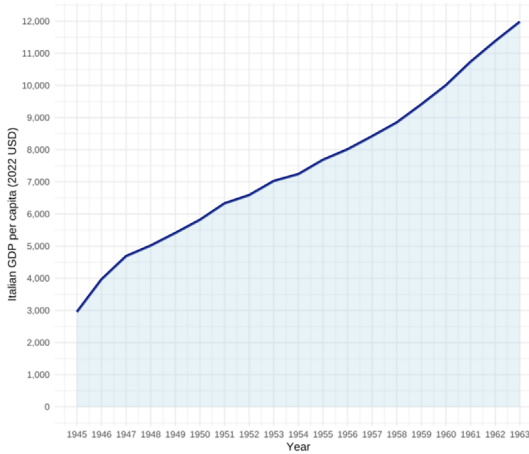
¹⁹ Zamagni, 'Betting on the future', p. 284; see also Bianchi and Giorelli, 'Reconstruction aid'.

²⁰ Kamarck, 'Politica finanziaria degli alleati'.

²¹ Lombardo, 'L'IMI', p. 398.

²² Fauri, 'Marshall e l'Italia', pp. 129–30.

(a) Per capita GDP, 1945-1963



(b) Share of E.R.P. aid over total GDP

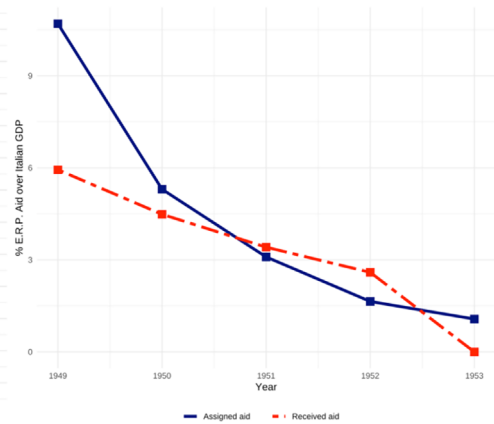
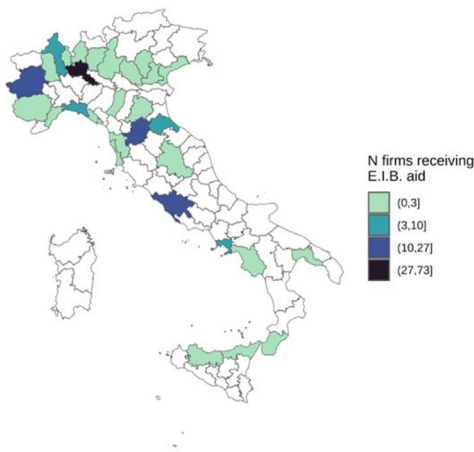


FIGURE 1 Italian GDP and the contribution of the Marshall Plan (2022 USD). Sources: Baffigi, 'Italian national accounts' and Baffigi et al., 'Data appendix', for the GDP; Lombardo, 'L'IMI', pp. 169–70, for allocated and received ERP aid (note that the amount is the aid received up to 30 June of each year, but for 1949, it is the aid received from 1 April 1948 to 30 June 1949); Istat (2023) for the consumer price index used to deflate aid amounts. [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

(a) Number of exposed enterprises



(b) EIB credit amount

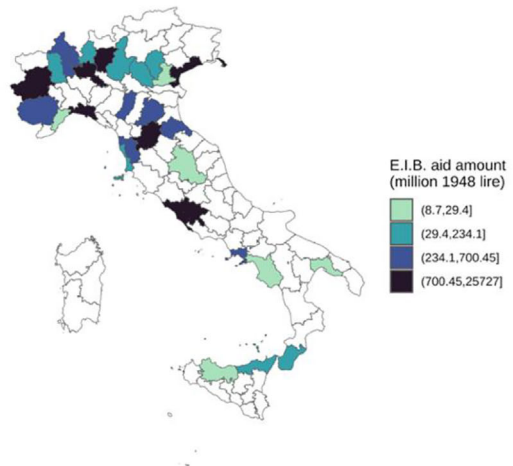


FIGURE 2 The EIB post-war reconstruction credit. Sources: *Serie Mutui*, IMI-Sanpaolo Historical Archive. 1951 provinces from ISTAT. [Colour figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

economic independence by 1952. This economic independence was believed to be a precondition to a political independence. The main pillars of the programmes were first, a European-wide integration effort to allow Europe to be independent from further foreign aid; second, an increase



of European production; and third, the 'American contribution',²³ which can be interpreted as intervention to promote the economic integration of an anti-communist Western European economic system led by the United States.²⁴

Early studies held that the ERP has had far-reaching political and economic consequences on recipient countries and that it pushed them into sustained economic growth.²⁵ Milward questioned the economic effectiveness of the Marshall Plan, and argued that its amount was too small to accelerate recovery in recipient countries, whose rates of growth had already reached high levels by 1947.²⁶

Later studies mitigated this view and stressed the consequences of the Marshall Plan in terms of political alignment of Western Europe with the United States,²⁷ successful economic integration,²⁸ and technological transfer²⁹ in specific regions of Europe. Pollard argued that 'Beyond this, however, the economic effects of this grandiose and politically motivated program provided to be minimal'.³⁰ A more recent reading by Steil argues that the economic effects of the Marshall Plan remain unknown.³¹ Esposito partially contrasted this view focusing on the cases of Italy and France.³² She shows that the counterpart funds, which the United States used to keep track of how the aid was invested by recipient countries, were in fact largely used to further the political agenda of the Italian government, which promoted deflationary measures in contrast with the U.S. objectives of full employment and large investments. Zamagni also provides a sectorial analysis which describes how the Italian economic policy often clashed with the United States economic imperatives.³³

According to Charles S. Maier, the Marshall Plan reduced distributional conflicts by promoting U.S.-style scientific management practices, so that the 'politics of productivity' paid off in terms of European growth.³⁴ Extensive firm-level evidence suggests that a spin-off of the Marshall Plan, the Technical Assistance and Productivity (TA&P), had major impacts on the productivity of

²³ The expression 'American contribution' originates from Winston Churchill, who traces the roots of a 'new international order, a League of Democracies' (Churchill, *A traveler in war-time*, p. 128) following U.S. intervention in First World War Europe. 'Economic and social forces, he [Mr. Wilson] says, are being released upon the world, whose effect no political seer dare to conjecture' (ibid., pp. 128–9). The expression is borrowed here because Churchill depicts the First World War intervention as an *ante litteram* politically oriented economic intervention of the United States in Europe.

²⁴ See also Rostow, 'Memorandum', quoted in Gleason, ed., *Foreign relations* and Fossetal, *Our finest hour*; for Italy, see Ginsborg, *Storia d'Italia*. The Istituto Storico Parri preserves documents on the Marshall Plan reported in Istituto Storico Parri, *L'ERP in Italia*, which help to clarify how U.S. propaganda interpreted the aims of the ERP.

²⁵ See for example Ellis, *Economics of freedom*; Price, *Marshall Plan and its meaning*; Kindleberger, *Power and money*.

²⁶ See Milward, *Reconstruction of Western Europe*, p. 97. The Marshall Plan's aid amounted to about 2% of yearly GDP of recipient countries (Reichlin, *Marshall Plan Reconsidered*), although it represented about 5% of Italian GDP in 1948–9 (see fig. 1, panel B).

²⁷ Hogan, *The Marshall Plan*; De Long et al., *Postwar economic reconstruction*; Pollard, *European economy since 1815*; Spagnolo, *Stabilizzazione incompiuta*.

²⁸ Fauri and Tedeschi, eds., *Novel outlooks*.

²⁹ Bianchi and Giorelli, 'Reconstruction aid'.

³⁰ Pollard, *European economy since 1815*, p. 85.

³¹ Steil, *Dawn of the Cold War*.

³² Esposito, *America's feeble weapon*; idem, *Influencing aid recipients*.

³³ Zamagni, *Betting on the future*.

³⁴ Maier, *Politics of productivity*. See also Nuvolari and Vasta, *Ghost in the attic?*, for an overview of the Italian innovation context.



individual receiving companies and whole industries. For instance, McGlade and Segreto argued that 'it is ironical to observe that, compared to the billions spent to the ERP, the greatest changes may have occurred through one of its smallest programs in financial terms, the TA&P'.³⁵ According to Wasser and Dolfman the TA&P increased the productivity of individual industries by 25–50 per cent within a year after the programme inception in 1948.³⁶ Michela Giorcelli conducts an extensive empirical study of the long-term impact of the TA&P programme, which focused on the provinces of Pisa, Vicenza, Monza, Salerno, and Palermo, on the productivity of Italian firms located in such provinces. She finds that the technology programme led to a cumulative increase in productivity of around 20 per cent within 10 years.³⁷

Italy received a total of 674 billion lire in Marshall Plan aid, 581 billion (86.1 per cent) of which were grants to the Italian government.³⁸ Italy used the grants under the supervision of the U.S. European Cooperation Administration (ECA). The accumulation of such grants took place in the following manner: the Italian government had to anticipate purchases of U.S. goods (primarily cotton and cereals) on behalf of Italian consumers and firms and then sell them to Italian importers according to the U.S. price. Once the goods were sold to Italian importers, the corresponding lire amount was not returned to U.S. producers, but instead accumulated into a 'counterpart fund', or lire fund, which belonged to the Italian Treasury. Italy used this fund for its own investment and development purposes, with a focus on public works, land reclamation and agricultural credit, and machinery.³⁹ The mechanism was the same as previously established by UNRRA, but on a much larger scale. It is important to note that recipient Italian firms who imported U.S. goods were always required to pay them back to the Italian government.⁴⁰

II | THE MAIN U.S. RECOVERY LOANS TO ITALIAN FIRMS

Foreign aid financial conditions were generally good,⁴¹ but there were also major differences in the specific features of each sub-programme. For this reason, this section studies the nature and conditions of the main funding schemes under consideration: the EIB, the ERP-dollars, and the ERP-lire loans.

In January 1947, the Prime Minister of Italy, Alcide de Gasperi, visited Washington, D.C. and received a 50 million USD check from the U.S. Secretary of Treasury John W. Snyder, the first tranche of the promised 100 million USD EIB loan.⁴² The use of the loan was conditioned on raw

³⁵ McGlade and Segreto, 'Zio Sam ingegnere', p. 11. The USTA&P was one of the few foreign aid programmes to survive after the Korean War of 1950. However, after the resignation of Paul Hoffmann from the European Cooperation Agency (ECA) and the Mutual Defence Assistance Act, the goals were shifted from managerial training to increased military production under North Atlantic Treaty Organization (NATO) production contracts (OSF), up to its end in 1958. See also Geiger and Sebesta, 'National defense policies'; McGlade, 'From business reform programme', pp. 28–9; *idem*, 'Americanization', pp. 64–73; Boel, 'European Productivity Agency'. Carew, 'Labour under the Marshall Plan', pp. 175–6 and Fauri, 'Marshall e l'Italia', pp. 257–69, provide less optimistic portrayals of the TA&P.

³⁶ Wasser and Dolfman, 'BLS and the Marshall Plan', p. 49.

³⁷ Giorcelli, 'Long-term effects'.

³⁸ Fauri, 'Marshall e l'Italia', pp. 175–6.

³⁹ Fauri, 'Marshall e l'Italia', p. 180.

