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Italy, 1860-1940: a little-known success story[1]

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The title of this essay may seem slightly strange. No one could doubt that the industrial power ranked fifth or sixth in the western world is anything but a success story. But Italy seems to have no economic history, and no antecedents for its development. For instance, Porter states that 'Italy rejoined the list of advanced nations in the last two decades'.[2] Most Italian economists would place the development earlier—in the 1950s or 1960s, when Italy experienced a *miracolo economico* (economic miracle) even more impressive than the German *Wirtschaftswunder*. From 1950 to 1989 Italy's GDP growth rate was second only to Japan's. But while the historical and cultural roots of Japan's growth have always attracted a lot of attention, those of the Italian boom have largely been neglected.

Economic historians bear some responsibility for this neglect. In the 1960s and 1970s they let the Italian case slip out of the international debate on development. The seventh volume of the *Cambridge economic history of Europe* does not include a chapter on Italy, because the editors were unable to find a suitable author.[3] Therefore knowledge of the Italian case abroad has relied, until recently, on the pioneering articles by Gerschenkron.[4] He was very critical of Italy's performance before 1914. A misdirected economic policy caused the growth rate of industrial output to be much lower than it could have been, given the relative backwardness of the country. With few exceptions, Italian historians in the 1950s and 1960s were even more critical than Gerschenkron, albeit for different reasons. They argued, under the influence of the marxist tradition, that big business allied with the conservative wheat-producing landowners (*blocco industriale-agrario* in Gramsci's words) had imposed a policy which had biased development and ultimately brought Italy to imperialism, fascism, and war.[5] The main opponent of this bleak opinion was Romeo, who stoutly defended the Italian performance and the economic policy both against the marxists and against

[1] The author wishes to thank Carlo Bardini, Stefano Fenoaltea, Kevin O'Rourke, Giuseppe Tattara, and Vera Zamagni for their useful comments. None of them is responsible for the remaining shortcomings of the essay.

[2] Porter, *Competitive advantage*, p. 421.

[3] Postan and Mathias, 'Preface', p. xix.

[4] Gerschenkron, 'Notes'. For a reappraisal of his contribution, cf. Federico and Toniolo, 'Italy'.

[5] The most prominent writer in this tradition is Sereni, whose works have been collected in *Capitalismo nelle campagne* and *Capitalismo e mercato*. See also Grifone, *Il capitale*, and more recently Mori, *L'economia*. This reasoning is shared to some extent by non-marxist historians such as Webster, *Industrial imperialism* and Forsyth, *Crisis*.

Gerschenkron.[6] In spite of Romeo's efforts, however, the reputation of Italian industrialization before 1940 was not good either at home or abroad.

These pessimistic views are no longer common in Italy. In the last two decades economic historians have made great strides. The results of the 1980s have been discussed in two textbooks, which are available in English translation.[7] Therefore this review will focus on the most recent work, including some unpublished research. It begins with a general discussion on macroeconomic models of growth and on their testing. Then it analyses six topics—agriculture, manufacturing, the utilities, banking, fiscal and monetary policies, and the north-south gap. The last section considers to what extent the results could change the general interpretation of Italian development. Needless to say, any conclusion drawn from ongoing research is still preliminary and tentative.

I

In the 1950s and 1960s it was assumed that industrialization had to begin with a marked discontinuity, variously called take-off, big spurt and so on. Gerschenkron and Romeo shared this assumption, but they disagreed as to the causes of the discontinuity. The former attributed it to the action of two mixed (German-type) banks, established in 1894. He criticized Italian governments for having built the railways in the 1860s-1880s when the Italian engineering industry was still unable to supply the required goods, and for having chosen in the 1880s the wrong activities to protect (wheat-growing, textiles, and the steel industry instead of engineering and chemicals). On the other hand, Romeo praised the investment in railways as an indispensable prerequisite for the take-off. Therefore he had to argue that the industry had begun to grow soon after the completion of the network, in the 1880s.

The idea of discontinuity is not very popular nowadays. Most scholars believe that there have been *several* periods of fast growth, the 1830s-1840s, the 1880s, the boom *giolittiano* (1895 to 1913), and the 1920s. Each of these 'waves' increased the per caput income and caused structural changes that set the stage for the following one. Historians have put forward several hypotheses to explain this stop-go.[8] Cafagna and Bonelli attribute it to exogenous changes in the world demand for Italian primary products. Fenoaltea and Warglien single out changes in investment, which directly affected the output of engineering and building and indirectly the whole economy, but disagree on the causes of the investment cycle. According to Warglien, it was caused by speculative fluctuations in the supply of short-term credit. Fenoaltea has put forward two different hypotheses: the political changes affecting the expectations regarding industrial policy, and the

[6] Romeo, *Risorgimento*; *idem*, *Breve storia*; cf. also Romeo's debate with Gerschenkron, 'Industrial development'.

[7] Zamagni, *Economic history*; Toniolo, *Economic history* (and *idem*, *L'economia*). A statement of the conventional wisdom is Castronovo, *Storia economica*.

[8] Cf. Cafagna, *Dualismo*; *idem*, 'Industrial revolution'; Bonelli, 'Il capitalismo'; Fenoaltea, 'Riflessioni'; *idem*, 'International resource flows'; Warglien, 'Investimenti'.

exogenous changes in the world supply of capital. Both Fenoaltea and Warglien test a very reduced form of their model with a simple regression—and both find evidence to support their position. On the other hand, Crivellini shows that after 1861 the contribution of exports to GDP growth (and hence to fluctuations) was at best modest.[9] All these results remain highly tentative. There is no explicit testing of alternative hypotheses, and the econometric methods imply very strong assumptions about the exogeneity of the explanatory variables. For instance, Crivellini goes as far as assuming that not only exports but also investments and agricultural output were exogenous.

An easier way to test the competing models may be to look for a discontinuity in development. Such an approach needs only a statistical analysis of the relevant time series, GDP per caput or industrial output. Three sophisticated econometric papers have been published recently, and one of them, by Crafts, Leybourne, and Mills, addresses the issue directly and finds evidence of an acceleration in the growth rate of industrial production in the 1890s which fits well with Gerschenkron's views.[10] The results, however, are far from conclusive: they are sensitive to the chosen econometric methodology (which changes continuously as progress is made in time-series analysis), and the quality of the data used is, to say the least, inadequate.

