



Cerretano, V. (2018) Multinational business and host countries in times of crisis: Courtaulds, Glanzstoff, and Italy in the inter-war period. *Economic History Review*, 71(2), pp. 540-566.

There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

This is the peer reviewed version of the following article Cerretano, V. (2018) Multinational business and host countries in times of crisis: Courtaulds, Glanzstoff, and Italy in the inter-war period. *Economic History Review*, 71(2), pp. 540-566, which has been published in final form at <http://dx.doi.org/10.1111/ehr.12469>. This article may be used for non-commercial purposes in accordance with [Wiley Terms and Conditions for Self-Archiving](#).

<http://eprints.gla.ac.uk/121702/>

Deposited on: 11 August 2016

*Multinational Business and Host Countries in Times of Crisis: Courtaulds, Glanzstoff and Italy in the Inter-War Period*¹

by Valerio Cerretano

Abstract

Despite the considerable attention granted to the history of international business, we still have a limited knowledge of the historical impact of multinationals on host economies. This article presents the case of the giant Italian rayon firm Snia Viscosa which was acquired by its direct rivals, Courtaulds in the UK and the German firm Glanzstoff, in 1927. Italian deflation that underpinned the return of the country to the gold standard between 1925 and 1927 and the parlous financial conditions of Snia Viscosa proved incentives in what seemed to be a fire sale investment. This investment mitigated the credit crunch and allowed Snia Viscosa to have access to foreign rayon expertise. Evidence suggests that the regime and economic nationalism exerted some pressure on foreign interests and were instrumental in the abandonment of plans intended dramatically to reduce Italian rayon output. One contribution of this article must be found in the use of business history to illustrate how recessions can reshape FDI flows and the tensions which may arise between domestic business interests and foreign stakeholders during recessions. The history of Snia Viscosa in addition shows the importance of foreign interests and multinationals in the long-term industrialisation of Italy.

Historians agree that multinationals have been important conduits of capital, entrepreneurship and technology since the late nineteenth century.² Much of the debate continues however to focus predominantly on the causes behind their growth.³ As Jones lamented, historians have written less ‘about the historical impact of multinationals than the causes and determinants of multinational growth.’⁴

¹ I am grateful to three anonymous referees for their very helpful comments. Special thanks also go to Ray Stokes, Anthony Gloyne and Robert McMaster, who commented on earlier drafts, and to Maria Adorante, for her precious support.

² Wilkins, ‘Comparative hosts’, p.19; see also Sandvik and Storli, ‘Big business’, pp.110-1 and Rollings, ‘Multinational enterprises,’ p.399

³ Jones, ‘Multinationals,’ p.364

⁴ Idem

This article seeks to consider the historical impact of the investment that the giant firms Courtaulds in the UK and the German firm Vereingte Glanzstoff Fabriken made in Italy in 1927. Courtaulds and Glanzstoff pioneered the mass-production of rayon, which was the first of a large family of man-made fibres of which nylon was later to become the best known. In Italy, these firms acquired their low-cost rival Snia Viscosa, which found itself on the verge of financial collapse in late 1926.⁵ The evolution of Snia Viscosa after 1927 demonstrated that foreign interests proved instrumental in the establishment of the rayon industry in Italy. That history offers rich insights into the benefits in terms of long-term capital and know-how that domestic firms could obtain when taken over by foreign competitors.

This episode is here considered against the backdrop of post-war Italy.⁶ One conclusion is that the deteriorating conditions of Snia Viscosa after 1926 acted as a catalyst to Courtaulds and Glanzstoff's move in Italy.⁷ This followed from a credit crunch beginning in 1925 which left Snia Viscosa with no alternative source of fresh capital other than the sale of a controlling interest in the firm to Courtaulds and Glanzstoff.⁸ The inference is that the acquisition of Snia Viscosa reflected what in the

⁵ Amatori, 'Italy', p.247

⁶ Zamagni, *Economic History*, pp.210-252

⁷ Idem, pp.278-84; Jones, 'Courtaulds,' pp.119-23; Cerretano, 'European cartels,' pp.605-7

⁸ Coleman, 'Courtaulds,' II, pp.281-2; Cerretano, 'The benefits,' pp.268-71

economic literature has been defined as a ‘fire sale’ investment (namely an investment triggered by the decline in economic conditions of the host country), precipitated by Italian deflation after 1925.⁹

By late 1925 a monetary stabilisation crisis put an end to the short-lived though intense industrial growth which had been fuelled by an expansionary monetary policy, inflation and monetary instability immediately after the First World War.¹⁰ After that Britain re-joined the gold standard in July 1925 (this monetary system had been suspended after the outbreak of the war in 1914), Italy, facing the prospect of hyperinflation, could no longer delay financial restoration.¹¹ Unable to go back to pre-war parity (this was near to impossible since in Italy inflation was much higher than Britain immediately after the conflict), the Fascist government, which came into power in 1922, nevertheless pursued the return to gold at an over-valued parity (the so-called ‘Quota 90’).¹² While entailing massive deflation and a credit crunch, the ensuing stabilisation crisis hit Snia Viscosa very hard.¹³

⁹ Krugman, ‘Fire-sale FDI,’ pp.132-58

¹⁰ Feinstein, Temin and Toniolo, *World economy*, pp. 40-51; Piluso, ‘L’Italia,’ pp. 24-30

¹¹ Eichengreen, ‘Understanding 1921-1927,’ pp.24-56; Eichengreen, *Golden fetters*, pp.154-84; Baffi, ‘La rivalutazione del 1926-7’, pp. 101-22;