⁴⁰ I thank an anonymous referee for pointing out this issue.

⁴¹ See Fauri, 'Marshall e l'Italia', p. 197.

⁴² Carli, 'Cinquant'anni'.



materials and machinery to be acquired from the United States, with the official aim of restoring the industrial capacity of Italy and to promote Italian exports. The *Istituto Mobiliare Italiano* (or IMI) managed the loan. Since its foundation in 1931, the IMI has been the main provider of medium- to long-term loans to Italian firms.⁴³ The loan was initially dedicated to the steel and iron works, electromechanics, chemical, and rubber sectors, but was extended to other industries.

This loan has received considerably less scholarly attention than its more famous sibling, the Marshall Plan.⁴⁴ One reason could be its smaller size. Indeed, this loan amounted to approximately 100 million 1947 USD, or 1 billion 2010 USD, which is a small sum compared with the 670 million 1947 USD, or 6.7 billion 2010 USD, that Italian firms received through all Marshall Plan sub-programmes (see appendix table A1, panel B).⁴⁵ One of the most complete assessments of the loan produced so far is the second volume of the publication series on the IMI, by Lombardo.⁴⁶ This book also provides a list of receiving companies and informs us about whether each firm also received ERP aid.

The Export-Import Bank is the official Export Credit Agency of the United States government. Roosevelt established the bank in 1934. Prior to the Second World War, the Bank was used to fund large-scale projects, particularly in Latin America. Following the Second World War, U.S. President Harry Truman employed it to launch the first reconstruction programmes in Europe to assist these countries in their recovery. Similarly to the Marshall Plan, these funds were intended to raise the production of goods and services that could be swapped for U.S. goods and services.⁴⁷ However, unlike the Marshall Plan, the Export-Import Bank did not only serve government's interests, as it was also interested in having the funds paid back on time. This is perhaps one of the reasons why the Bank conceded credits to only three European countries after the Second World War: a credit of 550 million USD to France, 50 million USD to the Netherlands, and 100 million USD to Italy.⁴⁸

This paragraph provides more details about the technical features of the credit in question (see sections II and III for further details). The eligible companies would not receive resources in the form of direct financing, but would instead have access to a line of credit with pre-approved U.S. banks through which they could pay for orders for production materials (raw materials, fuel, and machinery) for which the firms applied in detail (see figure 5 for an example). The yearly interest rate was set at 3.5 per cent, but the Italian Ministry of Treasury could add another 2 per cent to cover overheads incurred by the supported firms.⁴⁹ As a result, whilst the interest rate of 3.5 per cent was advantageous in comparison with the official interest rate of 5.5 per cent during the *Linea Einaudi* period, the Italian government could raise it until it was no longer advantageous in terms of credit cost. Despite this, the loan could be conveniently repaid over a long period of 4–15 years,

⁴³ Castronovo, 'Storia dell'IRI'.

⁴⁴ Pietrangeli, 'Sources'.

⁴⁵ The sum of aid received by firms is less than the total ERP amount received by Italy provided in sect. I because, aside from ERP-dollar loans, the Italian government devoted a share of about only 20% of the lire fund to support the technical modernization of firms, and the rest of it was devoted to agriculture, public works, and other investments (see Fauri, 'Marshall e l'Italia', p. 180).

⁴⁶ Lombardo, 'L'IMI'.

⁴⁷ Pesenti, 'Il piano Marshall'; Fauri, 'Marshall e l'Italia'; Lavista, 'Ricostruzione e sviluppo'.

⁴⁸ Becker and McClenahan, 'Export-Import Bank', offer a complete explanation of the bank's aims and funded projects. Their book has informed this paragraph.

⁴⁹ Segreto, 'Il prestito dell'Eximbank'.

**TABLE 1** Use of the EIB loan (thousands of 1947 U.S. dollars)

Enterprise group	Agreed sum	Credit received
Group A	43 300	46 200
Group B	32 000	34 332
Group C-Y	22 000	16 768
<i>Compagnia Nazionale Artigiana</i>		4625
Total	97 300	101 925

Sources: Lombardo, 'L'IMI', p. 118 and Pietrangeli, 'Sources', p. 108.

with extensions authorized.⁵⁰ In addition, this credit was also open to financially distressed firms which would have struggled to find other forms of financing. Receiving enterprises were limited in their use of the funds since they could only buy U.S. items in U.S. currency.

Table 1 presents the use of the credit by size of the receiving firm. The loan recipients were divided into groups according to size. 'Group A' companies were selected directly by IMI and were major names in the Italian industrial scene: Fiat, Montecatini, Falck, Pirelli, OTO, Navalmeccanica, Cantieri Riuniti dell'Adriatico, Ansaldo, SIAC, ILVA, Dalmine, and Terni. This group of 12 companies received a total of 46.2 million U.S. dollars (in 1947 prices). 'Group B' received a total of 34.3 million U.S. dollars (in 1947 prices), and the smaller group C-Y a total of 16.8 million U.S. dollars, with no single company receiving more than 500 000 U.S. dollars. The remaining 4.6 million U.S. dollars were invested in small enterprises belonging to the *Compagnia Nazionale Artigiana* (National Craftsmanship Group). Investments in machinery accounted for 32.5 per cent of the credit (approximately 33 100 million 1947 USD), more than double compared with the planned 15 per cent.⁵¹ There was a wide variability in investment in machinery across sectors, ranging from 0 per cent in craftsmanship to 65 per cent in textiles (see appendix table A2). Mechanical and steel and iron industries received the lion's share of the EIB credit (66.6 per cent), whilst the remaining industrial sectors received less than 10 per cent each (see appendix table A3).

All companies except the ones in group A had to apply to receive the loan. A first selection was based on eligibility criteria. Once this selection was passed, administrative-technical inspectors assigned by IMI visited each company they had not inspected before to decide whether to give the loan and the amount.⁵² Over the years, the criteria to accept a company into the loan became less strict to adapt to international and national trends. Most of such trends were due to the changing business needs of the companies, and the introduction of the more extensive Marshall Plan. In particular, the Marshall Plan funds initially provided mostly raw materials to firms, so that many companies began to use the loan to buy more machinery instead of fuel or raw material. The companies received small loan instalments from September 1947, although most of them received the first tranche of the loan after 1949.⁵³

After the Law of 3 December 1948 n. 1425, Italian firms started to receive ERP aid to acquire productive goods imported from the United States. The main subjects involved in the programme were the IMI, who managed the loans, the ECA, who approved the funding to each country and to each firm, and the U.S. and Italian governments.

⁵⁰ Lombardo, 'L'IMI'.

⁵¹ Lombardo, 'L'IMI', p. 127.

⁵² The IMI representative did not inspect companies that were already known by IMI.

⁵³ IMI, 'Loan from the Export-Import Bank'.



Firms did not apply for loans directly as they did with the Export–Import Bank. Rather, each firm had to request and then purchase U.S. machinery from the Italian government, which had ordered them in U.S. dollars (hence the name, ERP ‘dollars’) on behalf of the firms that had requested them. The Italian government anticipated the amount through a specific loan with the Export–Import Bank. The ERP-dollars could only be used to import ‘instrumental goods’ that were technologically advanced enough to be found only in the United States.⁵⁴ Similarly to the EIB loan, 52.8 per cent of ERP-dollars aid were devoted to mechanical and metal-making industries, but more industries received funds than under the EIB loan (see appendix [table A3](#)).

The procedure was slowed down by a series of authorizations that the ECA had to provide. First, the ECA had to authorize the total amount of goods to be imported into each country and the share of such goods to be imported as loans and as grants to each recipient country. Second, strict criteria were used to select which firms would receive the loans each trimester.⁵⁵ Finally, the ECA authorized the purchase (allocation) of goods for each country.⁵⁶ As a result of this lengthy procedure, there were initially delays in the allocation of the requested instrumental goods to the firm who requested them of up to 1 year in the year of the request. By 1 February 1949, only 4 million USD loans were conceded by the ECA out of 92 million USD of requests, 42 million of which were already authorized by IMI.⁵⁷ Such delays were key to motivate the introduction of ERP-lire.

Because the Italian government sought to quickly accumulate counterpart funds to pursue reconstruction and development objectives, it initially prioritized goods that could be easily sold. As a result, raw materials (cotton, fuel, and coal) and cereals accounted for 74 per cent of the goods imported through ERP in 1948.⁵⁸ The composition of goods gradually shifted to machinery, but still only 15.5 per cent of the total imported goods between 1948 and 1951 were machinery. For this reason, and due to pressures by the ECA to invest more in productive goods,⁵⁹ on 21 August 1949, the Italian government decided to invest 32 million USD of the newly created *fondo lire* into an ‘ERP-lire’ fund.

The ERP-lire supported the modernization of the productive structure, bypassing the administrative challenges of ERP-dollars. The ERP-lire fund exclusively provided productive goods and it targeted a wide variety of industrial sectors (see appendix [table A2](#)). Firms had much easier access to ERP-lire credit than for ERP-dollars. In contrast to ERP-dollars aid, the ERP-lire funds were to be used to purchase goods available in Italy. Firms could also purchase machinery abroad, in the local currency, with a preference to Europe over the United States, but only if they were not available in Italy.⁶⁰ The ERP-lire was the first of a series of investments made using the lire counterpart funds to modernize the Italian industry (see appendix [table A1](#), panel B).⁶¹ Machinery

⁵⁴ For more details, see [Spagnolo](#), ‘*Stabilizzazione incompiuta*’, p. 139 and [Fauri](#), ‘*Marshall e l’Italia*’, pp. 157–67.

⁵⁵ [Lombardo](#), ‘*L’IMI*’, pp. 228–30.

⁵⁶ [Spagnolo](#), ‘*Stabilizzazione incompiuta*’, pp. 121–61.

⁵⁷ See [Lombardo](#), ‘*L’IMI*’, pp. 180–1 and [Fauri](#), ‘*Marshall e l’Italia*’, pp. 196, 234.

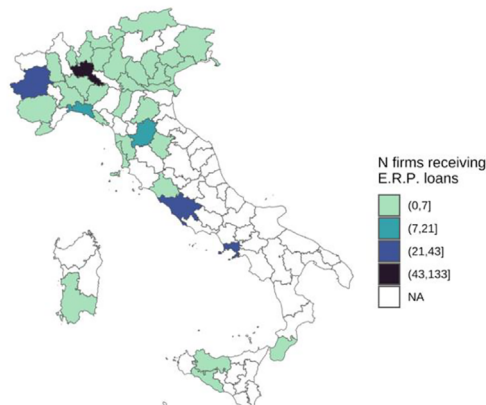
⁵⁸ [Fauri](#), ‘*Marshall e l’Italia*’, p. 169.

⁵⁹ [D’Attorre](#), ‘*Possiamo essere*’, p. 74; [Steil](#), ‘*Dawn of the Cold War*’, pp. 353–5.

⁶⁰ See [Lombardo](#), ‘*L’IMI*’, pp. 188–91, for the political debates around the decision to allow purchases through the lire fund outside of the dollar area.

⁶¹ The additional lire funds targeted specific sectors or were managed by other institutions than IMI, which makes it difficult to find firm-level information (see [IMI](#), ‘*Guida all’Archivio Storico*’, p. 43).