The quality of the national accounts is arguably the most serious hurdle for the analysis of Italian economic development. The series were estimated in 1956 by the Italian central statistical office (ISTAT), and revised in the 1960s by a group of scholars co-ordinated by Fuà,[11] but their reliability is highly questionable. As Toniolo succinctly explains, 'the original work of ISTAT gives very few explanations of the method used and often very little information on the primary sources for the elementary data on which the aggregations were based'.[12] In some cases, the results are scarcely credible. For example, according to these estimates, Italian per caput income in 1870 would have been about 75 per cent of the French and almost equal to the German,[13] whereas all available evidence on real wages and welfare (infant mortality rates, life expectancy, literacy, etc.) suggests that the actual gap was much wider because Italian GDP was lower.[14] The defect lies in the official statistics on agricultural output, which ISTAT has accepted uncritically.[15]

This mistrust has stimulated several attempts to revise the series. Some authors have begun from scratch, disregarding the ISTAT-Fuà figures entirely. Gerschenkron, Fenoaltea, and Carreras have re-estimated industrial

[9] Crivellini, *Aspetti*. Cf. also Federico, 'Oltre frontiera'.

[10] Crafts, Leybourne, and Mills, 'Measurement'. Cf. also Ardeni and Gallegati, 'Cicli'; Caselli and Marinelli, 'Italian GNP growth'.

[11] ISTAT, *Indagine*; Ercolani, 'Documentazione'. Cf. Bardini, Carreras, and Lains, 'National accounts'.

[12] Toniolo, *Economic history*, pp. 3-4.

[13] Data (PPP-adjusted GDP per caput) from Maddison, *Dynamic forces*, tab. 1.1.

[14] PPP-adjusted wages from Williamson, 'Evolution' and physical quality of life index from Federico and Toniolo, 'Italy'.

[15] Federico, 'Valutazione'.

output, but unfortunately their indexes diverge rather markedly.[16] Fenoaltea has been engaged since the early 1970s in an heroic attempt to revise his previous work, and the result will undoubtedly outshine all the other indexes for its technical skill and breadth of information. What he has published so far strongly suggests that the ISTAT-Fuà series underestimate the growth rate and the levels of manufacturing value added (by about 15 per cent in 1911).[17] Actually, according to a recent estimate, the output of the service sector was also underestimated (by 25 per cent), so that Italian GDP in 1911 was about 10 per cent higher than the ISTAT estimate.[18]

Though very promising, this research strategy is also very resource-intensive and therefore difficult to implement. So some scholars have chosen, as a second best option, to improve the data by making use of those new results already available and/or by changing the weighting systems.[19] The results differ substantially from the original ISTAT-Fuà figures and imply a faster growth. For instance, according to Fuà and Gallegati, the yearly growth rate of GDP from 1861 to 1951 was 0.9 per cent–1.1 per cent instead of only 0.8 per cent.

Nevertheless, while all the available evidence suggests that the ISTAT-Fuà series seriously downplay Italy's long-run performance, the real extent of the bias and the differences in the time pattern of the growth are still a matter of speculation.

II

In the middle of the nineteenth century, more than half of Italian GDP was produced in the agricultural sector. Thus, it is not surprising that scholars blame agriculture for the disappointing aggregate performance.[20] The productivity of labour was low, rents high, and peasant earnings barely exceeded subsistence level, which meant that they could not afford to buy industrial goods, thus hampering the development of manufacturing.[21] The cause of this was the technical backwardness which marked agriculture all over the country, except in small areas in the Po valley. According to Orlando's estimate, the rate of growth in total factor productivity was respectable only in the north in 1897-1925; it was low elsewhere in the

[16] Gerschenkron, 'Notes'; Fenoaltea, 'Italy'; Carreras, 'La producción'. Cf. the discussion of their results in Federico and Toniolo, 'Italy'.

[17] Cf. Fenoaltea, 'Growth of utilities'; *idem*, 'Le costruzioni'; *idem*, 'Italy's silk industry'; *idem*, 'Extractive industries'; and (for the point estimate in 1911) *idem*, 'Il valore'.

[18] Cf. Zamagni, 'Il valore aggiunto' and Vitali, 'Gli impieghi', tab. 7. In fact, the value added in agriculture was approximately correct (Federico, 'Il valore aggiunto'). The research project has been sponsored by the Banca d'Italia.

[19] Cf. Maddison, 'El crecimiento' (using Fenoaltea's results but with ISTAT weights); Rossi, Sorgato, and Toniolo, 'I conti economici' (re-estimating the income from the consumption side taking into account the 1911 benchmark estimate); Fua' and Gallegati, 'Un indice' (replacing the constant price index with a Divisia one); and Bardini, Carreras, and Lains, 'National accounts' (revising Maddison's data with 1911 weights).

[20] Cf. Daneo, *Breve storia*, and Esposto, *Institutions*. A more detailed discussion of the issue is Federico, 'Agricoltura'.

[21] Sereni, *Capitalismo nelle campagne* and Bonelli, 'Il capitalismo italiano'. The works on the standard of living are reviewed by Vivarelli, 'La questione contadina'.

same years and negligible or even negative in 1881-97 and in 1925-39.[22] Such a poor performance was allegedly caused by peasants' conservatism (shown by their supposed drive for self-sufficiency), landowners' absenteeism, and inefficient institutions (notably the traditional tenancy systems such as sharecropping in central Italy and the latifundia in the south). Many scholars have argued that the state should have intervened—lending capital at low rates, investing in land reclamation, supporting R&D, and helping the diffusion of the best techniques or, perhaps, distributing the land to peasants.[23] However, this conventional wisdom has been challenged.

First, much research suggests that technical progress was not as sluggish as previously assumed. Orlando's figures are very likely to underestimate the growth in TFP as they rely not only on the official figures for agricultural output but also on overvalued input data.[24] No doubt 'high farming' and mechanization were not widely adopted, but this is not necessarily evidence of blind 'conservatism' as assumed by the nineteenth-century agronomists (and by the twentieth-century historians). Actually, the choice may have been economically quite sound. In fact Italy's dry climate made 'high farming' impossible anywhere but in the Po valley (where it had been practised since the middle ages) and the abundant labour and scarce capital made mechanization unprofitable. Recent research shows how land-saving innovations such as fertilizers and, to a lesser extent, new varieties of seeds were quickly adopted.[25] This evidence is not conclusive because it relies largely on qualitative sources, which might be biased by the personal views of the author, and on case-studies of single farms, which might have performed better than the average. A new estimate of output growth and TFP is badly needed.