¹² Idem

¹³ Eichengreen, ‘Understanding 1921-1927,’ pp.24-56

The history of Courtaulds and Glanzstoff's investment feeds into the debate about Italy's long-term industrialisation.¹⁴ This article shows, first, that this investment mitigated the credit crunch which began to take hold in Italy after 1925 and which was subsequently exacerbated by the world-wide economic crisis after 1929.¹⁵ One inference here is that that investment avoided the liquidation of Snia Viscosa and state bail-out, which was the fate that befell numerous large banks and firms in Italy after 1929.¹⁶ More important, this article demonstrates that it facilitated the import of German and British know-how into Italy, the elaboration of innovative technology by the early 1930s and the technological convergence between the Italian and the European rayon industry. Of some importance is also the conclusion that economic nationalism played a role in the successful reconstruction of Snia Viscosa. Evidence seems to confirm that the regime, while allowing close ties with foreign competitors, favoured plans reducing foreign influence over the company's management, as Coleman first noted.¹⁷

The article is structured as follows. The first section positions this article within the existing literature. It argues that the acquisition of Snia Viscosa was a fire sale investment that domestic deflation triggered in the

¹⁴ Jones, *Multinationals and global business*, p.277; Sandvik and Storli, 'Big business', p.111, p.129; Wilkins, 'Comparative hosts', p.24, p.28; Colli, 'Multinationals,'p.304 and idem, 'Foreign enterprises,'p.87, p.97

¹⁵ Colli and Amatori, *Impresa e industria*, pp.183-92

¹⁶ Idem

¹⁷ Coleman, *Courtaulds, II*, p.378

mid-1920s. The second section considers how post-war inflation stimulated the early grandiose development of the Italian firm. How expansion came to a halt is described in Section III. This demonstrates that Courtaulds and Glanzstoff's investment, although initially aimed at reducing Italian exports, saved Snia Viscosa from financial collapse. In an attempt to evaluate the consequences of foreign control, Section IV considers the evolution of Snia Viscosa after 1927, suggesting that foreign interests contributed to the technical development of the Italian firm. Before concluding, following Sandvick and Storli indications, the article pursues an analysis feeding into the broader theme of how economic nationalism influenced relations between Courtaulds, Glanzstoff and Snia Viscosa.¹⁸

I

Why did Courtaulds and Glanzstoff invest in Italy in 1927? To what extent did Snia Viscosa benefit from this investment? What was the attitude of the regime towards foreign interests? This article revolves around these questions. In order to address them, however, while examining the early history of Snia Viscosa, we need to review the literature about multinational business. The early development of the Italian firm forms the focus of the next section. This section reviews the

¹⁸ Sandvik and Storli, 'Big business,' pp.110-1

historical and economic debate about the impact of multinationals on host economies.

It is safe to infer that, although it has sparked much political and economic debate since the 1950s, historians have been comparatively uninterested in the theme of multinationals and host countries.¹⁹ Questions similar to those set in this article have however recently guided the works of Rollings, who examined the interference of governments in the USA and in the UK with outward foreign investment from those countries in the 1960s; of Sandvik and Storli, who examined, in relation to Norway in the inter-war period, the crucial role of the relationship between multinationals and host governments in the impact of inward foreign investment; of Toninelli, who looked at the attitude of Fascism towards foreign investment; and, above all, of Colli, who examined the role of foreign multinationals in Italian industrialisation.²⁰ This article connects with this strand of the literature.

¹⁹ Jones, 'Multinationals,' p.364 and idem, *Multinationals and global capitalism*, pp.81-5; Blomström, Kokko and Zejan, *Foreign direct investment*, pp.4-5; Jensen, *Nation states*, p.1, pp. 28-30, pp.33-4; Gilpin, *Global Political Economy*, pp.302-3; Sandvik and Storli, 'Big business,' pp.110-1; Dunning, *Explaining*, pp.71-109; Rollings, 'Multinational enterprises,' p.399

²⁰ Jones, *Multinationals and global capitalism*, p.277; Rollings, 'Multinational enterprises and government controls; Sandvik and Storli, 'Big business', p.111, pp.119-23, p.129; Colli, 'Foreign enterprises (1913-1972)' and idem, 'Multinationals.'

Of some importance here is also the broader economic debate about the impact of foreign direct investments.²¹ This has undergone various stages since the immediate post-World War II period.²² In the early 1950s, the dominant view was that they had positive implications for the balance of payments, while their technological ramifications came to be considered in greater detail only later.²³ Also, by the 1970s academic consensus began to shift from the notion that foreign investment would spread market imperfections into the recipient countries, displacing nascent industry there, to the view that it would facilitate the transfer of technology.²⁴ A more recent, and possibly more balanced, view on this is that the positive effects of inward foreign investment, most notably technology spill-overs, cannot be taken for granted.²⁵ Scholars seem to agree that the impact of foreign investment depended on a number of factors, notably the firm-specific assets and combination of skills and resources of the firms going abroad; the sectors where these latter operated; and the characteristics of the host economy in

²¹ Blomström, Kokko and Zejan, *Foreign direct investment*, pp.4-5; Jensen, *Nation states*, p.1, pp. 28-30, pp.33-4; Gilpin, *Global Political Economy*, pp.302-3

²² Blomström, Kokko and Zejan, *Foreign direct investment*, pp.4-5

²³ Idem

²⁴ Blomström, Kokko and Zejan, *Foreign direct investment*, p.5; Jensen, *Nation states*, pp. 40-52

²⁵ See also Blomström, Kokko and Zejan, *Foreign direct investment*, p.4; Jensen, *Nation states*, p.1, pp.28-30, pp.33-4; Gilpin, *Global political economy*, pp.302-3; Jones, *Multinationals and global capitalism*, p. 261

receipt of foreign investment.²⁶ In the context of this debate, Sandvik and Storli have recently stressed the significance of the power struggle between multinationals and governments.²⁷ In particular, they have demonstrated that nationalism and political factors were as important as economic forces in shaping this relationship and the success of multinationals in the inter-war era.²⁸ In relation to this, the history of the investment that Courtaulds and Glanzstoff made in Italy in 1927 confirms that foreign investment have been immensely beneficial to industrial and economic development. It also seems to confirm, however, that the indirect intervention of the government and political factors were equally important in the successful reconstruction of Snia Viscosa and the Italian rayon industry as a whole.