(a) Number of firms



(b) Amount of ERP aid

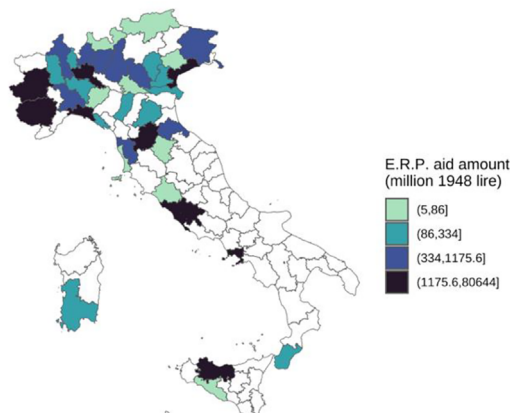


FIGURE 3 Firms receiving ERP aid (ERP-dollars and ERP-lire). *Source: Serie Mutui IMI, IMI-Sanpaolo Historical Archive. 1951 provinces from ISTAT. [Colour figure can be viewed at wileyonlinelibrary.com]*

would later account for 152 billion lire, or 23.4 per cent of the total ERP investments, just below land reclamation and rural credit.⁶²

Table 2 summarizes the key features of the EIB, ERP-dollars, and ERP-lire programmes. The ERP aid programmes are the ideal benchmark programmes as they resemble the EIB loan programme in large parts, including the average loan amount received by each firm, but they differ in terms of administrative procedure and timing of access to the technology transfer. Such technology transfer was arguably quick and flexible for ERP-lire aid because it was channelled through imports of machinery also available in Italy and could be paid for in lire or other European currencies; it was more difficult for ERP-dollars because the machinery had to be American; and it was intermediate for EIB loans because, whilst goods had to be American, firms could request a broader range of goods, such as semi-finished products, and change their requests if needs changed. It is also worth noting that firms started to benefit from EIB loans 1 year before ERP loans.

Figure 3 shows the geographical distribution of firms receiving ERP credits.⁶³ Firms receiving ERP aid were geographically concentrated in the Centre and North-West (figure 3a), but there were also peaks in the amount of aid in provinces of the South such as Palermo and of the North-East such as Venice (figure 3b).

The number of enterprises receiving both ERP and EIB aid was geographically much more concentrated in the key productive provinces of Italy than the ERP (compare appendix figure A1 with figure 3). Appendix table A3 shows the sectoral decomposition of ERP aid. The most prominent sectors were steel and iron works, mechanical, and energy.

⁶² See Fauri, 'Marshall e l'Italia', p. 180.

⁶³ App. fig. A1 shows the geographical distribution of firms receiving both ERP and EIB aid.

**TABLE 2** Key features of the main types of funding of U.S. aid to Italian firms

Type of aid to firms	EIB	ERP-dollar	ERP-lire
	Loan	Loan	Loan
Total interest rate to be paid by firms	5.5% (yearly)	5.5% (yearly)	5.5% (yearly)
U.S. goods received starting from	16 December 1947 (after D.M. 16 Dic. 1947)	3 December 1948 (after Law 3 Dic. 1948, n. 1425)	21 August 1949 (after Law 21 Aug 1949, n. 730)
Length of loan	From 4 to 10 years depending on the industry, extendable to 15	From 6 to 25 years, depending on the sector and the firm	
Eligibility conditions	(1) Previous direct exporter to the United States (later expanded)	(1) Machinery should be only found in the U.S.	(1) Machinery available in Italy and Europe has priority over machinery found in the U.S.
	(2) Belonging to pre-specified sectors (later expanded)	(2) Productive capacity should not increase up to the point of creating excess demand	(2) Belonging to pre-specified sectors (defined by the ECA/MSA)
	(3) Requesting material admitted be exported from the U.S. or to be imported in Italy	(3) Two-step approval by the U.S. European Cooperation Administration (ECA)	(3) Financing to modernize the machinery
	(4) Solid firm status (financial, administrative, technological)	(4) Solid firm status (financial, administrative, technological)	(4) Solid firm status (financial, administrative, technological)
Main creditor	Export-Import Bank	United States government (<i>grants</i>), Italian government (<i>loans</i>)	IMI and Italian government's counterpart funds
Price of the imported goods	Corresponding price in the United States (USD)	Corresponding price in the United States (USD)	Price in local currency (mostly lire)
Aid devoted to import machinery (%)	32.5% (70.6% including semi-finished products)	100%	100%
Total amount of aid (in million lire)	63 747.5	153 600	22 573.1
Number of recipient firms	193	358	57
Average loan amount by firm (in million lire)	330.3	429.0	396.0

Sources: IMI, 'Loan', IMI, 'Guida all'archivio', Fauri, 'Marshall e l'Italia', pp. 164–5, 196–205 and Lombardo, 'L'IMI', pp. 114–93.

III | SOURCES

This section introduces the primary sources on which this study is based: the IMI San Paolo Historical Archives and the Imita database.

The IMI San Paolo Historical Archive is the main archive used to find features of eligible firms to the EIB loan. This paper relies on information retrieved from the archive to identify the names of the 607 eligible and non-eligible firms and properly categorize their status in the programme. The loan inventory of the Export–Import Bank is roughly 1.8 km long and was re-organized and made completely accessible to the public in October 2018.⁶⁴ However, the data are not digitized, and IMI has no intentions to digitize them due to the volume of information. Most eligible or treated companies have a dedicated folder that is subsequently organized by subject (for example, general affairs, accounting, legal, and correspondence with the Export–Import Bank). Each folder contains a wealth of information, including images of manufacturing sites and products, but because the volume and quality of such qualitative material varies from company to company, comparisons are not useful. This valuable information was almost certainly used to persuade Eximbank that the firm was worthy of receiving credit. The most useful information extracted from the IMI archives is the full list of applications (name and city) from the *IMI Historical Archive (a, Serie Mutui)*. The list of applications also includes the ones of firms who dropped out at different stages of the selection process.

Information was also obtained about the eligibility criteria, the actual amount of money received from the *IMI Historical Archive (b, Inventario Eximbank)*, and whether the companies were inspected by IMI from the *IMI Historical Archive (c, Relazioni Ispettorato)*. This last folder also allows us to differentiate between those who were inspected but did not pass the inspection and those who received the inspection but did not receive the loan. Unfortunately, the files for approximately 200 firms that did not obtain the loan are missing, so we only know that they either abandoned the application or were rejected. Figure 4 depicts an excerpt from the Mutui series.

Figure 5 depicts two documents from Lancia SpA as an illustration of the information available for a single firm. Lancia was an automobile manufacturer based in Torino that belonged to group B. The application folder of Lancia SpA contains the following information: topographic information about the company and its industrial plants, a list of requested machinery (for example, several grinding machines for a total of 172 000 U.S. dollars), information about current versus maximum output capacity (not shown here) and a statement of expenditures (see figure 5b: purchases from U.S. companies such as mineral oils, laboratory instruments, and gears). The loan application of Lancia got accepted, and subsequently a line of credit of 1 261 300 000 Italian lire (equivalent to about 742 800 U.S. dollars) was opened by the Export–Import Bank. Lancia received 431 000 000 Italian lire as part of the ERP-dollars loan.⁶⁵

The *IMI Historical Archive (a, Serie Mutui)* also provides firm-level information about how much each firm received through ERP-dollars, ERP-lire, or both credits. This allows us to know which firms received ERP-dollars and ERP-lire aid as well as the amount received. However, the folders do not provide detailed information about rejected firms from ERP programmes as they do for EIB loans. Table 3 presents a small excerpt from the list of companies, based on information provided by the IMI Historical Archive.

The Imprese Italiane database, or *Imita*, is a publicly available database containing, among other information, balance sheet data about Italian joint-stock companies.⁶⁶ The *Imita* database contains the universe of joint stock companies listed in Italian stock markets and all other joint

⁶⁴ Pietrangeli, 'Sources'.

⁶⁵ Lombardo, 'L'IMI', 679.

⁶⁶ Giannetti and Vasta, eds., 'Italian enterprises'.

114

V. Sanderson e Succ. Besenigi - Bergamo	riporto	
S.p.A. Elettrografite di Pomo Albione - Milano		860.000.=
S.p.A. Fonderie Acciaierie Milanese - Vanzetti - Milano		150.000.=
Ditta Veglio e C. Torino		400.000.=
S.p.A. Manifattura St. di Seardasi - Biella		120.000.=
S.p.A. Geloso - Milano		300.000.=
Balbrücke St. Valvole Radioteletriche FIVEE - Milano		250.000.=
Ind. Ceramiche Meridionali S.p.A. Napoli		120.000.=
R.I.V. Off. di Villar Verosa, Torino (red. agg.) sempre su gruppo B.		300.000.=
F.I.L.P. Fabbr. St. Lime di Precisione Torino (red. agg.) sempre su gruppo B.		400.000.=
Off. Galileo S.A. Firenze (red. agg.) B.		1.000.000.=
C.E.A.T. S.p.A. Torino (red. agg.) B.		50.000.=
<u>Gruppo C</u>		200.000.=
Inatelli Riello Officine e Fonderie, Legnano		600.000.=
Seghette Vicoletti - Milano		25.000.=
S.p.A. Colorificio Base Meyer - Milano		20.000.=
Giovanni Vismara e Figli S.A. Monza		50.000.=
S.p.A. Off. Mecc. Roccardi - Pinerolo		175.000.=
I.L.S.A. VIOLA - Ind. Laminare Speciali - Milano		500.000.=
S.p.A. Costruz. Elettromeccaniche LEA, Milano		600.000.=
Soc. St. Resine - Milano		70.000.=
Stromesti e C. Crema		100.000.=
Ettore Cardini di Vittorio Cardini - Anagnina		400.000.=
Autonello e Orlandi - Verona		50.000.=
Soc. Dig. per la lavorazione della latta e fabbrie di consumo - Genova		80.000.=
Manifattura del Svesco - Milano		75.000.=
S.A.L.C.I.M. S.A. lavorazioni Chimiche ed Imballaggi Metallici - Milano		200.000.=
Soc. Ven. Concini e Prodotti Chimici "C.I.T.A." Vicenza		65.000.=
GLOBUS Fabbr. St. lavorazioni gomma stabile - Napoli		50.000.=
Rumianca Soc. per l'Ind. Chimica e Mineraria - Torino		40.000.=
I.I.R.A. Fabbr. St. Lapis ed Affini - Firenze		1.000.000.=
Sotray e C. Ronquano		50.000.=
EMEF Soc. a r.l. Roma		200.000.=
S.p.A. Ceramiche Marca Corona - Milano		40.000.=
Cancreria Ernesto e Eugenio Cabella - Milano		140.000.=
Claudio Bonaca - Camara - (Perugia)		50.000.=
Smalterie Stabiane - Milano		50.000.=
Ille Casiade - Milano		50.000.=
Soc. di Esportazione Polenghi Lombardo - Lodi		50.000.=
a riportare		400.000.=
		\$ 9.280.000

FIGURE 4 List of company names and amount of loan received in 1948. Source: IMI Historical Archive (a, Serie Mutui).

stock companies based in Italy and whose balance sheet had a company's capital higher than a given threshold, which was fixed at different levels in different years.⁶⁷ The entire dataset contains 43 776 companies, 337 729 administrators, and 237 851 balance sheets. Balance sheets are not available for the years of the Second World War (1940–5).