There are growing doubts also on another tenet of the traditional view on peasants' 'conservatism', the alleged preference for self-sufficiency over the potentially gainful but risky specialization in production for the market. For instance, the supposedly backward Apulian peasants responded enthusiastically to the increase in French demand for their wine in the 1880s. In fact, they took risks to a remarkable degree, entering long-term contracts to obtain the land to plant new vineyards.[26] And whatever their (unobservable) real preferences might have been, Italian peasants were deeply involved in market exchanges. It has been estimated, by extrapolating country-wide the data of a sample of households, that already in the 1880s, about 75 per cent of the Italian agricultural output was sold or otherwise exchanged outside the household.[27] Moreover, peasants made a rational

[22] Orlando, 'Progressi'.

[23] Orlando, *Storia* and, on credit, Muzzioli, *Banche*. The opportunity of an agrarian reform has been vigorously defended by Sereni, *Capitalismo nelle campagne* and widely discussed in the 1960s (cf. the articles collected in Caracciolo, ed., *La formazione*).

[24] Cf. Federico, 'Agricoltura'.

[25] Cf. on mechanization, *La campagna a vapore*; evidence of technical progress outside the Po valley in Corona and Massullo, 'La terra', Porisini, 'Produttività', Cohen and Galassi, 'Sharecropping', Galassi, 'Stasi', *idem*, 'Mezzadria', Petrusewicz, *Latifondo*, Lazzarini, 'L'agricoltura veneta'. The case-studies on farms are listed in Federico, 'Agricoltura', n. 69.

[26] De Felice, *L'agricoltura*.

[27] Federico, 'Mercantilizzazione'. Cf. on the diffusion of markets Biagioli, 'Il podere' and Salvemini and Visceglia, 'Fiere'.

choice of their crop mix and the amount of outside work according to the land/labour ratio, irrespective of the consequent need for market transactions.[28]

Lastly, but not least, the assessment of the efficiency of institutions is also changing. Galassi and Cohen have contested the fundamental assumption that tenancy affected the performance, by failing to find any statistically significant effect of tenancy systems on regional differences in input productivity.[29] As an alternative to their show of brute econometric power, there are plenty of arguments that defend the rationality of traditional contracts. Sharecropping is regarded as the most efficient way of tackling the specific problems of Mediterranean crops (wine, oil), such as the high risk and the need for strict supervision to protect the valuable capital investment from careless agricultural practices.[30] Even the large wheat-growing southern estates (latifundia), the bugbear of all agrarian reformers of the nineteenth century, can be considered a rational response to a hostile environment, highly variable yields, and poor communications.[31]

The revision, however, leaves one question unanswered. If Italian peasants adopted all suitable innovations, rationally exploited market opportunities, and were not encumbered by inefficient institutions, why were they so poor? The answer may be that there were too many of them in relation to the quantity of good land available. In fact they used labour-intensive techniques, which lowered the productivity of labour (i.e. agricultural wages) and increased that of land (i.e. the rents). It has been estimated that in 1911 the productivity of land in Italy was 60 per cent *higher* than in the UK, while that of labour ranged between one-third and half (according to labour data used).[32] In other words, the poverty of the Italian rural population could be eliminated only by reducing the land/labour ratio—that is, by industrialization or by emigration.

This last statement does not imply that an appropriate agrarian policy would not have been useful. The reputation of Italian agrarian policy has not improved in recent years. For instance, Cohen has stressed that during the Fascist period the repression of trade unions and the laws against the internal mobility of the population impeded mechanization.[33] But the debate has focused on the consequences of the duty on wheat, the real *pièce de résistance* of Italian agrarian policy. It was imposed for the first time in 1887 and maintained until the 1950s (except in 1914-24). The duty succeeded in reducing imports substantially, but also caused a serious misallocation of resources, as wheat growing was clearly unsuited to Italian input endowment. Some have argued that protection, possibly as a temporary measure, was necessary in order to avoid social unrest in the countryside and/or a short-term crisis in the balance of payments.[34] In a very recent article, Fenoaltea

[28] Federico, 'Household budgets'.
[29] Galassi and Cohen, 'La agricultura'.
[30] Cohen and Galassi, 'Sharecropping'; Biagoli, 'I problemi'.
[31] Bevilacqua, 'Uomini'; *idem*, 'Clima'; Petrusewicz, *Latifondo*; Galassi and Cohen, 'Economics'.
[32] O'Brien and Prados, 'Agricultural productivity'; cf. also O'Brien and Toniolo, 'Poverty'.
[33] Cohen, 'Fascism'.
[34] Zamagni, *Economic history*; Ganugi, 'Financial deepening'; Federico, 'Commercio'.

strongly contests this view.[35] He points out that the duty thwarted the development of industry by lowering the purchasing power of industrial wages. Therefore peasants were induced to go abroad instead of searching for a job in industry.

Fenoaltea's model is simple and very elegant but, unfortunately, quite difficult to test. In actual fact, two recent econometric works show that the gross emigration rate was affected positively by the wage gap between Italy and the receiving countries.[36] Therefore, Fenoaltea is right: the duty on wheat may have increased emigation if it had lowered real wages (one should also take into account the effects of a possible repeal on the demand for agricultural labour). It is, however, unlikely to have been the major cause. In fact, according to Hatton and Williamson's estimates, Italian wages had to be much higher than they actually were (up to three times as high) to prevent Italians from emigrating, while Fenoaltea himself hypothesizes that the duty had lowered real wages by just 10 per cent.[37]

III

Currently, most Italian scholars are more sanguine than Gerschenkron about the effects of economic policy on industrialization. They regard state support as a sort of necessary evil.[38] Without it, Italian industry would not have been able to overcome the hurdles it faced—the lack of raw materials and coal, the scarcity of skilled manpower and of entrepreneurs, and insufficient internal demand.