Although having ramifications throughout the European and global rayon trade, the acquisition of Snia Viscosa primarily had an impact on domestic industry. As a result of that investment, the Italian rayon industry came to be mainly controlled by foreign investors who owned about three quarters of the industry's equity capital by 1927.²⁹ The findings presented here seem to lend much substance to Colli's argument that foreign investment proved as important as state intervention and

²⁶ Idem.

²⁷ Jones, *Multinationals and global business*, p.277; Sandvik and Storli, 'Big Business.', p.111, p.129

²⁸ Idem, pp.119-23

²⁹ Comit Archives (hereafter COMIT), Sofindit Papers, Minutes of the Executive Committee [comitato direttivo], 24 April 1930, SOF 291, bundle [fasc.] 1

universal banking in the industrialisation of the country.³⁰ The weight of foreign and German capital in Italy's development before the Great War has been well documented.³¹ Yet rather less is known about the impact that inward foreign investments after 1918 had on the country's newer, high-tech industries.³² Colli has shown that a massive flow of foreign investment resumed after the Great War.³³ When reviewing the inflow of foreign direct investments, Colli challenged the notion that Italian industrialisation was 'basically endogenous' and exclusively dependent 'on indigenous entrepreneurial forces and on pervasive state intervention.'³⁴ In Colli's words, multinationals played a crucial role in Italy's economic history, 'acting, in several cases, exactly as Gershenkronian substitutes' – namely, state intervention and mixed banking - 'for weak, or even absent, domestic entrepreneurship.'³⁵

In this article, the current debate is extended by drawing some attention to the short-term factors influencing the joint investment of Courtaulds and Glanzstoff in Italy. The evidence presented here shows that the management of Snia Viscosa sold a controlling stake when the

³⁰ Colli, 'Multinationals', p.304 and idem, 'Foreign enterprises', p. 87, p.97

³¹ Hertner, *Il capitale tedesco*; Amatori and Colli, *Impresa e industria*, p.86; Bonelli, 'Il capitalismo italiano', pp.110-21

³² Colli, 'Foreign Enterprises,' p.87

³³ Idem, p.97

³⁴ Idem, p.87

³⁵ Colli, 'Multinationals', p.304

Italian firm was facing the prospect of imminent collapse from 1926.³⁶ The influence of currency movements and short-term financial factors on the timing of foreign investment and on foreign firms' entry modes has received some attention in both the historical and economic literature.³⁷ In their analysis of foreign investment in Britain, Jones and Bostock concluded that 'it is unlikely that short-term currency movements will fundamentally influence long-term investment decisions.'³⁸ The history of Snia Viscosa shows that the credit crunch, rather than exchange rate fluctuations, contributed to shaping investment decisions. Consideration has also been given in the literature to the relationship between the drop in asset values resulting from financial scarcity and surges of inward foreign direct investment.³⁹ Scholars have established that during financial and economic crises foreign direct investment (unlike portfolio investment) proved to be resilient and even increased as firms seized the chance of buying foreign assets at a 'fire sale' price in countries experiencing financial hardship.⁴⁰ The nexus of crisis, fire sales and surging direct investment was described by Paul Krugman as an

³⁶ Cerretano, 'The Benefits,' pp.267-9

³⁷ Jones and Bostock, 'US multinationals', p. 226; Froot and Stein, 'Exchange rates,' pp.1191-1196; Blonigen, 'Firm-Specific Assets,'1997, p.447 and idem, 'A Review', p.386.

³⁸ Jones and Bostock, 'US multinationals,'p.226

³⁹ Krugman, 'Fire-sale FDI', pp.43-4; Lipsey, 'Foreign direct investment,'p.15, UNCTAD, *World Investment Report 2012*, p.XIII and p.2

⁴⁰ Lipsey, 'Foreign direct investment,'p.15, Unctad, *World Investment Report 2012*, p.XIII and p.2; Krugman, 'Fire-sale FDI', pp.43-4

‘empirical regularity’ in history.⁴¹ Although supposedly a regularity in history, the paucity of data seems however to preclude a systematic comparative analysis.⁴² Against this background, the vicissitudes of Snia Viscosa suggests that a business history perspective may add new dimensions to our understanding of that nexus.

The fact that Courtaulds made a fire sale investment in Italy could already be gauged from Coleman and Jones’ distinct accounts of Courtaulds’ foreign operations, on which this article builds.⁴³ To the extent that Snia Viscosa and Italy form its main focus, this article takes a somewhat different perspective from that followed by Coleman and Jones. Like Coleman and Jones’ works, however, this article draws extensively on qualitative sources. These include a wide variety of records kept by these companies at their headquarters in England, Germany and Italy. These sources comprise reports and memoranda on visits paid by leading German and British technologists to Snia Viscosa’s plants, and various agreements and compacts that these firms made over two decades. Of some importance are also the minutes of Snia Viscosa’s board of directors and the statistical data sets which associations of producers and the British government regularly produced in the interwar years.

⁴¹ Idem

⁴² Athukorala, ‘Foreign direct investment,’ p.198

⁴³ Coleman, *Courtaulds*, II, p. 281-4, pp.296-9 and idem, *Courtaulds*, III, pp.112-6, p.62, and Jones, ‘Courtaulds’, p. 119-21

II

A history of Snia Viscosa should start with the consideration that, along with the giant American firm DuPont and Enka in the Netherlands, the Italian firm represented the most successful new actor entering into the global rayon trade after the Great War.⁴⁴ The growth of Snia Viscosa was impressive by all standards and relied on exports; its competitive strength lay in huge economies of scale and cheap labour. Before looking at how Courtaulds and Glanzstoff came to control it in 1927, this section explores the launch and early evolution of the company. It shows that expansion largely rested on domestic inflation and currency depreciation.