The *Imita* database is particularly suited for this study for at least three reasons. First, for 1952, the closest year to our period of interest for which a benchmark is available, the *Imita* database

⁶⁷ Rinaldi and Vasta, 'Italian capitalism', and Domini, 'Innovation and business performance', have previously used the *Imita* database to study business-level outcomes.



(a) List of machinery

LIST OF REQUESTED MACHINERY	
n°1 Conshaft (con) disk grinding machine - mm. 1500 centres distance	10,000.---
n°2 Centrifuge grinding machines to grind shafts up to mm. 30 diameter	12,000.---
n°3 Grinding machine for circular board planes mm. 800 (or so) board diameter.	20,000.---
n°4 Turning lathes to break off (relieve) milling cutters and gear teeth making tools - mm. 600 (or so) centres distance - provided with an apparatus to grind tool teeth slopes.	5,000.---
n°5 Gleason teeth cutting machine n°16 to rough grind wheels and hypoidal bevel gear pinions	10,000.---
n°6 Automatic machine to crop cylindrical and helicoidal gears teeth	6,000.---
n°7 Creator teeth cutting machine to cut gear teeth by a screw milling cutter till modulus 2	3,000.---
n°8 Tool grinding machine for screw taps	2,000.---
n°9 Tool grinding machine for creators (screw milling cutters to make teeth to gears)	4,000.---
n°10 Milling machine for short threads having centres mm. 320 high	2,400.---
n°11 Vertical screw tapping machines with patron	3,600.---
n°12 Gauge and control apparatus for gear teeth making screw milling cutters	3,600.---
n°13 Grinding machine for slide endless screw	14,000.---
n°14 Grinding machine for grooved shafts; centres distance mm. 800 or so	17,000.---
n°15 Automatic teeth cutting machine to rough grind straight toothed bevel gears	9,000.---
n°16 Grinding machine for conshaft (con) disks centres distance mm. 750	14,000.---
n°17 Universal tool grinders	8,000.---
n°18 Twist drill grinder, mm. 1,5 diameter to mm. 12	1,400.---
n°19 Horizontal hydraulic broaching machine 16 tons power.	9,000.---
n°20 Friction mechanic press to straighten shafts, about 10 tons power	2,000.---
Total amount.	172,000.---

(b) statement of expenditures

STATEMENT OF EXPENDITURES No. 11		PURCHASES BY VALUE LETTERS OF CREDIT	
Date	Supplier (Name and Address)	Detailed Description of products and services	Cost
12/22/48	Asiatic Petroleum Corp.	Cylinder Oil	\$ 8,456.40
12/23/48	Luigi Serra, Inc.	Ocean Freight	1,035.67
1/2/49	Esso Standard Oil Co.	Valence Oil	88,800.00
1/2/49	"	Recton Oil	14,933.41
1/2/49	"	Peacock	4,216.79
1/2/49	"	Solvent	6,460.49
12/26/48	U. S. Steel Export Co.	Steel Plates	1,321.19
12/22/48	"	"	515.81
12/23/48	"	"	6,028.53
12/24/48	Luigi Serra, Inc.	Ocean Freight	1,890.25
10/20/48	Armo International	Steel Sheets	2,957.12
11/8/48	Luigi Serra, Inc.	Ocean Freight	443.50
11/10-12	Ferrando & Garbino Co.	Emulor Iron 73/8	543.32
12/2/48	Luigi Serra, Inc.	Ocean Freight	44.39
11/17/48	Debon-Lalou Corp.	Self-tapping screws	514.68
12/2/48	Luigi Serra, Inc.	Ocean Freight	10.55
12/26/48	Hallite Refractories	Refrs. Bricks/Conent	36,389.76
12/26/48	"	"	12,353.21
12/26/48	Kaiser Fraser Corp.	Steel	5,377.36
12/26/48	"	"	5,591.28
12/26/48	"	"	9,681.90
12/26/48	"	"	11,776.95
12/26/48	"	"	9,561.20
12/26/48	"	"	7,151.85
12/26/48	"	"	10,131.28
12/26/48	"	"	13,021.25
12/26/48	"	"	12,312.68
12/26/48	"	"	9,670.75
To be brought forward.			859,416.77
			\$245,786.81

FIGURE 5 List of requested machinery and statement of expenditures of Lancia SpA. Source: IMI Historical Archive (a, Serie Mutui), pratica relativa a 'Lancia SpA'. [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 3 Extract from the list of companies that applied for the loans

Company name	Location	Main line of business	Status	Eximbank	ERP-dollar	ERP-lire
Ansaldo SpA	Genova	Railway	Eligible, treated	2014.5	536	No
BPD	Rome	Gunpowder	Eligible, treated	479	No	No
Colorificio Edilac	Milano	Colourings	Rejected in 1948			
Dalmine SpA	Bergamo	Steel	Eligible, treated	2282	261	No
Ebanisteria Casalini	Faenza	Furniture	Rejected/abandoned			
Fratelli Giannazza	Legnano	Copper	Rejected/abandoned			
Geloso SpA	Milano	Electronics	Eligible, treated	138	No	No
F.lli Orsenigo	Milano	Metalwork	ERP-lire, treated	No	No	350
AGIP Mineraria	Milano	Energy and extraction	ERP-dollars treated	No	481	No

Sources: IMI-Sanpaolo historical archive: serie mutui, inventario Eximbank, relazioni ispettorato.

covers about 25.7 per cent of all Italian enterprises.⁶⁸ The representativeness is very high in terms of share capital, as the sample covers more than 85 per cent of the share capital of the Italian corporate universe in all benchmark years. Among the 607 firms eligible for the Export-Import Bank loan, *Imita* contains yearly balance sheet data for 295 firms. Of such 295 firms, we have balance sheet data for 138 out of 257 accepted firms. Moreover, 137 out of 358 firms receiving ERP-dollars

⁶⁸ Vasta, 'Firm performance'.



and 32 out of 57 ERP-lire were linked with *Imita* balance sheets. Considering the overall coverage of *Imita* of about 25 per cent of firms, the number of linked firms is satisfactory, also considering that the unlinked firms tend to be small and more likely to be not eligible in aid programmes. In fact, most small firms (*società di persone*) were not obliged to publish their balance sheet data. As a result, historical balance sheet data for small firms are extremely difficult to find not just on *Imita* but in the historical archives of the Chambers of Commerce (*Camere di Commercio*) to which balance sheets were initially deposited.

Second, as the balance sheets provided on *Imita* provide a shortened version of original balance sheets, this allows for the calculation of the most important profit-related indicators of firm performance: yearly profits or losses, share capital, total assets, physical assets, cash credits, debts, and provisions. However, the *Imita* balance sheets lack labour-related indicators, such as wages and number of employees. This makes it difficult to compute productivity indicators such as total factor productivity and labour productivity. Profitability provides a good firm-level indicator of the economic performance of the firm. The ratio of profits over assets complements profits as an indicator of economic performance because it accounts for the fact that the size of physical assets might have increased due to the instrumental goods received with foreign aid.⁶⁹ To account for inflation, balance sheet data were deflated and harmonized to 2022 values in euros using the consumer price index of Istat (2023).⁷⁰

Third, specific industries were targeted by U.S. aid. The *Imita* database enables us to sample enterprises on the basis of their industrial sector up to three ISTAT digits. This aspect of the *Imita* database is critical because it allows us to collect balance sheet data for all firms in the same industrial sector as the ones who received U.S. aid. The only alternative data sources would have been balance sheets preserved in local *Camere di Commercio* (Chambers of Commerce), but from there it would have been impossible to choose a similar selection of firm balance sheets relying on their industrial sectors rather than on names.⁷¹

In this research, I generate a panel dataset from the balance sheets of the entire set of firms on *Imita* that are in the same industrial sector as the ones getting the loans. In the following section, I will discuss the empirical arrangements that must be put in place to make selected and non-selected firms within specific industries as comparable as possible. Appendix table A4 presents the three-digit industries of firms who received the EIB, the ERP-dollars, and the ERP-lire credits.

IV | EMPIRICAL METHODS

The empirical strategy is divided into three steps. The first step is to create the treatment group using the newly collected data from the IMI-San Paolo historical archive. The IMI issued a circular outlining the information/characteristics that were required of all loan applicants. They were as follows: (1) firm activity focuses on one of the following industries: chemicals, rubber,

⁶⁹ When losses are negative, indexes computed using *Imita* balance sheets become problematic, as detailed in Vasta, 'Firm performance', p. 157. I thus follow his approach and restrict returns on assets to values ranging between -100% and 100%.

⁷⁰ Istat, 'FOI(nt) - indici nazionali dei prezzi al consumo per le famiglie di operai e impiegati. Generale al netto dei tabacchi (2023)'. https://www.istat.it/it/files//2020/08/coefficienti_annuali_1861_2022.pdf

⁷¹ Most historical balance sheet data stored in Italian Chambers of Commerce have been poorly preserved, and balance sheets are distributed across around 100 separate Chambers of Commerce. As a result, although finding balance sheets for single companies is doable, it is very difficult to conduct systematic, country-wide, sectorial data collection of balance sheet data from Chambers of Commerce.



electromechanics, and steel and iron works, with more industries added subsequently; (2) previous direct export activity to the United States; (3) immediate need for additional imported materials or machinery from the United States; (4) a solid firm status in terms of financial, administrative, and technological dimensions, as demonstrated by a comprehensive general report (IMI, 1951).⁷²

I assume that such eligibility criteria are weakly related to the productivity of the firm, or other outcome variables of interest. It was more a political decision to focus on some sectors of the economy that were reputed as strategic for a quick recovery after the war. The Export–Import Bank directly asked group A enterprises to apply for the loan, whilst group B was invited by IMI, and group C applied independently. This different selection technique among groups has no negative impact on the overall strategy, as each procedure is related more to the political and strategic objectives than to the performance measurements of each selected firm.

Following the screening of all qualified submissions by IMI, each firm was examined by an IMI official in a third and final round of selection. This type of selection is clearly focused on the firms' existing productive conditions and short-term export potential. As a result, I am unable to compare the 'winners' and 'losers' of this selection round. Indeed, even in the absence of reconstruction programmes, it is obvious that the productivity levels of the two groups would have evolved differently. This group of firms, however, is still included in a balance test (see tables 4 and 5).

The applicants had to clarify the purpose of the loan and provide information about the present performance capabilities and the future work schedule. This so-called General Report also enclosed balance sheets. The call for applications resulted in 607 requests for financing, from which 165 companies later got excluded as they did not fit the eligibility scheme and an additional 100 companies dropped out themselves because they faced a shift in materials needed or were unable to comply with administrative or delivery delays. In a second selection step, the IMI conducted an in-depth selection process on the remaining 342 eligible companies: the information provided by the applicants themselves was scrutinized and extended. To do so, experts gathered additional knowledge through in-house company visits and by contacting banks and governmental institutions.

Once the outline reports were gathered, an appositely formed committee negotiated the final distribution of the loans. Companies in urgent need of raw materials to meet their short-term production and export targets were given priority. Similarly, importance was given to a sound business practice and operating capacity. Finally, the Committee, and later, the Eximbank, approved 257 transactions.

I was able to acquire balance sheet data for 138 of these treated enterprises. Figure 6 depicts the selection process timeline, including the number of firms associated with *Imita* and available in each category. Tables 4 and 5 list some of the relevant balance sheet variables for the various groupings of firms included in the EIB loan. Firms that received the EIB loan were in greater financial trouble than those that were rejected or abandoned the procedure.