This general statement has to be qualified as it refers mainly to a subset of industries. Most industries got very little support (usually only a limited amount of protection), while the bulk of resources was allocated to the heavy industries, and notably to those of military importance—steel, heavy engineering, shipbuilding, and navigation companies. A 'military-industrial complex' (to use an old expression) was deemed both indispensable in making Italy's claims to be a great power credible, and unlikely to develop without state support. In fact, the heavy industries needed huge amounts of capital and skilled manpower (at least in some branches) and were characterized by substantial scale economies, while the domestic market was small or non-existent. Therefore protection alone would not have sufficed: the state had also to create a market by purchasing weapons, railway stock, and other products, and in some instances had to intervene to stimulate the setting up of firms or to stave off their bankruptcy. Further, it supported and supervised bail-outs conducted by mixed banks.[39] This policy culminated in massive bail-outs of both banks and industrial companies in 1931-3 which

[35] Fenoaltea, 'Politica'.

[36] Faini and Venturini, 'Italian emigration'; Hatton and Williamson, *Age of mass migration*. A general overview is provided by Sori, *L'emigrazione*.

[37] Fenoaltea, 'Politica', p. 72. Hatton has kindly provided the estimate of the 'necessary' wage increase.

[38] Cf. e.g. Castronovo, *L'industria italiana*; Bonelli, 'Il capitalismo italiano'; Zamagni, *Lo stato italiano*.

[39] No comprehensive analysis of these operations (and of their cost) is available as yet. There is some information in Confalonieri, *Banca ed industria*, 1907-14; *idem*, *Banche miste*; Forsyth, *Crisis*; Carparelli, 'I perchè'; Cianci, *Nascita*; Ciocca and Toniolo, eds., *L'economia italiana*.

created the Istituto per la Ricostruzione Industriale (IRI). Therefore Bonelli goes as far as to state that 'Italian capitalism appeared immediately and precociously as state capitalism'.[40]

The influence of this interpretation is evident from the distribution of the case-studies in business history, which represent the great bulk of recent literature on Italian industry. Studies on heavy industry outnumber those on other sectors: one company alone, Ansaldo, is the subject of no less than seven books (including an ongoing multi-volume official history) and several articles.[41] This literature focuses more on exciting topics such as the 'wars' between rival groups of capitalists to expand their financial empires or the long-term strategies of the main companies than on more mundane issues such as profits, production costs, productivity, or even technology and marketing. The results broadly confirm the essentials of Bonelli's thesis. For instance, Ansaldo would not have become an industrial giant (and for a while the owner of the second largest Italian bank) without the public procurement of weapons. However, these case-studies do not prove beyond any reasonable doubt that state support was indispensable for the development of metalworking and engineering as a whole. There were several important and successful companies which did not form part of the 'military-industrial complex', such as Olivetti and Fiat in engineering or the producers of steel from scrap (nowadays an Italian speciality).[42] Public procurement was much less important for the industrial sector as a whole than for the core companies of the 'complex'. According to Fenoaltea's estimates, in 1861-1914 expenditure on railways (inclusive of maintenance) accounted on average for about 10 per cent of the total value added of steel and engineering industries.[43] There are no comprehensive data on the purchase of weapons. According to Vitali, in 1911 state expenditure accounted for 14 per cent of the value added (and for 8 per cent of total sales) in these industries.[44] Tariffs may have been instrumental in the development of the iron and steel industry, but this was not the case in engineering. The effective rate of protection was low or even negative, a subject of bitter complaint by industrialists.[45] Fenoaltea has even suggested that the duty on steel prevented Italy from becoming a major exporter of engineering goods in the nineteenth century.[46]

Some recent research raises an even more radical question: was the development of the 'military-industrial complex' really so important for Italian industrialization? It was quite small in relation to the whole economy. In 1911, steel production and the 'strategic' branches of engineering

[40] Bonelli, 'Capitalismo'.

[41] Cf. *Storia Ansaldo*. Cf. on recent flourishing of business history in Italy, Bigazzi, 'La storia'.

[42] Cf. Pozzobon, 'L'industria padana'; Gaggio, 'Prezzi relativi'.

[43] Fenoaltea, 'Italy'. This suggestion has not been endorsed by anyone else (cf. Toniolo, 'Effective protection').

[44] Vitali, 'Gli impieghi', tab. 1. The figures for the whole manufacturing sector were lower: 10% and 3% respectively.

[45] Cf. Tattara, 'Protezione'. The chemical industry was protected only by the 1921 tariff (Zamagni, 'L'industria chimica').

[46] Cf. Fenoaltea, 'Riflessioni'; Toniolo, 'Effective protection', estimates that in 1906-8 subsidizing steel production instead of protecting it would have increased the Italian GDP by 1.5% at most.

(foundries, shipbuilding, production of rolling stock, and heavy engineering) accounted for about 10 to 11 per cent of value added in manufacturing and for 2 per cent of Italian GDP.[47] These figures were to increase later, but still in 1938 the *whole* of metalworking and engineering accounted for one-third of manufacturing and about 8 per cent of total GDP. Of course, one could argue that, regardless of its size, the 'military-industrial complex' was instrumental in industrialization because it spearheaded technical progress.[48] However, this would appear not to have been the case. Its labour productivity in 1911 and 1936 was indeed higher than the all-industry average, as one would expect in capital-intensive industries—but not that high (it was lower than in many branches of the food industry).[49] Further, the gap with labour productivity in the equivalent British industries increased somewhat in 1911-36. It is tempting to attribute this lacklustre performance to insufficient competition caused by protection. Nor was the Italian 'military-industrial complex' likely to yield substantial technological spillovers to other sectors, for like any other backward country, Italy imported most of modern technology.[50] Giannetti's work on the microeconomics of innovation shows that Italian firms were quite proficient in adapting foreign machinery and in combining machines of different provenance and vintage.[51] This skill was less developed in heavy industries, where plants were more often than not bought turnkey. Actually, Italy was the undisputed world technological leader in one industry, the most 'traditional' textile one of silk reeling.[52]

All these results suggest that it would be advisable to shift the attention away from the 'military-industrial complex' towards light industries (textiles, food production) and other branches of engineering—the 'Mancunian' path to industrialization' as it is sometimes called.[53] Although there are comparatively few studies of these industries in Italy,[54] the general picture is fairly clear. In spite of modest or negligible state support, light industries succeeded in growing and becoming competitive in the world market from the 1890s onwards. It is widely believed that the key to this success was the low cost of labour. Modern technology was comparatively labour intensive, and it did not need skilled workers. Therefore, firms could tap the vast resources of female rural labour. They sought potential workers by locating mills in the countryside so that their employees could live with

[47] Data for 1911 from Fenoaltea, 'Il valore aggiunto' and Vitali, 'Gli impieghi'; for 1938 Ercolani, 'Documentazione', tabs. 1.1A and 1.8. Chemicals accounted for 3.9% and 10.5% of manufacturing GDP respectively.