Snia Viscosa was originally incorporated by its founder Riccardo Gualino in Turin in 1917 as a shipping and shipbuilding venture to transport coal from the USA to Italy.⁴⁵ A dramatic shortage of tonnage, as well as inflated coal prices, during the conflict very likely provided the rationale for its launch.⁴⁶ The collapse of freight rates, high rayon prices, cheap money and, above all, the willingness of a pioneer rayon firm, the French concern Comptoir des Textiles Artificiels, to sell its patents, Italian plants and know-how encouraged Snia Viscosa to branch out in the rayon industry in 1920.⁴⁷ In essence, rayon was wood pulp dissolved

⁴⁴ Cerretano, 'European cartels,' pp.597-600

⁴⁵ Cerretano, 'The Benefits', p.235-9; Spadoni, *Il gruppo Snia*, pp.45-66

⁴⁶ Idem

⁴⁷ Cerretano, 'The Benefits,' pp. 235-45; Cerretano, 'European cartels and technology transfer', pp.211-5

and liquefied in a basic solution (namely, caustic soda) and then extruded by 'spinning' machines in the forms of filaments which solidified when passing through an acid bath.⁴⁸ As Coleman pointed out, in the inter-war years the mass-production of this fibre still required huge capital outlays and sophisticated know-how.⁴⁹ Along with a small number of other industrial sectors, the rayon industry was one of those newer, high-tech industries which experienced rapid growth after the Great War, coming out of infancy and consolidating once and for all by the 1930s.⁵⁰

The history of Snia Viscosa confirms that inflation and currency instability were major factors at work behind the early grandiose growth of this industry in Italy. Unlike Britain and Germany which suffered from, respectively, deflation after 1920 and hyperinflation in 1922-3, and as with France and Belgium, Italy came out of the conflict experiencing moderate inflation.⁵¹ The argument has been made that moderate inflation, although making it more difficult to depart from austerity in the 1930s, helped the reversion of the economy from a war to a peacetime footing.⁵² In examining post-war instability, the Board of Trade in 1920 concluded that inflation 'tends to benefit borrowers at the expense of

⁴⁸ Coleman, *Courtaulds*, II, p. 1-23

⁴⁹ For a history of this trade after 1918 see Coleman, *Courtaulds*, II, pp. 171-204

⁵⁰ Landes, *Unbound Prometheus*, pp.419-51

⁵¹ Feinstein, Temin and Toniolo, *World economy*, pp. 40-51; Eichengreen, 'Understanding 1921-1927,'pp.24-56; Eichengreen, *Golden fetters*, pp.154-84; Baffi, 'La rivalutazione del 1926-7', pp. 101-22; Piluso, 'L'Italia,' pp. 24-30;

⁵² Eichengreen, 'Understanding 1921-1927,'pp.24-56

lenders' and to 'stimulate the enterprise that looks far ahead.'⁵³ Historians dealing with the development of this trade in Italy have probably underestimated the fact that inflation and atypical financial circumstances, along with cheap Italian labour, facilitated investments in new and risky sectors.⁵⁴ In particular, these conditions allowed, as will be seen below, Snia Viscosa's exploitation of large scale economies, which represented the key to the success of the firm in global markets.

Unlike its most direct competitors, Snia Viscosa became entrenched in the expanding market for poorer quality rayon (namely, rayon yarn with irregular size, dyeing properties and tensile strength) where it undercut high-cost producers, such as Courtaulds and Glanzstoff.⁵⁵ Britain, the USA and, after 1927, China and India constituted the largest outlets of the firm (see Tables 1 and 2). Germany remained an important export market throughout the 1930s.⁵⁶ The Italian-German rayon cartel established in 1930 and the bilateral agreements

⁵³ TNA, PRO, Cabinet Papers, State of trade since the armistice and present position, undated but 1920, Cab 24/86.

⁵⁴ See in particular Bermond, *Riccardo Gualino*; Chiapparino, 'Note'; De Ianni, *Gli affari*; Limido, 'La Snia Viscosa'; Orsi, 'L'evoluzione'; Spadoni, *Il gruppo Snia*, Eichengreen, *Golden fetters*, pp.154-84; Eichengreen, 'Understanding 1921-1927,' pp.24-56

⁵⁵ Coleman, *Courtaulds, II*, pp.280-282; Cerretano, 'The Benefits,' pp.254-5

⁵⁶ Mortara, *Prospettive economiche*, various years; Plumpe, *Die IG Farbenindustrie*, p.311

between the Italian and German governments in the 1930s were instrumental in this outcome.⁵⁷

Table 3 shows the capitalisation of Snia Viscosa and of the whole Italian rayon industry.⁵⁸ The figures, which have been converted from current to 1913 lira using the deflator provided by the Italian statistical office, suggest that the firm and the whole sector in terms of capitalisation grew by a factor of more than five between 1922 and 1927.⁵⁹ Table 3 also indicates that domestic competitors began to challenge the dominant position of Snia Viscosa from about 1927. These were Cisa, which operated on the basis of Comptoir's basic patents and which the French came to control entirely after 1918, and Châtillon, which the mixed giant bank Comit launched in 1920.⁶⁰ The latter company remained the only rayon firm in the country to be wholly owned by Italian interests after 1927.⁶¹ Moreover, as the conditions of the Comit deteriorated after 1930, the control of Châtillon passed on to the government via the Istituto per la Ricostruzione Industriale which the regime set up in 1933 to hold the assets previously belonging to mixed banks that the government bailed out after the First World War.⁶²

⁵⁷ Guarneri, *Battaglie*, I, p.148;