The second step of the empirical strategy consists of defining the control group. We construct a comparison group composed of similar firms to the treated ones but that did not receive foreign aid. The comparison group is based on the pool of publicly listed firms with balance sheets available on the *Imita* historical archive. I restrict the set of comparison firms to firms that have balance sheet information between 1928 and 1968, and to firms belonging to the same industrial sectors as the treated firms.

⁷² Istituto Mobiliare Italiano (IMI), 'Il prestito dell'Export–Import Bank di Washington all'Italia (Rome, 1951)'.

**TABLE 4** Descriptives by subgroup, closest available year before 1948 (million 2022 euros)

	Panel A: Eligible and exposed firms					
	Eligible firms		Received EIB loan (only)		Received EIB loan and ERP aid	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Profits/losses	-197.8	8712.8	32.4	1326.5	-1960.5	14 347.0
Share capital	7917.2	26 706.2	2888.0	4479.1	18 055.4	45 811.5
Total assets	84 431.9	225 366.0	34 521.0	74 974.3	187 322.3	370 989.2
Physical assets	37 666.3	118 210.7	13 274.5	27 892.8	86 303.2	198 426.3
Inventory	1383.0	3840.6	215.2	394.7	1488.2	2724.5
Cash and credits	19 993.9	51 258.6	7015.2	14 562.4	43 052.8	82 495.9
Debts	43 295.8	102 155.7	19 494.8	46 207.6	101 115.3	164 657.7
Provisions	20 260.3	44 741.0	12 313.6	33 182.9	42 344.7	67 429.6
Observations	231	231	81	81	57	57

	Panel B: Candidate control groups of firms					
	Abandoned		Rejected		Comparison (<i>Imita</i>)	
	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev
Profits/losses	136.5	316.7	1340.5	4376.9	200.5	1228.9
Share capital	1832.9	2248.6	7711.0	27 808.2	2339.6	10 154.1
Total assets	14 046.7	36 812.6	96 240.0	374 908.1	10 629.4	32 868.5
Physical assets	2449.1	2516.3	59 832.2	291 812.9	4239.5	20 561.7
Inventory	612.1	2020.0	3351.3	9723.0	472.2	2387.6
Cash and credits	5231.1	16 587.2	14 384.1	33 876.2	3043.9	9050.0
Debts	10 199.0	31 261.2	27 331.5	58 259.5	5321.9	15 033.9
Provisions	5263.7	15 568.9	14 024.5	23 706.1	3167.4	8148.9
Observations	21	21	121	121	3276	3276

Note: Values are expressed in 2022 euros and are deflated according to the consumer price index of ISTAT. The group of abandoned firms is composed of firms with 'missing folder' which did not receive the loan but that were inspected. The group of abandoned firms is composed of firms with 'missing folder' which were not inspected and of 'rejected/abandoned' firms which received no loan.

To ensure that control firms are similar enough to treated ones, I rely on a coarsened exact propensity score matching algorithm, matching on financial characteristics of the firms as reported by balance sheets.⁷³ To avoid confounding the effects of separate programmes, firms that received ERP aid are excluded from the control group of EIB loans. Similarly, firms that received EIB loans are excluded from control group firms of ERP loans. Control firms from industrial sectors that are only targeted by ERP programmes are added to their comparison group (see appendix tables A4, B5, and B6). Tables 3 and 4 display the mean difference for each economic indicator

⁷³ It is possible to distinguish between eligible-treated and eligible-non-treated (abandoned) firms by tracing back the eligibility criteria and the selection procedure. There are three reasons for which using the propensity score matched set of firms as the control group is preferable. First, the definition of the group of abandoned firms relies on assumptions because the loan data do not clearly distinguish between abandoned and rejected firms. Second, the sample size of the 'abandoned' set of firms linked to *Imita* is small (37). Finally, although according to IMI, 'Loan', such firms dropped out because of 'increasing difficulties in supplies or changes in their original schedules of work', the drop-out is a form of self-selection which may be correlated with firm productivity and profitability.



TABLE 5 Difference in means of pre-determined firm characteristics among treated and control firms, balanced and unbalanced

Panel A: Difference in means among treated and control firms (unmatched)						
	Mean		Std. Mean Diff.	Var. Ratio	eCDF Mean	eCDF Max
	Treated	Control				
Profits/losses	-303.9	252.7	-0.2	6.0	0.1	0.1
Share capital	3214.1	2659.8	0.1	0.2	0.1	0.2
Total assets	34 089.6	16 217.7	0.3	0.5	0.2	0.3
Physical assets	13 254.7	7718.2	0.2	0.1	0.1	0.3
Inventory	11 708.8	3829.1	0.3	8.6	0.2	0.3
Cash and credits	8698.5	3802.2	0.3	2.1	0.2	0.4
Debts	20 670.3	6843.7	0.3	4.4	0.2	0.4
Provisions	363.6	642.3	-0.4	0.0	0.1	0.2

Panel B: Difference in means among treated and control firms (matched)						
	Mean		Std. Mean Diff.	Var. Ratio	eCDF Mean	eCDF Max
	Treated	Control				
Profits/losses	126.0	180.9	0.0	1.4	0.0	0.1
Share capital	1865.4	1898.6	0.0	0.9	0.0	0.1
Total assets	15 858.0	10 723.3	0.1	2.0	0.1	0.2
Physical assets	7297.7	3631.5	0.1	5.6	0.0	0.2
Inventory	4403.2	3858.5	0.0	0.7	0.1	0.2
Cash and credits	3971.3	2956.6	0.1	1.3	0.1	0.3
Debts	9071.7	7510.6	0.0	1.1	0.1	0.2
Provisions	312.8	356.7	-0.1	0.7	0.0	0.1

Note: Propensity score matching is implemented with the coarsened exact matching algorithm. The values of the included factors are pre-1948. The values are expressed in thousand 2022 euros, deflated according to the consumer price index of ISTAT.

derived from Imita balance sheets. Table 5 and figure 7 illustrate the mean differences between treatment and control group firms in pre-determined (1948) variables before and after propensity score matching.

The third and final phase in the empirical technique is to use a difference-in-differences strategy on a balanced sample to estimate the effect of the loans on the profitability of exposed firms.

The difference-in-difference estimate for the Export–Import Bank effect can be described by the following equation:

$$y_{it} = \alpha_i + \lambda_t + \delta[EIB*Year\ 1948]_{it} + \beta X_{it} + \varepsilon_{it} \quad (1)$$

where y_{it} represents the value of net profits (deflated) or the return on assets for firm i at time t (before or after Year 1948). These variables measure profit and profitability outcomes, and can be intended as proxies for productivity outcomes.⁷⁴ The dummy $[EIB]$ takes value 1 if the firm

⁷⁴ The relationship between profitability and productivity has been empirically tested by Bottazzi, Secchi, and Tamagni, 'Productivity, profitability', and Bottazzi et al., 'Corporate performances'. Giorcelli, 'Long-term effects' used total factor pro-

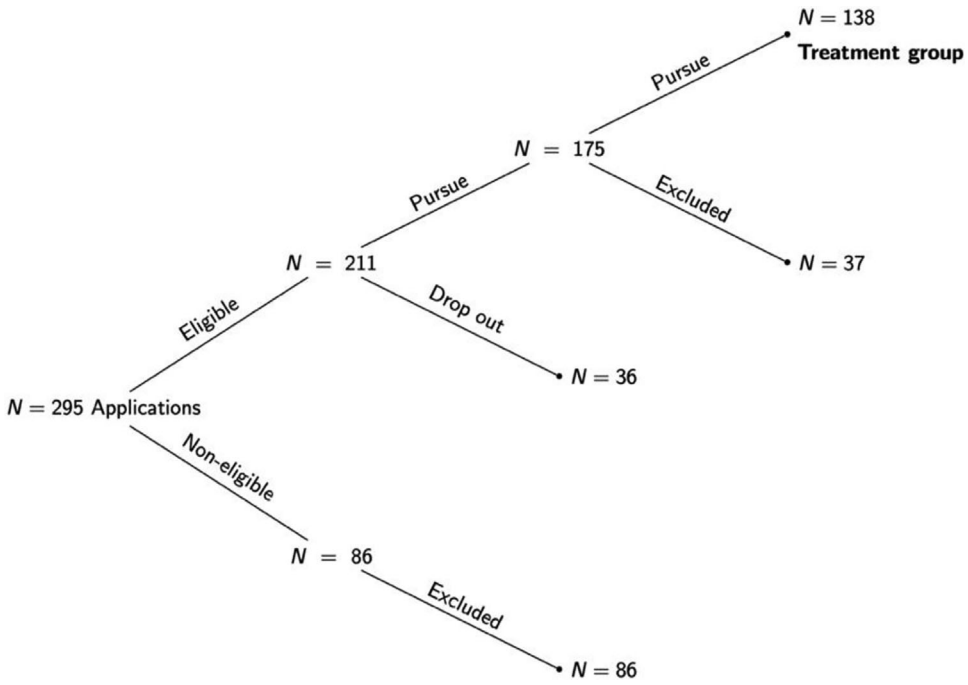


FIGURE 6 Graphical representation of the selection process and sample size by group for the EIB loan. *Source:* Author creation based on IMI-Sanpaolo historical archive and IMI, ‘Loan’. The number of firms is the number of firms linked with the balance sheets of the *Imita* historical archive.

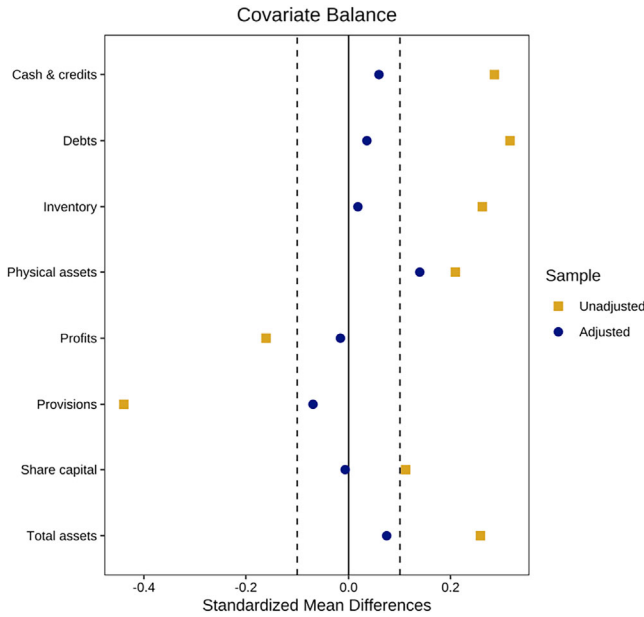


FIGURE 7 Difference in means in pre-determined characteristics between firms belonging to treatment (EIB) and propensity score matched control groups. *Note:* All variables are deflated and converted to thousand 2022 euros. *Source:* Author creation of the database constructed for this study, based on the IMI-Sanpaolo historical archive and the *Imita.db* sources. [Colour figure can be viewed at wileyonlinelibrary.com]