[48] Cf. Sapelli, 'Technical change', and, to some extent, Zamagni, *Economic history* and *idem*, 'Alcune tesi'.

[49] C. Bardini, 'Labour productivity in manufacturing: the UK and Italy in the twentieth century' (Note di lavoro 96.18, Dipartimento di Scienze Economiche, Università Cà Foscari di Venezia).

[50] Cf. on import of German technology the fascinating case-studies by Hertner (*Il capitale tedesco*) and also Vasta's data on patents (Vasta, 'Innovazioni').

[51] Giannetti, 'Mutamento tecnico'.

[52] Federico, *Il filo d'oro*.

[53] Sapelli, 'Technical change'; Amatori, 'Entrepreneurial technologies'.

[54] Cf. Romano, *L'industria cotoniera* (on the Lombard cotton industry) and Federico, *Il filo d'oro* (on silk reeling). There are also some interesting case-studies of single companies (cf. e.g. Crepas, 'Sistemi'; Roverato, *Marzotto*).

their families and reduce drastically the cost of food and lodging.[55] Therefore, unlike British experience, the Italian textile industry settled in a very wide area south of the Alps, from Piedmont to Venetia. Later, these areas were to change specialization from textiles to other consumer goods and then to engineering and became the core of Italian industry. The mechanisms of their development are not yet well known but they are clearly very important for understanding Italian growth.

IV

In the past few years, the history of utilities has not attracted much attention from Italian historians, with the conspicuous exception of electricity. This is the subject of many company histories, and of a massive five-volumes *Storia dell'industria elettrica* sponsored by the Italian electricity board.[56] There is good reason for this interest. The production of electricity was probably the most impressive success story in Italian industrialization. Production grew at 22 per cent annually from 1894 to 1913 (more than in other large European countries) and on the eve of the First World War electricity supplied about 50 per cent of motive power to industries.[57] This growth raised great expectations. The 'white coal' seemed the solution to the problem of energy costs, which had previously haunted Italian development. Did it keep these promises? Was it a real bonus for industrialization? Unfortunately, the burgeoning literature provides very little, if any, information on the technical characteristics and the costs of competing sources of energy. Some indirect evidence is offered by Bardini's doctoral thesis, in which he shows that in 1911 all Italian industries used proportionally more electric power than British ones even if electricity costs were not yet a major determinant of industrial structure.[58] Furthermore, Italy pioneered the development of many electricity-based technologies in the chemical and steel industries, and in the 1920s developed a sizable electrical engineering industry.[59] It is likely that spillovers were substantial, though as yet largely unexplored. Therefore, the availability of the new source of energy affected Italian industrialization, although the extent to which it did so is still uncertain.

V

Gerschenkron singled out the establishment of the Banca Commerciale and the Credito Italiano in 1894, using German capital and with German management, as the turning point of Italian industrialization. The new

[55] Cf. for this pattern of location and its social consequences Dewerpe, *L'industrie*; Federico, 'Sviluppo'; Corner, *Contadini*; Corner and Cento-Bull, *Peasant to entrepreneur*. It should not be confused with proto-industrialization, as the firms used modern techniques.

[56] *Storia industria*. Cf. also Giannetti, *La conquista* and, among the case-studies, Toninelli, *Edison*, which stands out for its quantitative approach.

[57] Data from Fenoaltea, 'Growth of utilities' and Bardini, 'L'economia energetica'. The growth rates were about 15-17% in France, Germany, and the UK (Mitchell, *European historical statistics*, tab. E27).

[58] Bardini, 'Ma il carbone'.

[59] Giannetti, 'Cambiamenti'; *idem*, 'Mutamento tecnico'.

banks were an outstanding success, and their assets grew to one-sixth of the total 30 years later.[60] Their sheer size gave them an outstanding role in a bank-oriented system such as the Italian one (the stock exchange has always been small and inefficient, with occasional outbursts of speculation).[61] But in Gerschenkron's view, they were important mainly because they provided managerial capabilities and strategic planning for whole industries. This sanguine assessment is shared by others (notably Cohen and Hertner) but not by everyone. For instance Farina argues that the mixed banks biased the allocation of resources towards heavy industries and/or towards capital-intensive technologies.[62]

Gerschenkron's thesis has shaped the whole research agenda in banking history and notably a six-volume work by Confalonieri, entirely based on first-hand archival research.[63] The study lends little support to Gerschenkron's view, at least for the period before 1914. First, the new 'German-type' banks were not so new. They hired most of the staff and followed the practices of the 'French-style' Italian banks which had preceded them (and had collapsed in 1893-4). Secondly, the mixed banks were more interested in 'normal' banking work than in overall industrial strategies. They lent on the basis of a separate assessment of each project and not as part of a larger industrial strategy. The electricity industry was possibly an exception, but its prospects were so clearly brilliant that investing in it was a safe bet. Sometimes the mixed banks did bail out firms, but usually at the government's request and with its backing. And anyway until the First World War, the banks eschewed the permanent ownership of industrial companies. They accepted shares as collateral for loans and subscribed to new issues when floated in order to sell them afterwards to their clients. This strategy foundered when the postwar crisis made it impossible for many companies to repay their debts to banks. So the banks unwillingly became the real owners of much of the 'military-industrial complex' and of several important companies in other industries. In the 1920s, instead of selling their shares, the mixed banks increased their stakes in order to sustain the Stock Exchange quotations.[64] Their ultimate failure was caused by their recklessness and mismanagement, not by some inherent fault of the system. Impressive as it is, Confalonieri's work has not managed to convince all scholars,[65] and research continues. Two recent articles make use of a prosopographic approach, inferring the existence of links between banks and industry from the membership of boards, with mixed results.[66] New light on the subject may be thrown by a new history of the Banca Commerciale which is being written.