⁵⁸ Cerretano, 'The Benefits', pp.243-53

⁵⁹ Istat, 'Il valore', p.65

⁶⁰ Falchero, ' "Quel serico filo". 'pp. 219-23

⁶¹ Idem

⁶² Romeo, *Breve storia*, p.131

The growth of Snia Viscosa looks equally impressive when contrasted with that of its foreign rivals, Courtaulds and Glanzstoff in particular. This comparison is attempted in Table 4, which displays the output, source of capital and investment of these firms. The figures are expressed in terms of pounds sterling at 1927 exchange rates and were in the main provided by Franco Marinotti of Snia Viscosa to Raffaele Mattioli of the Banca Commerciale Italiana in April 1931.⁶³ Although they should be viewed with caution, these seem to confirm three points. The first is that in terms of output, Snia Viscosa outran its competitors as early as 1925. Another observation is that after 1922 the Italian firm could command greater resources for the expansion of its plants than Courtaulds and Glanzstoff (see Table 4, and in particular the entry ‘credit to firms of the group’ under the heading ‘investment’).

One final point is that Snia Viscosa financed expansion through capital subscriptions and capital reconstructions. Capital reconstructions were carried out on an almost yearly basis between 1922 and 1927, during which the nominal capital of the firm, in current lira, rose from 175 to one billion (or from 1.6 to about 8.2 million pounds sterling at 1913 exchange rates, but see tables 3 and 5).⁶⁴ This represented a crucial aspect of the company’s expansion. Via capital reconstructions and the

⁶³ COMIT, Sofindit Papers, Memorandum of Marinotti to Raffaele Mattioli [Relazione di Marinotti a Raffaele Mattioli], April 1931, SOF 168, bundle [fasc.] 3

⁶⁴ For constant values see Tables 3

stock market, Snia Viscosa transferred debts from a host of banks to the public.⁶⁵ This system could work as long as post-war inflationary expectations fuelled an unprecedented boom in the Milan stock exchange.⁶⁶ Also, a strategy of debt transfer from the banks to the public worked smoothly as long as the company paid handsome dividends (on dividends see Table 4). These lured investors and encouraged the mixed banks, notably the Banca Commerciale, the Credito Italiano and the Banca Agricola Italiana, into make loans to the firm.⁶⁷

The official balance sheets seem to indicate that the firm accumulated debts of about 300 million lire (at 1927 exchange rates) in the period between 1923 and 1927 (see Table 4).⁶⁸ According to the minutes of the company's board of directors, early in 1926 the floating debt of Snia Viscosa amounted to about 450 million current lira (or about 5 million pounds at 1927 exchange rates) corresponding to about 50 percent of the company's nominal share capital.⁶⁹ As shown in Table 4, the debt of the Italian firm peaked in 1926-7, decreasing significantly only after that Courtaulds and Glanzstoff purchased an interest in the company.

⁶⁵ Cerretano, 'The Benefit', p.261; Piluso, 'L'Italia', p.30

⁶⁶ Idem, p. 261-2; Confalonieri, *Banche miste*, II, pp.244-5; Baia Curioni, 'Evoluzione,' p.179

⁶⁷ Idem p.261; Confalonieri, *Banche miste*, II, pp.259-60

⁶⁸ Credito Italiano, *Società per azioni*, various years but also Cerretano, 'The Benefits', p.247 (Table)

⁶⁹ Snia BPD headquarters, (hereafter SNIA), Minutes of the board's meetings, 14 June and 26 October 1926; Cerretano, 'The benefits,' p. 267

While the domestic rayon market remained almost non-existent until the early 1930s, currency depreciation was the key to the rapid conquest of foreign outlets and huge scale economies.⁷⁰ Figures about the exports of Snia Viscosa in the 1920s are patchy and unreliable. A clue of their evolution can however be gathered by looking at Italian exports which grew from 2.4 to 9.9 thousand metric tons between 1923 and 1926.⁷¹ In 1930, Italy - by far the largest source of rayon exports throughout the inter-war period - exported 9.9 thousand metric tons against 5.6 thousand of the Netherlands, 3.7 thousand of Germany and 2.9 thousand of the U.K.⁷²

Scale economies and low prices, of course, also followed from cheap labour. Along with Japan, Italy was the only low wages country where this high-tech industry came to be established after the Great War.⁷³ In Italy, mostly for political reasons (that is, the coming into power of Mussolini from autumn 1922) wages, which were much lower than in Britain or in Germany, did not keep up with inflation and grew less than productivity after 1922.⁷⁴

Along with the still non-existent Italian rayon market, the recently acquired and still limited technical expertise (rayon firms took, on

⁷⁰ Cerretano, 'The benefits,' p. 258 (Table 9) and Coleman, *Courtaulds*, II, pp.281-4

⁷¹ Textile Economics Bureau, *Textile organon*, pp.18-21

⁷² Idem

⁷³ Coleman, *Courtaulds*, II, pp.171-198

⁷⁴ Toniolo, *L'economia*, pp.40-1

average, ten years to become technologically independent) represented a major source of weakness for the firm.⁷⁵ As will be seen in the next section, the stabilization crisis after 1925, while blunting the competitive advantage deriving from large scale economies, exposed this shortcoming. In a letter to the managing director of Glanzstoff in 1929, Gualino, who was fascinated by Ford's innovative ideas about mass-production, set the output target of the company at thirty thousand metric tons of mid-quality rayon yarn per year.⁷⁶ This was more than the combined output of Snia Viscosa, Glanzstoff and Courtaulds in 1925 (see Table 3). Apart from the financial obstacles that this target inevitably posed, what made it unachievable was the fact that a large production of poor quality rayon yarn or waste remained the norm until the early 1930s.⁷⁷ The point is however that poor rayon was not recyclable and cost no less to make than high quality rayon.⁷⁸ In addition, as early as 1923, the Comptoir denied further access to French technological expertise owing to disagreements about the expansion of the Italian firm in foreign outlets.⁷⁹ Large production and limited expertise were also the