**TABLE 6** Effects of U.S. aid on Italian firm profits (in thousand 2022 euros)

	Unmatched, only EIB			Matched, only EIB			Matched, EIB + ERP		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EIB treated	174.8			312.9	1479.9		311.5		
	(329.6)			(203.8)	(899738352.1)		(351.0)		
1948	472.2**			129.8**			-14.5		
	(213.0)			(64.7)			(371.2)		
EIBx1948	3064.6	4583.1	3540.7	1091.0	1603.3**	1676.5**	1039.3*	907.1	1023.7*
	(2742.7)	(4118.0)	(2245.7)	(720.1)	(794.6)	(847.3)	(623.0)	(567.3)	(591.3)
Observations	42 447	42 447	42 304	28 720	28 720	28 652	30 337	30 337	30 269
Adjusted R^2	0.003	0.369	0.436	0.011	0.266	0.273	0.006	0.326	0.338
Covariates	NO	NO	YES	NO	NO	YES	NO	NO	YES
Firm FE	NO	YES	YES	NO	YES	YES	NO	YES	YES
Year FE	NO	YES	YES	NO	YES	YES	NO	YES	YES

Note: Covariates include: North-Centre-South, industrial group, and industrial sector. Standard errors clustered at the firm level are reported in parentheses. Values are deflated according to the Istat consumer price index and expressed in thousand 2022 euros.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

is treated by the EIB programme and 0 otherwise. The dummy [*Year 1948*] takes value 1 if the observation for firm i refers to a year after 1948 and 0 otherwise. The interaction coefficient δ is the difference-in-differences estimate of the effect of the programme. α_i represents the firm FE and λ_t represents the year fixed effects. I also include time-invariant covariates and fixed effects (X_i): a macro-area variable (North, Centre, and South), industrial group fixed effects, and industrial sector fixed effects. Standard errors are clustered at the firm level. The model to estimate the effect receiving the ERP-dollars and ERP-lire loans is the same but it is based on a different matched sample of firms, which includes firms belonging to the industrial sectors which received ERP aid and excludes EIB recipient firms (see appendix table A4).

V | RESULTS

At a first glance, the EIB loan appears to have had large effects on the profitability of affected firms. The loan raised the profits of exposed firms by nearly 1 675 000 (2022) euros on average (table 6, column 6). Appendix table B1 shows that the results are robust to alternative clustering of standard errors. The average level of earnings on the matched sample prior to loan exposure was around 126 000 (2022) euros (table 5), indicating a more than 10-fold increase in average profits of exposed enterprises.

The effect on net profits may be overestimated despite firm fixed effects if the size of firms exposed to the loan increase more over time than the ones not exposed. This may happen because the loans were provided to increase the fixed capital. For this reason, I also show the effects on the returns on assets (see appendix tables B1, B2). The EIB credits also lead to about 3.5 per cent higher returns on assets return than non-exposed firms (see appendix table B1, panel B). The effect

ductivity as main outcome variable. This variable cannot be obtained in this paper because it requires information on the labour share, which can only be gathered from the *Note Integrative* (additional notes) of the balance sheets and that are not available on the *Imita* balance sheets.



TABLE 7 Effects of the exposure to the Export–Import Bank loans on firm profits (deflated), by macro-area (North, Centre, and South)

	Matched North		Matched Centre		Matched South	
	EIB + ERP	Only EIB	EIB + ERP	Only EIB	EIB + ERP	Only EIB
	(1)	(2)	(3)	(4)	(5)	(6)
EIB treated x 1948	1099.1*	1185.0	−254.2*	−113.2	182.5***	182.5***
	(585.5)	(840.5)	(134.0)	(158.5)	(59.0)	(59.0)
Observations	24 762	23 803	3238	3020	504	504
Adjusted R^2	0.278	0.253	0.480	0.508	0.069	0.069
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note: The following covariates are included in all models: North–Centre–South, industrial group and industrial sector. Standard errors clustered at the firm level are reported in parentheses. Values are deflated according to the Istat consumer price index and expressed in thousand 2022 euros. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

when not matching treated and untreated firms was inflated by the fact that control firms were substantially smaller on average than those receiving the loan (table 6, columns 1–3).

When I include firms which received both EIB and ERP loans, the increase is smaller in size and only slightly significant (see table 6, column 9). However, when excluding provinces exposed to the Technical Assistance and Productivity (TA&P) pilot programme and firms belonging to the metal making industry, which received other forms of assistance (see section I), the results are slightly larger and more significant (see appendix table B3). This suggests that the estimated effects of EIB and ERP are a lower bound to the estimated effects once the confounding of the effect of different programmes is accounted for.

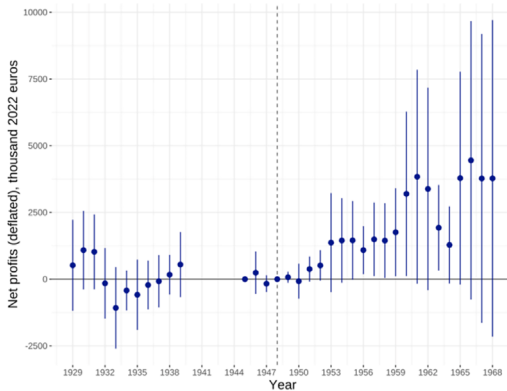
How persistent were the effects of the EIB programme? Figure 8 depicts the yearly event-study estimates of the EIB programme on business profitability. The effects are significant already in the 1950s, despite high volatility in the profits of exposed firms.⁷⁵ Importantly, the patterns of profitability before the firms received the loan are similar in magnitude and statistically indistinguishable to the matched control group, supporting the parallel trends assumption. The effects on profits are no longer significant from 1963 onwards, although they remain significant and tend to increase for the returns on assets (see also appendix table B2). The effects on the returns on assets for firms which received both EIB and ERP loans take more time to show up, possibly because of worse starting positions in terms of business performance (see tables 3 and 4), but they remain significant in the late 1960s as well, whilst the effects on net profits fade out (see appendix table B2). The findings suggest that despite different short-term effects on profits, higher for EIB recipients and weaker for recipients of both EIB and ERP, all aid recipients managed to consolidate this short-term growth and increase their returns on assets in the long term.

The average effects of foreign aid mask important regional differences (see table 7). The effects on profitability are heterogeneous across macro-area (North, Centre, and South). The loan significantly increased the profitability of exposed enterprises in both the North and the South. However,

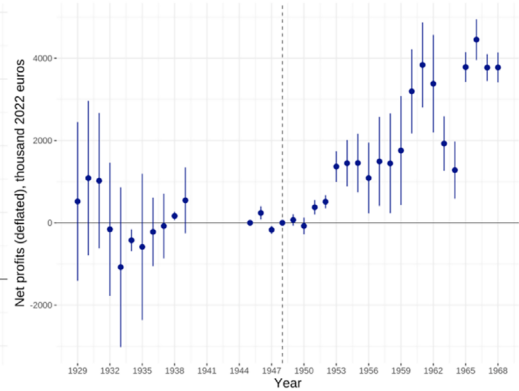
⁷⁵ The confidence intervals of the estimates are much smaller when clustering standard errors at the level of the industrial sector than when clustering them at the firm level (see app. tab. A1 and compare fig. 8a with b). This can be explained with the similar profitability patterns and firm size within industrial sector. Estimates clustered at the firm level are presented as the main results because first, they are more conservative, and second, because firms, rather than entire industrial sectors, were the main unit of exposure to foreign lending.

Panel A: EIB only

(a) SE clustered at the firm level

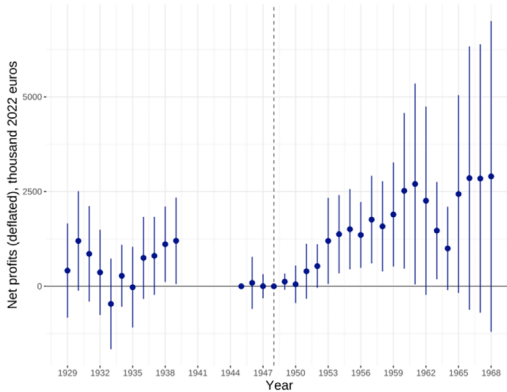


(b) SE clustered at the industrial sector level



Panel B: EIB + ERP aid

(a) SE clustered at the firm level



(b) SE clustered at the industrial sector level

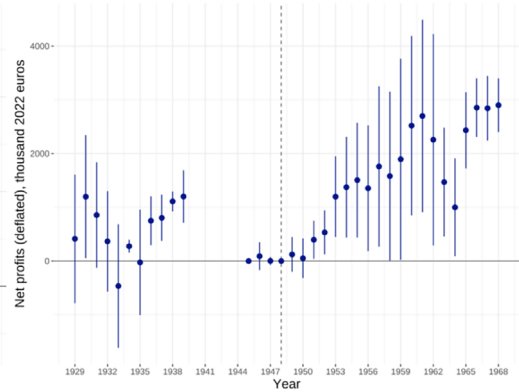


FIGURE 8 The impact of U.S. aid on the profitability of Italian firms, compared with propensity score matched firms of the same industries from the *Imita* database. *Notes:* (1) Values are expressed in thousand 2022 euros. Each year's profits are deflated according to the Istat consumer price index. (2) The control group is specified according to the coarsened exact propensity score matching algorithm. (3) Panel (a) includes the following covariates: North-Centre-South, industrial group, and industrial sector. Panel (b) includes the following covariates: North-Centre-South and industrial group. *Source:* Author creation of the database constructed for this study, based on the IMI-Sanpaolo historical archive and the *Imita.db* sources. [Colour figure can be viewed at wileyonlinelibrary.com]

in central Italy, Marshall Plan aid even led to a decline in business profitability, whilst EIB aid did not have effects. The fact that the Centre did not benefit from foreign aid suggests that only specific types of firms had the necessary productive structure to benefit from it: in 1951, labour productivity in the Centre was much lower than in the North-West, where the majority of aid was concentrated.⁷⁶ Furthermore, whilst the industry composition of exposed firms and amount of aid received by each firm were similar in the Centre and in the North of Italy, firms receiving EIB loans in central Italy were far less (see appendix [table A5](#)).

⁷⁶ Felice, 'Regional value added', p. 940.

**TABLE 8** Effects of ERP-dollar and ERP-lire aid on the profits of Italian firms (in thousand 2022 euros)

	Unmatched			Matched			Matched		
	Only ERP-dollar			Only ERP-dollar			ERP-dollar + ERP-lire		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ERP treatment	2411.9 (1824.5)			542.5 (1746.0)			2521.4* (1505.9)		
Year 1948	189.8* (106.0)			2259.7 (1744.2)			923.8*** (294.8)		
ERP × year 1948	3162.1 (2107.7)	4083.7 (2673.8)	2501.4 (1771.6)	148.2 (2537.9)	-547.0 (1868.2)	29.8 (1129.4)	6593.9** (2960.4)	5055.2* (2676.0)	5222.5** (2597.8)
Obs.	44 642	44 642	44 642	31 708	31 708	31 708	35 313	35 313	35 313
Adjusted R ²	0.011	0.460	0.547	0.003	0.671	0.802	0.016	0.545	0.586
Std. errors	Firm ID	Firm ID	Firm ID	Firm ID	Firm ID	Firm ID	Firm ID	Firm ID	Firm ID
Firm FE	NO	YES	YES	NO	YES	YES	NO	YES	YES
Year FE	NO	YES	YES	NO	YES	YES	NO	YES	YES

Note: The following covariates are included: North-Centre-South, industrial group, and industrial sector. Values are deflated according to the Istat consumer price index and expressed in thousand 2022 euros. Standard errors clustered at the firm level are reported in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The main difference between the ERP-dollars and ERP-lire types of U.S. aid was the fact that, as summarized in table 2, some forms of ERP loans featured more convenient conditions for firms than others. ERP-lire funds encouraged the purchase of domestic machinery and the administrative procedure to receive the loan was quicker than with ERP-dollars loans, and to a lesser extent, than with EIB loans. Understanding how the effects of the ERP-dollars and ERP-lire programmes interacted can help us understand more which features made loans particularly useful for beneficiaries. To avoid confounding the effects, EIB recipient firms are excluded from the ERP control groups (see also section IV).