There is, however, a more general objection to Gerschenkron's thesis. Only companies with no profits or with very large projects to finance

[60] Cf. Ciocca and Biscaini Cotula, 'Le strutture', tab. 9.
[61] Cf. Aleotti, *Borsa*; Ciocca and Biscaini Cotula, 'Le strutture'.
[62] Cf. Cohen, *Finance*; Hertner, *Il capitale tedesco*; Farina, 'Modelli interpretativi'.
[63] Confalonieri, *Banca ed industria, 1894-1906; idem, Banca ed industria, 1907-14; idem, Banche miste.*
[64] Idem, *Banche miste*; Ciocca and Toniolo, 'Industry and finance'.
[65] Mori, 'L'economia italiana'; Warglien, 'Investimenti industriali'.
[66] Pino Pongolino, 'Fiduciari'; Baccini and Vasta, 'Una tecnica ritrovata'.

resorted to bank loans to finance their investments. The best clients of the Banca Commerciale were in fact the power companies and the 'military-industrial complex'.[67] Most Italian firms used the bank's credit for short-term transactions such as the purchase of raw materials and financed investment by ploughing back profits or by collecting funds through informal credit networks (loans by friends and relatives). This behaviour was the norm in consumer industries and was quite common also among successful companies in heavy industries, such as Fiat or Pirelli, especially at the beginning of their development.[68] Incidentally, the available data show that throughout most of the period industrial wages lagged behind the growth of productivity—so that profits, and hence the means for investment, increased.[69]

The scepticism regarding the role of mixed banks is buttressed by the results of important quantitative research by Ciocca and Biscaini-Cotula.[70] They explicitly deny that the big spurt had been characterized by an increasing role for banks and show how the level of financial sophistication (as measured by the financial intermediation ratio (FIR)) was about half that of other advanced countries.

Summing up, although the 'German-type' mixed banks certainly fulfilled their institutional role in development, probably better than their predecessors, they are unlikely to have caused industrialization. They would have been the prime mover only if the industries they supported had been essential in the process, and this has been shown to be doubtful.

VI

Possibly the most remarkable results have been achieved in a field which had been rather neglected until the 1980s, that of monetary and fiscal policy and their effects on development. The Bank of Italy has sponsored the publication of several volumes of documents on its history as well as of a series of research studies in monetary and banking history which provides a wealth of information on many issues. The most recent volume is a detailed reconstruction of the balance sheets of all Italian banks (by type) from 1890 to 1936.[71]

The single most important contribution is, however, a massive volume by Spinelli and Fratianni, clearly inspired by Friedman and Schwartz's *Monetary history of the USA*.[72] The authors view monetary policy as dominated by the needs of the state budget ('fiscal dominance'). This was

[67] Cf. Confalonieri, *Banca ed industria 1894-1906* and *1907-1914*; Battilani, 'Il ruolo'. Unfortunately, it is not possible to estimate the amount of credit for investments as it was usually given with short-term instruments (account overdrafts, short-term loans).

[68] Bigazzi, 'Grandi imprese'; Confalonieri, *Banche ed industria, 1894-1906* (on Pirelli); Bottiglieri, 'Alle origini' (on Fiat).

[69] Zamagni, 'International comparison'; Del Monte, 'Profitti'.

[70] Ciocca and Biscaini Cotula, 'Le strutture'.

[71] Cotula and Raganelli, *Bilanci*.

[72] Spinelli and Fratianni, *Storia*; cf. also on the balance of payments, Fratianni and Spinelli, 'Italy', and Spinelli, 'Pasquale Jannaccone'. The following discussion will refer only to the 'historical' part of the book, i.e. before 1940.

permanently in deficit, as the government was too weak and/or too eager to widen its consensus to follow a sound budgetary policy. Though most of the deficit was financed by issuing bonds, the creation of high-powered money by the Treasury was large enough to account for about 80 per cent of the total growth of the money supply, which caused inflation and the nominal exchange rate to fall below parity with gold.[73] The effect was indirect as purchasing power parity did not hold (in fact the real exchange rate varied more than the nominal one).[74] Monetary policy affected the exchange via foreign investors' perception of 'country risk', which heavily influenced movements of capital. This book is a breakthrough in Italian macroeconomic history, as it unifies many different themes in a simple and consistent model and challenges the conventional wisdom on several relevant issues.

Spinelli and Fratianni's thesis is not totally original. The indictment of the weakness of Italian policy-makers has many predecessors among nineteenth-century economists (including Jannaccone, to whom Spinelli has devoted an article full of praise). Historians are much less severe, and more attentive to the changing historical circumstances. Some point out that politicians were much tougher on budget deficits than is assumed by Spinelli and Fratianni.[75] Others suggest that the deficits were worth the price. In the 1860s the state borrowed heavily to build the necessary basic infrastructure—and meanwhile the diffusion of public debt and the *corso forzoso* (forced circulation of paper money) stimulated the monetization of the economy.[76] Later, deficits may have been useful in stimulating the economy not only during two world wars, but also in the 1930s or even in the 1880s.[77] On the other hand, Spinelli and Fratianni do not deal with other possible negative consequences of fiscal and monetary policy—notably those on productive investment, which might have been damaged whichever way the deficit was financed. Inflation (if actually caused by the monetary policy) hampered investment, as stressed in a recent article by Ganugi, which provides some econometric evidence.[78] And the issuing of bonds might have crowded out investment. Most historians believe that balanced budgets were instrumental in the economic boom during the Giolitti period (1895-1913).[79] However, Gerschenkron and, more recently, Warglien disagree. They play down the risk of crowding out, suggesting that the market for capital was segmented because the buyers of state bonds would not have invested in industry anyway.[80] None of these claims is easy to test, but they nevertheless show that costs and benefits of the state deficit were more complex than implied by Spinelli and Fratianni's simple monetarist approach.

[73] Their series of total public debt have been revised by Zamagni, 'Il debito pubblico'. There are some minor discrepancies with Spinelli and Fratianni's data, never exceeding 5%.

[74] Cf. the estimates by Ciocca and Ulizzi, 'I tassi'.

[75] Cf. especially Marongiu, *Storia del fisco*.

[76] Cf. Zamagni, 'Debito e creazione', and on monetization Masi, 'L'influenza'; Pittaluga, 'La monetizzazione'.

[77] Cf., for the 1880s, Barone, 'Sviluppo' and, for the 1930s, Tattara and Toniolo, 'L'industria' and Gualerni, *Lo stato*.

[78] Ganugi, 'Financial deepening'.

[79] Cf. e.g. Bonelli, 'Osservazioni'; Confalonieri, *Banca ed industria, 1894-1906*; Toniolo, *L'economia*.