⁷⁵ Cerretano, 'The Benefits,'pp. 242-3

⁷⁶ Berta, 'Tra le due guerre,'p.348; Glanzstoff Archives (Wuppertal), (hereafter GA), Snia Viscosa Papers, Riccardo Gualino to Fritz Bluethgen, 19 April 1929, E7-1-10bis14

⁷⁷ Cerretano, 'The Benefits,'p.254

⁷⁸ Idem

⁷⁹ Cerretano, 'European cartels and technology transfer,' pp.214-5;

factors encouraging Snia Viscosa to become entrenched in the expanding but unstable market for poor quality rayon.⁸⁰

As will be seen in the next section, Snia Viscosa found a solution to the issue of a lack of expertise by securing technical aid from Glanzstoff as late as autumn 1926.⁸¹ The agreements with Courtaulds and the German firm following the acquisition of the company in 1927 were largely an extension of this arrangement.⁸² These allowed the technological consolidation of Snia Viscosa.

III

The domestic conditions allowing rapid growth came to an end as the regime implemented monetary restoration generating a major credit crunch by late 1925.⁸³ What follows shows that once faced with the prospect of collapse, Snia Viscosa sold a controlling stake to Courtaulds and Glanzstoff in January 1927. This section concludes that the technological arrangements with Glanzstoff mentioned in the previous section did justify forms of cross-participation but not the sale of a controlling stake. In addition, this section confirms that Courtaulds and Glanzstoff purchased Snia Viscosa to reduce Italian exports. As will be

⁸⁰ Idem;

⁸¹ Cerretano, 'European cartels, European multinationals,' p.601

⁸² Idem

⁸³ Piluso, 'L'Italia', pp.24-30

seen here and in the next section, this strategy, however, while rushed by Italian stabilisation crisis, did not work.

One crucial point is that monetary restoration broke the financial mechanism allowing Snia Viscosa to grow.⁸⁴ Just as in 1925 the firm was implementing an increase in the company's share capital from 600 million to one billion current lire (namely, from about 6.7 to little more than 11.0 million pounds sterling at 1927 exchange rates), the government and the Bank of Italy halted the expansion of the stock market and increased discount rates.⁸⁵ In response to the ensuing scramble for liquidity, in common with other large Italian firms, Snia Viscosa sought to raise fresh capital in a host of foreign markets.⁸⁶ Only in London was this partly successful. There, in association with the merchant bank Hambros, Snia Viscosa raised the equivalent of 154 million current lira (or about 1.7 million at 1927 exchange rates), facing as a result a floating debt of about 300 million current lira (about £ 3.3million at 1927 exchange rates) in November 1926.⁸⁷ In that month Hambros met with Glanzstoff and Courtaulds, which were now increasingly interested in a price cartel in Europe, to talk about a rescue

⁸⁴ Cerretano, 'The Benefits,' p. 264

⁸⁵ Baffi, 'La rivalutazione del 1926-7'; Zamagni, *Economic history*, pp.244-52

⁸⁶ SNIA, Minutes of the Board of Snia Viscosa, 24 November 1925; on other Italian firms see Falco, 'La bilancia,' pp.6-9, pp.217-8

⁸⁷ SNIA, Minutes of the Board of Snia Viscosa, 24 November 1925

plan.⁸⁸ In December, Sam Courtauld emphasised to Samuel Salvage of the American Viscose Corporation, the US subsidiary of Courtaulds, that there was ‘a reasonable possibility that Snia [Viscosa] will collapse from financial instability...Our future course is not quite clear in this respect, as the position is changing every day, I think in the direction of ultimate collapse.’⁸⁹

A few days after this note, Courtaulds agreed to rescue the Italian firm in association with Glanzstoff.⁹⁰ Courtaulds and Glanzstoff provided Snia Viscosa with, respectively, 215 million and 71.8 million current lira (the equivalent at 1927 exchange rates of £1.9 million and £ 0.6 million), thus becoming the largest shareholders of the Italian firm. Courtaulds and Glanzstoff held respectively 18.2 and 6.1 percent of the company’s equity capital, and entered into a voting pool with Gualino (see Tables 5 and 6).⁹¹ Facing a new floating debt of 250 million current lira (or £ 2.8 million at 1927 exchange rates), Snia Viscosa sold other blocks of shares to Courtaulds and Glanzstoff (respectively almost £ 0.5 million and £158 thousand or, at 1927 exchange rates, 45 and 15 million current lira) early in 1928.⁹² On that occasion, blocks of shares worth more than 190 million current lira (or £ 2 million) were taken up by a group of Milan

⁸⁸ GA, Snia Transaktion, L7-5-1

⁸⁹ Quoted in Coleman, *Courtaulds*, II, p.281

⁹⁰ Coleman, *Courtaulds*, II, pp.281-2; Cerretano, ‘The benefits,’ pp.268-71

⁹¹ Coleman, *Courtaulds*, II, pp.281-2; Jones, ‘Courtaulds’, p.123; Cerretano, ‘The benefits’, p.270 (Table 12)

⁹² Coleman, *Courtaulds*, II, p. 282 ;Cerretano, ‘The benefits,’p.273.

businessmen backed by the Credito Italiano led by Carlo Feltrinelli, the president of that bank, Senatore Borletti and Franco Marinotti.⁹³ In addition, a syndicate of Swiss and German banks associated with Glanzstoff (including the Disconto Gesellschaft, part of the Deutsche Bank by 1930) purchased a large interest in the company.⁹⁴

The rescue of Snia Viscosa came after that in autumn 1926 the Italian firm, leveraging on its large scale economies, had succeeded in securing technical aid from Glanzstoff.⁹⁵ As part of the agreements with the Germans, Glanzstoff interrupted the legal battle for the infringement of basic patents (namely the Mueller patents) that the German firm had begun against Snia Viscosa in 1925.⁹⁶ This move was part of broader cartel arrangements concerning Germany which Glanzstoff made with the newly-established IG Farben, Enka and Snia Viscosa in 1925-6 and which, among other things, limited Italian rayon exports into that country.⁹⁷