This section attempts to do so, with the caveat that for ERP loans, IMI archives do not provide detailed information about the selection process of each firm as for the EIB loan. Table 8 presents the difference-in-difference estimates on the profits of firms which only received ERP-dollars loans and of firms which received both ERP-dollars and ERP-lire loans. Receiving both forms of aid increases the profits of firms by more than 5 million 2022 euros (table 8), whilst receiving only ERP-dollars loans does not raise the profits of exposed firms. The fact that the amount of the aid on its own does not seem to explain the effects very much supports this explanation (see panel B of appendix table B4). More than a difference in size among the U.S. aid programmes, the key difference was in the timing and organization in the supply of productive goods through loans.

Considering that the effect of receiving just the EIB loan was about 1.6 million 2022 euros (table 6), the ERP aid, when including ERP-lire, played a much more important role than the EIB loan to raise the profits of exposed firms. This is true even if we consider that the size of firms exposed to only the EIB loan was on average smaller than the size of firms exposed to both EIB and ERP programmes: for firms that only received the EIB loan, the average profits in 1948 were equal to 32 400 2022 euros, whilst for firms exposed to both ERP programmes, the profits in 1948 were negative and equal to -1 960 000 2022 euros. The effect of the more advantageous conditions of the ERP-lire funds, net of the effect of the aid corresponded by the EIB loan, was thus 5.2-1.6 million 2022 euros, equal to 3.6 million (2022) euros of additional profits each year.

More than receiving loans as such, what was critical in increasing the long-run business performance of Italian firms to unprecedented levels were the features associated with the recovery loans which ensured that the goods most needed were provided on time.

VI | CONCLUSION

This research can contribute to the debate on the causes behind the success of the Marshall Plan. It shows the importance for the effectiveness of foreign aid of timely transferring the most needed productive goods, flexibly expanding the set of targeted industries, and accounting for changes in production schedules. The emphasis of this paper on the importance of timing in aid provision is consistent with the literature on the macro-economic effects of international aid, which finds evidence for diminishing returns of foreign aid, particularly 'early-impact' aid such as the Marshall Plan.⁷⁷ If recipient countries have limited abilities to absorb large amounts of aid, it is especially important to act quickly and effectively to avoid aid dependency.

This can be one of the reasons why in the context of Italian post-Second World War reconstruction, the loans which ensured a prompt disposal of advanced machinery most needed by recipient firms, such as EIB and ERP-lire, were far more effective than less efficient programmes, such as the ERP-dollars. The weaker performance of firms receiving only ERP-dollars loans can also be partly explained by the fact that ERP-dollars aid shifted to military production after 1951. Military procurement contracts may have helped firms to increase production in the short run, but may have not been profitable in the longer run, as the case of FIAT aircraft production shows.⁷⁸ Instead, compared with the effects on profits, the effects on returns on assets for EIB and ERP-lire are more pronounced in the long run, indicating that firms were able to consolidate their profit opportunities also in the longer run.

Given the results of this paper, the temptation to generalize the results to contemporary issues about how to effectively design and spend international aid funds is strong.⁷⁹ However, the quantitative analysis of this paper also has some important limitations that prevent such oversimplifications. Although the results are valid for the firms included in the models, they are difficult to generalize to the entire universe of Italian firms. The loans targeted specific industries, and other industries may have reacted differently to increased access to advanced machinery than those targeted. Furthermore, targeted firms may have also received other forms of aid besides EIB, ERP-lire, and ERP-dollars loans. Such forms of aid have been discussed throughout the paper (i.e. sections I and V, and appendix tables A1 and B3) but received less attention primarily because of data availability constraints. For example, the RI-ERP deserves further research as it reallocated the extant ERP sums from the 1950s to the 1970s to fund industrial companies of general interest, initially small and medium enterprises.⁸⁰ Nonetheless, this paper might directly contribute to the historical debate over who benefitted and who did not benefit from foreign reconstruction funding in post-war Italy.

⁷⁷ Radelet, Clemens, and Bhavnani, 'Aid and growth', p. 54.

⁷⁸ Fauri, 'Industria aeronautica italiana'.

⁷⁹ See, for example, Banerjee and Duflo, 'Giving credit'; Deaton, 'Learning about development'; Easterly, 'Reinventing foreign aid'.

⁸⁰ Lombardo, 'Modernizzazione'.



To embrace a more nuanced approach to the issue of foreign aid in post-Second World War Europe, provincial-level analyses⁸¹ and case-study approaches would be useful.⁸² Only focusing on business performance may provide a restricted view of foreign aid's effectiveness if, for example, improved productivity was gained at the expense of shrinking hourly wages, more precarity, and less effective unionization. Future study should focus on harmonizing the firm-level effects of U.S. aid with the wider context of Italian business and labour history.

ACKNOWLEDGEMENTS

I am especially grateful to Charlotte Sophia Bez and Alessandro Nuvolari for having helped me to develop this research project during its early stages. I am also grateful to Michela Giorcelli and Giovanni Pietrangeli for pointing me towards useful archival sources on the Marshall Plan and the Eximbank. I would like to also thank Brian A'Hearn, Mark Billings, Alessandro Brizzi, Raffaele Danna, Giuliana Freschi, Giacomo Canepa, Giacomo Gabbuti, Fabio Lavista, and Michelangelo Vasta for their suggestions. I am grateful to the seminar participants to the SNS-Sant'Anna Economic History Workshop and to the 48th Economic and Business History Conference for insightful discussions. Finally, I would like to thank Fulvio Ingrassia (Archivio Storico Confindustria), Matilde Capasso (Archivio IMI-San Paolo), and the staff of the Archivio Storico Centrale for the excellent assistance.

Open access publishing facilitated by Scuola Superiore Sant'Anna, as part of the Wiley - CRUI-CARE agreement.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in openICSPR at <https://www.openicpsr.org/openicpsr/project/192242/version/V1/view>, reference number <https://doi.org/10.3886/E192242V1>.

ORCID

Marco Martinez  <https://orcid.org/0000-0003-4921-2074>

REFERENCES

- Baffigi, A., 'Italian national accounts: 1861–2011', in G. Toniolo, ed., *The Oxford handbook of the Italian economy since the unification* (Oxford, 2013), pp. 157–186.
- Baffigi, A., Broadberry, S. A., Giordano, C., and Zollino, F., 'Data appendix—Italian national accounts (1861–2019)', in G. Toniolo, ed., *The Oxford handbook of the Italian economy since the unification* (Oxford, 2013), pp. 631–712.
- Banca d'Italia, *Relazione per l'anno 1946. Considerazioni finali* (Rome, 1947).
- Banerjee, A.V. and Duflo, E., 'Giving credit where it is due', *Journal of Economic Perspectives*, 109 (2010), pp. 61–80. doi: [10.1257/jep.24.3.61](https://doi.org/10.1257/jep.24.3.61).
- Becker, W. H. and McClenahan Jr., W. M., *The market, the state, and the Export-Import Bank of the United States, 1934–2000* (Cambridge, 2003).

⁸¹ For example, Bianchi and Giorcelli, 'Reconstruction aid'.

⁸² The business history literature highlighted the importance of ERP-dollar aid for moderately sized but promising firms such as Necchi and Piaggio (Fauri, 'Marshall Plan in Italy' and Fauri, 'Aeronautical industry', p. 239), which, however, represented the exception rather than the norm (Di Martino and Vasta, 'Reassessing'). Wellisz, 'Light mechanical industry', p. 1170, measured significant production increases in Necchi and other 'large industries' between 1948 and 1954. For Necchi, Lavista, 'Cultura manageriale' and idem, 'The controversial Americanisation' emphasized the importance of the U.S. TA&P programme rather than ERP-dollar loans as such, and, to a lesser extent, the governmental commission CISIM, which collaborated with the Stanford Research Institute to assess the managerial and economic weaknesses of Italian mechanical industries (CISIM, 'Economic and industrial problems', pp. 542–3).



- Bianchi, N. and Giorelli, M., 'Reconstruction aid, public infrastructure, and economic development: the case of the Marshall Plan in Italy', *Journal of Economic History*, 83 (2023), pp. 501–537. doi: [10.1017/S0022050723000128](https://doi.org/10.1017/S0022050723000128).
- Boel, B., *The European Productivity Agency and transatlantic relations, 1953–1961* (Copenhagen, 2003).
- Bottazzi, G., Secchi, A., and Tamagni, F., 'Productivity, profitability and financial performance', *Industrial and Corporate Change*, 17 (2008), pp. 711–751. doi: [10.1093/icc/dtn027](https://doi.org/10.1093/icc/dtn027).
- Bottazzi, G., Dosi, G., Jacoby, N., Secchi, A., and Tamagni, F., 'Corporate performances and market selection: some comparative evidence', *Industrial and Corporate Change*, 19 (2010), pp. 1953–1996. doi: [10.1093/icc/dtq063](https://doi.org/10.1093/icc/dtq063).
- Bottiglieri, B., *La politica economica dell'Italia centrista, 1948–1948* (Milan, 1984).
- Carew, A., *Labour under the Marshall Plan: the politics of productivity and the marketing of management science* (Manchester, 1987).
- Carli, G., *Cinquant'anni di vita italiana* (Bari, 1993).
- Castronovo, V., *Storia dell'IRI. 1. Dalle origini al dopoguerra* (Rome—Bari, 2012).
- Churchill, W., *A traveller in war-time: with an essay on the American contribution and democratic idea* (New York, 1918), pp. 99–172.
- CISIM (Commissione indagini e studi sull'industria meccanica), *Economic and industrial problems of the Italian mechanical industries* (Tivoli, 1952).
- D'Atorre, P. P., 'Anche noi possiamo essere prosperi. Aiuti ERP e politiche della produttività negli anni Cinquanta', *Quaderni Storici*, 58 (1985), pp. 55–93.
- Deaton, A., 'Instruments, randomization, and learning about development', *Journal of Economic Literature*, 48 (2010), pp. 424–455. doi: [10.1257/jel.48.2.424](https://doi.org/10.1257/jel.48.2.424).
- De Cecco, M., 'Economic policy in the reconstruction period, 1945–1951', in S. J. Woolf ed., *The rebirth of Italy, 1943–1950* (1972), pp. 156–180.
- De Long, J. B. and Eichengreen, B., 'The Marshall Plan: history's most successful structural adjustment program', *National Bureau of Economic Research Working Paper n. 3899* (1991).
- De Long, J. B., Eichengreen, B., Dornbusch, R., Nöbling, W., and Layard, P. R. G., *Postwar economic reconstruction and lessons for the East today* (Cambridge MA, 1993).
- Di Martino, P. and Vasta, M., 'Reassessing the Italian "economic miracle": law, firms' governance, and management, 1950–1973', *Business History Review*, 92 (2018), pp. 281–306. doi: [10.1017/S0007680518000430](https://doi.org/10.1017/S0007680518000430).
- Domini, G., 'Innovation and business performance in Italy, 1913–1936', *Rivista di Storia Economica /Italian Review of Economic History*, 3 (2023), pp. 287–330. doi: [10.1410/107970](https://doi.org/10.1410/107970).
- Easterly, W., *Reinventing foreign aid* (Cambridge MA, 2018).
- Eichengreen, B. J., *The European economy since 1945: coordinated capitalism and beyond* (Princeton NJ and Oxford, 2007).
- Ellis, H. S., *The economics of freedom. The progress and future of aid to Europe* (New York, 1950).
- Esposito, C., *America's feeble weapon: funding the Marshall plan in France and Italy, 1948, 1950* (Westport CN and London, 1994).
- Esposito, C., 'Influencing aid recipients: Marshall plan lessons for contemporary aid donors', in B. Eichengreen, ed., *Europe's post-war recovery* (Cambridge, 1995), pp. 123–133.
- Fauri, F., *Il piano Marshall e l'Italia* (Bologna, 2010).
- Fauri, F., 'The Marshall Plan in Italy: industrial renewal and material reconstruction', in F. Fauri and P. Tedeschi, eds., *Novel outlooks on the Marshall Plan* (Brussels, 2011), pp. 39–58.
- Fauri, F., 'The Italian state's active support for the aeronautical industry: the case of the Caproni Group, 1910–1951', *Business History Review*, 95 (2021), pp. 219–247. doi: [10.1017/S0007680520000951](https://doi.org/10.1017/S0007680520000951)
- Fauri, F. *Storia dell'industria aeronautica italiana. Dai primi velivoli ad oggi* (Bologna, 2023).
- Fauri, F. and Tedeschi, P., eds., *Novel outlooks on the Marshall Plan: American aid and European re-industrialization* (Bern & Oxford, 2011).
- Felice, E., 'Regional value added in Italy, 1861–2001, and the foundation of a long-term picture', *Economic History Review*, 64 (2011), pp. 929–950. doi: [10.1111/j.1468-0289.2010.00568.x](https://doi.org/10.1111/j.1468-0289.2010.00568.x)
- Fossedal, G.A., *Our finest hour: Will Clayton, the Marshall Plan, and the triumph of democracy* (Stanford, 1993).
- Frieden, J., *Global capitalism: its fall and rise in the twentieth century, and its stumbles in the twenty-first* (New York, 2020).