[80] Cf. Gerschenkron, 'Notes'; Warglien, 'Investimenti'.

On the whole Spinelli and Fratianni's book has not received the critical attention that it deserves, and the most important contribution to the discussion is a still unpublished paper by Tattara and Volpe, in which the authors contest the basic assumption of the whole model, that budget deficit caused the money supply.[81] According to their econometric analysis, between 1861 and 1914 the yearly changes in money circulation were caused by everything (above all the speculative movements of capital) but the deficit. In another vein, accounts of the relations between Banca d'Italia and the Treasury do not support Spinelli and Fratianni's vision of subordination of the former to the latter.[82] Finally, the quantitative evidence on the effect of money supply growth on prices is mixed. Consistently with their model, Fratianni and Spinelli find that high-powered money growth caused the variations in prices because money demand was stable.[83] But Fisher, in the chapter on Italy in his macroeconomic history textbook, tells a different story. The total money supply growth preceded (Granger-caused in the jargon) price changes mainly before 1880 (i.e. the period of slow growth), while afterwards (i.e. during the fast growth) it 'caused' real variables (income or industrial output).[84] Of course, these econometric results are subject to the usual caveats about the reliability of the aggregate series and the use of Granger-causality tests. The whole issue needs reconsideration. But Spinelli and Fratianni's model appears to be somewhat mechanistic, and possibly too much influenced by the concerns of the 1970s and 1980s.

Spinelli and Fratianni's interpretation of movements in the exchange rate is part of an ongoing debate on the adjustment of the balance of payments and the behaviour of the lira under the gold standard. Until the 1980s, historians focused on the changes in the trade balance, with a strictly Keynesian-absorption approach.[85] The amount of exports was determined by the world demand for Italian goods and services, while the domestic demand for foreign exchange depended on the growth rate of the economy, as imports (composed of raw materials, wheat etc.) were highly price inelastic. If demand exceeded supply and the gap could not be filled by imports of capital, the lira had to be devalued and/or the growth rate had to be reduced. In other words, Italy's development was constantly under a potential constraint, from which it escaped thanks only to some lucky circumstances (such as the boom in tourism and emigrants' remittances in the 1900s) or by means of a tiresome begging for foreign loans.[86]

There are at least three alternative revisionist models, which assume that the causal link was just the opposite—running *from* capital flows *to* the trade balance and the exchange rate.[87] However, these disagree on the causes of

[81] Tattara, G. and Volpe, M., 'Italy, the fiscal dominance and the gold standard age' (Note di lavoro 96.02, Dipartimento di Scienze Economiche, Università Cà Foscari di Venezia).

[82] Bonelli, 'Introduzione'; Cotula and Spaventa, 'Introduzione'.

[83] Fratianni and Spinelli, 'Italy'.

[84] Fisher, *Industrial revolution*, ch. 7.

[85] Cf. Cafagna, *Dualismo*; Bonelli, 'Il capitalismo'; for an estimate of marginal propensities to import, Crivellini, *Aspetti*.

[86] The situation was particularly difficult in the 1920s (Ciocca, 'L'economia'; Gualerni, *Lo stato industriale*). The negotiations are described in detail by De Cecco, 'Introduzione' and Asso, 'L'Italia'.

[87] Cf. Fratianni and Spinelli, 'Italy' and Spinelli 'Pasquale Jannaccone'; Fenoaltea, 'International resource flows'.

flows. Spinelli and Fratianni are inclined to support a modern variant of Hume's mechanism, with the disequilibrium in money market affecting mainly the trade balance via relative prices. Tattara stresses the speculative movements in the market for Italian state bonds determined by the different perceptions of the 'country risk', while Fenoaltea emphasizes the exogenous shifts in the world (perfectly integrated) capital market. All three authors support their hypotheses with econometric evidence, but the results cannot be conclusive, for there is no explicit testing of the alternative models and the data on the balance of payments are just as unreliable as other series of national accounts.[88]

This discussion may seem somewhat abstract, but it is not. Different mechanisms of adjustment imply different apportioning of the 'blame' for not having remained on the gold standard. According to the Keynesian view, Italy was simply unlucky not to have a sufficient endowment of resources. Fenoaltea also absolves it almost entirely, by arguing that the swings in capital flows depended on the decisions of British investors regarding investments abroad, even if the quantity of capital arriving in Italy was affected by the 'country risk'. Tattara, and Spinelli and Fratianni, by contrast, put the blame mainly or entirely on Italy's governments and macroeconomic policy. Had this policy been more sound, they maintain, Italy would not have had any serious balance of payments problem, and therefore there was no such thing as a constraint to development.

VII

The discussion so far has dealt with Italy as a whole, without any reference to the dualism between north and south. The omission is *pour cause*. The literature takes it as a matter of fact that industry concentrated in the north-west, while the south had little or no role in industrialization until well into the twentieth century.[89] The south was poorly endowed with raw materials and too poor to be a market for industrial goods or a source of capital. The only input it could supply in large quantity was unskilled labour, which was not needed because the north was more than self-sufficient (actually, it still had a net outflow of migrants in the 1900s).

The discussion on the *questione meridionale* (the problem of the south) has therefore focused on a different question—what did happen to the south when the north was industrializing, and why?[90] There are three different answers. According to the traditional one the south remained backward because it had too many structural shortcomings: a poor endowment of natural resources (including water), the dry climate, a small population, insufficient social overhead capital, a low level of literacy, and possibly also an inefficient tenancy system ('feudal heritage').[91] On top of this, its cultural

[88] It can be shown that the cumulated total of capital flows from 1861 to 1914 is not consistent with the series of payments of interest. New estimates of the balance of payments are available for 1911 (Roccas and Marolla, 'La ricostruzione') and the 1920s (Falco, 'La bilancia').

[89] Cafagna, *Dualismo*; idem, *Nord*; Zamagni, 'Ferrovie'. The main contribution is said to have been the emigrants' remittances.

[90] Zamagni, 'Cuestion'.

[91] Russo, 'La storiografia'.

values (the familism, the lack of sense of citizenship, etc.) made it unfit for modernization.[92] Thus the south could have developed only if the state had implemented some targeted policy, but it did nothing until the 1900s and very little from then to the 1950s.