Coleman, Jones and Cerretano showed that the investment in Snia Viscosa was instrumental in the cartel schemes concerning Europe that Courtaulds began to pursue in association with Glanzstoff from 1924 and in the reduction of Italian exports into the USA, which constituted the

⁹³ Segreto, *I Feltrinelli*, pp. 291-308

⁹⁴ Cerretano, 'The benefits', p. 275 (table 13)

⁹⁵ On this point see Cerretano, 'European cartels, European multinationals', p.601

⁹⁶ *Idem*

⁹⁷ *Idem*

largest source of profits for the British firm.⁹⁸ In January 1927, Sam Courtauld announced the investment in Snia Viscosa to his company's board with these words:

As I understand it the essence of the arrangement is that Glanzstoff and Courtaulds offer Snia [Viscosa] certain technical assistance in return for their right to control the production and the prices of the latter.

To my mind it is most important that we should not begin to teach Snia [Viscosa] anything at all about any improvement in their methods until we are satisfied that they will loyally carry out their side of the obligation.

The main points we shall insist on are:

1. No present increase in production
2. No further lowering of prices anywhere
3. Immediate restriction of imports to the USA, and rising of prices there.

(emphasis in the original)⁹⁹

As will be seen below (see also Table 2), Snia Viscosa experienced a reduction of output after 1927 (the increase from 1930 also takes into account the output of Varedo, a medium sized rayon-maker with which the company merged in 1930). Information about the company's exports between 1927 and 1930 is scattered and unreliable. Yet arguably these followed the same pattern as Italian exports which decreased in both the USA and in Germany between 1927 and 1928 (see Table 1).

⁹⁸ Coleman, *Courtaulds*, II, pp.277-82; Cerretano, 'European cartels, European multinationals,' p.601, pp.605-6

⁹⁹ Courtaulds Archives (Coventry), (hereafter CA), Snia Viscosa papers, Sam Courtauld on Snia Viscosa, 26 January 1927, SNI.4

Did this reduction of exports follow from Courtaulds and Glanzstoff's control over the company? Table 1 shows the extent to which the imposition of a tariff in Britain in 1925 upset global markets, notably, Germany and the USA which were flooded by growing Italian output until 1930. A reduction of Italian exports into Germany and into the USA and the parallel boom of exports into China and into India between 1927 and 1928 may suggest that Courtaulds and Glanzstoff succeeded in subduing Snia Viscosa (see Tables 1 and 2). Yet it is difficult to disentangle the effects of this control from the adverse conditions of the credit crunch at home and the imposition of tariffs (in Britain in 1925 and in the USA in 1930) in foreign markets.

Moreover, as shown by Coleman and Cerretano, the influence of European rayon cartel schemes on output and sales ought not to be over-emphasised.¹⁰⁰ It is safe to conclude that, while establishing a system of domestic import and export cartels which complemented each another (the first of which were the export cartel Italrayon and the import cartel Kunstseide-Verkaufbuero in Germany in 1931), the European rayon cartel never went beyond the stage of a convention or 'gentlemen's

¹⁰⁰ Coleman, *Courtaulds*, II, pp.281-4; Cerretano, 'European cartels, European multinationals', pp. 605-10

agreements' cartel.¹⁰¹ In common with other cartels, rather than abolishing, it regulated competition.¹⁰²

Arguably, technical assistance from Glanzstoff made the investment in Snia Viscosa more attractive for Courtaulds. It is safe to conclude that this was rushed by the poor financial state of the Italian company. In a lengthy memorandum to the chairman of his company, the supervisor of Courtaulds' foreign investment until 1930, Ernst Lunge, emphasised the fire sale nature of the Italian investment.¹⁰³ Lunge pointed out that the information about the real value of Snia Viscosa was unavailable, and that the decision to purchase a controlling interest in Snia Viscosa 'practically refusing to investigate their [i.e. of Snia Viscosa] intrinsic value was as unusual as it was sound'.¹⁰⁴ 'I venture to the assertion' - concluded Lunge - 'that the control of a leading industrial company [i.e. Snia Viscosa] has never before, and has never since, been offered on anything like such terms.'¹⁰⁵ In explaining the Italian move, Lunge emphasised that Courtaulds wished to control a formidable large competitor 'which was already making 10,000 tons of yarn per annum and might, judging from its past progress, easily make good its threat to

¹⁰¹ *Idem*, p. 608; Fear, 'Cartels,' p.272, Figure 12.1

¹⁰² *Idem*

¹⁰³ GA, Snia Viscosa Papers, Ernst Lunge to Sam Courtauld, 11 April 1931, E7-1-10bis14

¹⁰⁴ *idem*

¹⁰⁵ *idem*

turn out 30,000 tons.’¹⁰⁶ He argued that if the Germans showed Snia Viscosa how to make good rayon yarn, that ‘huge production would probably yield revenue for our investment in Snia [Viscosa], but what really mattered was that control.’¹⁰⁷

The conclusion that the Italian move, while representing Courtaulds’ largest investment in the inter-war years, constituted a departure from the strategy of British firm can also be drawn from Coleman and Jones’ accounts.¹⁰⁸ They showed that Courtaulds, since the period prior to the Great War, entered foreign markets through greenfield investments.¹⁰⁹ By contrast, the ownership advantage of Glanzstoff seemed to lie specifically in the company’s technological expertise and patent ownership.¹¹⁰ The history of Snia Viscosa confirms the oft-made point that after the conflict German firms, which found themselves short of finance from 1924, used their technological strength to reduce domestic and foreign competition.¹¹¹ The acquisition of a small stake in Snia Viscosa, in particular, was instrumental in the reduction of Italian

¹⁰⁶ Idem

¹⁰⁷ Idem

¹⁰⁸ Coleman, *Courtaulds*, II, pp.281; Jones, ‘Courtaulds’, p. 123

¹⁰⁹ Idem

¹¹⁰ Cerretano, ‘European cartels, European multinationals,’

¹¹¹ Schröter, ‘Risk and Control,’ pp. 422-3; Teichova, *An economic background*, pp.54-61

exports and in the monitoring of the use that the Italians could make of German patents and know-how.¹¹²

IV

So much for the motives behind Courtaulds and Glanzstoff's investment in Italy. But how did these firms influence the evolution of Snia Viscosa and the whole Italian rayon industry? While attempting this question, this section reviews the technological evolution of the Italian firm. One firm conclusion here is that the British and above all the Germans provided vital know-how to Snia Viscosa after 1927.