- Geiger, T. and Sebesta, L., 'National defense policies and the failure of military integration in NATO: American military assistance and Western European rearmament, 1949–1954', in F. H. Heller and J. R. Gillingham, eds., *The United States and the integration of Europe: legacies of the postwar era* (New York, 1996), pp. 166–197.
- Giannetti, R. and Vasta, M., *Evolution of Italian enterprises in the 20th century* (Heidelberg, 2006).
- Gimbel, J., *The origins of the Marshall Plan* (Stanford, 1976).
- Ginsborg, P., *Storia d'Italia dal dopoguerra a oggi* (Turin, 2006).
- Giorelli, M., 'The long-term effects of management and technology transfers', *American Economic Review*, 109 (2019), pp. 121–152. doi: [10.1257/aer.20200705](https://doi.org/10.1257/aer.20200705)
- Graziani, A., *Lo sviluppo dell'economia italiana: dalla ricostruzione alla moneta europea* (Turin, 1998).
- Gualerni, G., *Ricostruzione e industria: per una interpretazione della politica industriale nel secondo dopoguerra, 1943–1951* (Milan, 1980).
- Hogan, M., *The Marshall Plan: America, Britain, and the reconstruction of Western Europe* (Cambridge, 1987).
- Istituto Mobiliare Italiano (IMI), *Il prestito dell'Export-Import Bank di Washington all'Italia* (Rome, 1951).
- Istituto Mobiliare Italiano (IMI), *GUIDA all'Archivio Storico dell'Istituto Mobiliare Italiano S.p.A.* (Rome, 1998), pp. 42–71.
- Istituto Storico Parri, *L'ERP in Italia e la Ricostruzione Europea* (Rome, 1948).
- Kamarck, A. M., *Politica finanziaria degli alleati in Italia: luglio 1943–febbraio 1947* (Rome, 1977).
- Kindleberger, C. P., *Power and money* (New York, 1970).
- Kipping, M. and Bjarnar, O., *The Americanisation of European business: the Marshall Plan and the transfer of US management models* (London, 1998).
- Lavista, F., *Cultura manageriale e industria italiana. Giulio Martinoli fra organizzazione d'impresa e politiche di sviluppo (1945–1970)* (Milan, 2005).
- Lavista, F., 'The controversial Americanisation of the Italian mechanical industry after the Second World War: the case of Necchi', *European Review of History: Revue européenne d'histoire*, 15 (2008), pp. 423–443. doi: [10.1080/13507480802228564](https://doi.org/10.1080/13507480802228564)
- Lavista, F., 'Ricostruzione e sviluppo: dai "piani di primo aiuto" all'Erp', in A. Giovagnoli and A. A. Persico, eds., *Pasquale Saraceno e l'unità economica italiana* (Soveria Mannelli, 2013), pp. 95–120.
- Lombardo, G., *L'IMI. Centralità per la ricostruzione (1945–1954)* (Bologna, 2000).
- Lombardo, G., 'L'apporto dello European Recovery Program (piano Marshall) alla ri-progettazione dell'industria italiana nel secondo dopoguerra: Modernizzazione, conflitti e produzioni off limits', in A. Bonoldi and A. Leonardi, eds., *La rinascita economica dell'Europa* (Milan, 2006), pp. 61–87.
- Maier, C. S., 'The politics of productivity: foundations of American international economic policy after World War II', *International Organization*, 31 (1977), pp. 607–633.
- McGlade, J., 'From business reform programme to production drive. The transformation of US technical assistance to Western Europe', in M. Kipping and O. Bjarnar, eds., *The Americanization of European business. The Marshall Plan and the transfer of US management models* (New York, 1998), pp. 18–32.
- McGlade, J., 'Americanization: ideology or process? The case of the United States technical assistance and productivity program', in J. Zeitlin and G. Herrigel, eds., *Americanization and its limits. Reworking US technology and management in Post-War Europe and Japan* (New York, 2006), pp. 53–75.
- McGlade, J. and Segreto, L., 'Lo zio Sam ingegnere industriale, il programma Americano per la produttività e la ripresa economica dell'Europa occidentale (1948–1958)', *Studi Storici*, 37 (1996), pp. 9–40.
- Milward, A. S., *The reconstruction of Western Europe, 1945–51* (London, 1984).
- Nuvolari, A. and Vasta, M., 'The ghost in the attic? The Italian national innovation system in historical perspective, 1861–2011', *Enterprise & Society*, 16 (2015), pp. 270–90. doi: [10.1017/eso.2014.25](https://doi.org/10.1017/eso.2014.25)
- Presenti, A., 'Il piano Marshall', *Critica Economica*, I (1948), pp. 27–28.
- Pietrangeli, G., 'Sources for the study of postwar reconstruction in Italy: the export-import bank loan in the Intesa Sanpaolo group historical archives', *Journal of European Economic History*, 47 (2018), pp. 99–123.
- Pollard, S., *The integration of the European economy since 1815* (London, 2006).
- Price, H. B., *The Marshall Plan and its meaning* (Ithaca, 1955).
- Radelet, S., Clemens, M., and Bhavnani, R., 'Aid and growth: the current debate and some new evidence', in P. Isard and L. Lipschitz, eds., *The macroeconomic management of foreign aid: opportunities and pitfalls* (Washington DC, 2006), pp. 43–60.



- Reichlin, L., 'The Marshall Plan reconsidered', in B. Eichengreen, ed., *Europe's Post-War recovery* (Cambridge, 1995), pp. 39–67.
- Rinaldi, A. and Vasta, M., 'The structure of Italian capitalism, 1952–1972: new evidence using the interlocking directorates technique'. *Financial History Review*, 12 (2005), pp. 173–198. doi: [10.1017/S0968565005000090](https://doi.org/10.1017/S0968565005000090).
- Rostow, W. W., 'Memorandum for the files, origins of the Marshall Plan, by Mr. Charles P. Kindleberger', in S. E. Gleason, ed., *Foreign Relations to the United States, 1947, The British Commonwealth; Europe, volume III*, (1946), document 242. <https://history.state.gov/historicaldocuments/frus1947v03/d142>.
- Saraceno, P., *Ricostruzione e pianificazione (1943–1948)* (Bari, 1969).
- Segreto, L., 'Finanza, industria e relazioni internazionali nella ricostruzione. Il prestito dell'Eximbank all'Italia (1947–1955)', *Passato e Presente*, 51 (2000), pp. 67–94.
- Spagnolo, C., *La stabilizzazione incompiuta: il piano Marshall in Italia (1947–1952)* (Rome, 2001).
- Steil, B., *The Marshall Plan: dawn of the cold war* (New York, 2018).
- Toniolo, G., 'An overview of Italy's economic growth', in G. Toniolo, ed., *The Oxford handbook of the Italian economy since the unification* (Oxford, 2013), pp. 36–38.
- Vasta, M., 'Appendix: the source and the Imita.db dataset', in R. Giannetti and M. Vasta, eds., *Evolution of Italian enterprises in the 20th century* (Heidelberg-New York, 2006), pp. 269–273.
- Vasta, M., 'Firm performance (1900–1971)', in R. Giannetti and M. Vasta, eds., *Evolution of Italian enterprises in the 20th century* (Heidelberg-New York, 2006), pp. 152–189.
- Wasser, S. F. and Dolfman, M. L., 'BLS and the Marshall Plan: the forgotten story', *Monthly Labour Review*, 128 (2005), pp. 44–52.
- Wellisz, S. H., 'Studies in the Italian light mechanical industry: II. The sewing machine industry', *Rivista internazionale di scienze economiche e commerciali*, 12 (1957), pp. 1160–1182.
- Zamagni, V., 'Betting on the future: the reconstruction of Italian industry 1946–1952', in J. Becker and F. Knipping, eds., *Power in Europe?* (Berlin-New York, 1986), pp. 283–300.
- Zeitlin J. and Herrigel, G., *Americanization and its limits. Reworking US technology and management in post-war Europe and Japan* (New York, 2006).

PRIMARY SOURCES

Imita.db, <http://imitadb.unisi.it>

Istat, FOI(nt)—indici nazionali dei prezzi al consumo per le famiglie di operai e impiegati. Generale al netto dei tabacchi (2023). https://www.istat.it/it/files//2020/08/coefficienti_annuali_1861_2022.pdf

Istituto Mobiliare Italiano—IMI Historical Archive. Archivio Mutui (more than 600 folders). a.

Istituto Mobiliare Italiano—IMI Historical Archive. Inventario Eximbank—First Loan (128 folders). b.

Istituto Mobiliare Italiano—IMI Historical Archive. Ispettorato per le imprese, relazioni EIB (14 folders). c.

Istituto Mobiliare Italiano—IMI, *Loan from the Export-Import Bank to Italy* (Rome, 1951).

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Martinez, M., 'It's not about the money: New evidence on U.S. reconstruction aid in Italy, 1947–68', *Economic History Review*, 78 (2025), pp. 266–294.
<https://doi.org/10.1111/ehr.13349>