This interpretation has been challenged from two different points of view. In the 1970s, some scholars argued that the south had been impoverished by unification, as a result of a deliberate policy by the northern-dominated states and of market mechanisms of exploitation (the south as the 'periphery' of Italy).[93] More recently, some southern social historians (known as the IMES group) have contested the traditional gloomy picture of stagnation and even the validity of considering the south as a whole. They stress that the growth in exports of primary products and emigration had started a 'passive modernization', at least in some areas.[94]

These views are potentially testable as they imply different trends in southern GDP per caput. The traditional hypothesis suggests that the gap with the north was substantial before unification, and that it widened from the end of the nineteenth century onwards because the north was industrializing while the south stagnated. According to the left-wing scholars, the gap was small in 1861 but it widened in the next 10 to 20 years. Finally, the IMES thesis implies that the GDP per caput in the south (or in some areas), increased, albeit not as fast as in the north.

Until recently, there were no estimates of regional GDP before 1911. In that year, income in the south was roughly 70 per cent of the national average.[95] Unfortunately, this piece of information does not facilitate discrimination between the competing hypotheses seeking to explain backwardness, which imply different trends in *the nineteenth century*. The gap has very recently been filled by Esposto's doctoral thesis.[96] His results do not fit any of the three interpretations. In 1870 and 1890 GDP per caput in the south would have been only 5 per cent lower than the national average. In other words, all the gap would have arisen during the 20 years of the *boom giolittiano* (1895-1913), when southern income would have fallen. Unfortunately, these estimates rely on official statistics which overvalue southern agricultural output in 1870.[97] So before rushing to reinterpret the whole history of Italy, Esposto's estimates require further investigation.

VIII

The discussion so far has emphasized the revisions to traditional interpretations. Agriculture was highly commercialized and efficient (in the

[92] Cf. Banti, 'Il sud'; Pezzino, 'L'oggetto' (and the rejoinder by Salvemini, 'Sulla nobile arte'.

[93] Cf. Capacelatro and Carlo, *Contro la questione*.

[94] Donzelli, 'Mezzogiorno'; Bevilacqua, *Breve storia*; and (in a more critical vein) Salvemini, 'Note'; the expression is from Cafagna, 'Modernizzazione'. Cf. for the case-study of exports of citrus fruits, Lupo, *Il giardino*.

[95] Zamagni, *Industrializzazione*; the gap has remained constant since then (Zamagni, *Economic history*, tab. 8).

[96] Esposto, 'Institutions', tab. 5.4; the industrial output estimates have been published in *idem*, 'Italian industrialization'.

[97] Cf. Federico, 'Per una valutazione'.

economic meaning of the word), though encumbered by a very poor endowment of good land. Industrial development was due much more to the entrepreneurship of small family firms in a competitive environment than to the development of large enterprises with the help of the state and/or mixed banks. The question of economic policy is still open. It did affect development, and possibly harmed it (the duty on wheat is the best candidate, but monetary policy is also strongly criticized), but by definition could not prevent it. In short, Italy developed more thanks to 'the animal spirits' of capitalism than to Gerschenkronian substitutes. This interpretation is more consistent than the traditional one with the current features of Italy as the land of small and medium enterprises and of the weak state. Otherwise one should assume an epochal change in the 1950s and 1960s.

This vision of Italian development is, however, somewhat at odds with the results of a recent outstanding econometric work by Rossi and Toniolo.[98] They estimate an aggregate production function for the century from 1890—wisely avoiding the years for which aggregate data are least reliable. The results show a substantial mark-up on prices (which were higher than marginal costs), 'increasing returns to scale' (the unit costs fell with the increase of output), and a permanent under-capitalization of the economy (the shadow-price of the capital was higher than its market price). The two last features do not necessarily conflict with a more market-oriented interpretation of development. The 'increasing returns to scale' are, in fact, a residual black box which includes every type of structural adjustment (in the authors' words they 'can be caused by the widening of internal market, by the specialization caused by opening to trade, by the improvement of human capital, by the R&D of firms and the state, and by the taxation and expenditure of the state').[99] The authors interpret the under-capitalization as evidence of market failure. There was a reluctance to invest in large companies, and the gap was entirely made up by the contribution of the state and banks. But the argument may be reversed. The desired (optimal) stock of capital depended on the composition of value added by industry, and one could argue that investors were wise in not committing themselves to finance barely profitable capital-intensive activities which depended on the state's support. The real point is the existence of a mark-up on prices, which implies some sort of restricted competition. This implicit hypothesis contrasts with the results of two recent microeconomic works on concentration.[100] The Herfindhal coefficients are low or very low for banks and for almost all industries, including some heavy ones. In the 1920s and 1930s concentration increased in most industries, but it declined in banking, because new entrants overtook the increase in size of existing institutions. This evidence should be taken with some caution. The banks may have enjoyed a situation of local monopoly. The coefficients for industry are biased downward because every firm is considered as an independent company (but they are at the same time biased upward because the sample

[98] Rossi and Toniolo, 'Catching up', and the revised version in Rossi and Toniolo, 'Un secolo' (making use of the series of Rossi, Sorgato, and Toniolo, 'I conti').
[99] Rossi and Toniolo, 'Un secolo', p. 30.
[100] Giannetti, Federico, and Toninelli, 'Size and strategy'; Cotula and Garofalo, 'Aziende di credito'.

includes joint-stock companies only and each firm is considered as if it produced just one good—so the overall bias is uncertain). In spite of these caveats, this evidence cannot be dismissed. Besides, the figures of Rossi and Toniolo are implausible, as they imply inordinately large market power in the oligopolistic sectors. In fact the aggregate mark-up in 1911 (1.6-1.7) would correspond to a sectoral one ranging from 4 (if the 'oligopolies' accounted for 20 per cent of GDP) to 8 (if they accounted for 10 per cent). These figures seem too high by any standard. Besides, the aggregate mark-up was decreasing, while the share of oligopolistic industries (and their concentration) was increasing. One wonders whether Rossi and Toniolo's results are robust to changes in the database (GDP, inputs, and so on).

This last conclusion holds true for almost all the issues. There are plenty of suggestions, ideas, counterfactual hypotheses on policies, and tentative conclusions, but very few solid and undisputed results. This, of course, is a feature of most scientific research, but the Italian case is marked out by the widespread scepticism concerning the reliability of the national account figures and, one may add, also of price data. Without new estimates, future historiography will find it hard to keep the promises of the 1980s and 1990s. But with them, it could make great strides forward.

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