After 1926, Snia Viscosa experienced a steep decline (the company's share of global output, for example, fell from more than 11 to about 5 percent between 1927 and 1934, but see Table 2). Yet evidence seems to indicate that, more than to foreign control, poor performance was attributable to the quasi collapse of the Italian banking system and to the fragmentation of global trade after 1929.¹¹³ Heavily dependent on exports until 1934, Snia Viscosa was hit harder than the rivals by the fragmentation of global trade as well as the spectacular expansion of the Japanese rayon industry, the output of which grew from 7.5 to almost 45 million metric tons between 1925 and 1933 and which expanded mostly

¹¹² Cerretano, 'European cartels,' pp.600-2

¹¹³ Coleman, *Courtaulds, II*, p.281; Cerretano, 'European cartels,' pp. 605-606

in the company's most important export outlets, such as India and China (see Table 1).¹¹⁴

Moreover, while cartel schemes were ineffective in reducing exports, the Germans abandoned plans about the reduction of Snia Viscosa's output in 1930, as will be seen below.¹¹⁵ Evidence, in sum, seems to point to the conclusion that foreign involvement proved crucial to the survival of Snia Viscosa from both a financial and technological standpoint.¹¹⁶

The investment of Courtaulds and Glanzstoff prevented the financial collapse or, alternatively, the state bailout of the company. As deflation deepened after 1925, the government bailed out ailing banks and their associated firms by taking up industrial assets in exchange for fresh liquidity, thus becoming the country's largest industrial stakeholder (mostly via the state-owned agency Istituto per la Ricostruzione Industriale).¹¹⁷ As noted in Section II, Châtillon came to be controlled after 1933 by the Istituto per la Ricostruzione Industriale. By contrast,

¹¹⁴ Textile Economics Bureau, *Textile Organon*, pp.18-21; Cerretano, 'European cartels, European multinationals' p.606 (table 4) ; Coleman, *Courtaulds*, II, pp.171-204, pp.279-84. Between 1931 and 1933, Italian exports in China fell from 6 to 2 thousand metric tons; India absorbed 4 percent of Italian exports in 1937, as compared with 18 percent in 1931, but see Mortara, *Prospettive*, p.368; Imperial Economic Committee, *Industrial Fibres*, p.105

¹¹⁵ Coleman, *Courtaulds*, II, p.378

¹¹⁶ Cerretano, 'The benefits,

¹¹⁷ Zamagni, *Economic history*, pp. 293-301

Snia Viscosa fell under foreign control.¹¹⁸ The history of Snia Viscosa seems to demonstrate that the restoration of the gold standard and the ensuing credit crunch underpinned the internationalisation of the company's equity capital (of which about 60 percent was held abroad after 1928), while foreign capital provided a valid alternative in the provision of industrial finance.¹¹⁹

Moreover, it is safe to conclude that Courtaulds and, above all, Glanzstoff transferred vital technology and know-how to Italy after 1927.¹²⁰ We already mentioned that at the time when Courtaulds and Glanzstoff made their investment, Snia Viscosa was still developing a workable know-how and, second, that in January 1927 Courtaulds, Snia Viscosa and Glanzstoff entered into a compact of mutual technical co-operation.¹²¹ After 1927, there was an intense exchange of information between Italian and German chemists and engineers.¹²² The technical development of the company only began however in earnest after that in 1928 Gualino left the firm to be replaced by two Glanzstoff employees, Scherer and Hesse.¹²³

¹¹⁸ Falchero, 'Quel serico filo,' pp.222-4

¹¹⁹ Cerretano, 'The Benefits,' p.270

¹²⁰ Coleman, *Courtaulds, II*, p. 378

¹²¹ Cerretano, 'European cartels, European multinationals', p. 605 and Coleman, *Courtaulds, II*, p.282.

¹²² CA, Snia Viscosa Papers, Minutes of technical discussions in Kelsterbach [Protokoll der technische Besprechung zwischen den VGF und der Snia am 12.July 1927 im Kelsterbach], SNI.4

¹²³ GA, Ernst Lunge to Sam Courtauld, 11 April 1931, E7-1-10bis14

Scherer and Hesse extended a scheme called the ‘Transformation Système Glanzstoff’ to the Venaria Reale works in Turin, which was the largest and most up-to-date plant of the group. This scheme, in particular, envisaged a substantial reduction of output (from 17 to 12 metric tonnes a day) and output capacity (from 16.8 to 11 thousand nozzles) by 1929.¹²⁴ Documents about the technological development of Snia Viscosa revolved almost exclusively around the Venaria works, and this partly explains why we know comparatively less about the other plants of the firm. In the time-period under consideration, Snia Viscosa maintained four plants, namely in Cesano Maderno and Pavia, near Milan, and in Venaria Reale and in Abbadia di Stura in Turin.¹²⁵ While acquiring the Cesano, Pavia and Venaria works from the Comptoir between 1920 and 1922, the firm established the Abbadia di Stura plant in 1924-5.¹²⁶ Financial difficulties in the mid-1920s however brought the completion of the latter plant to a halt.¹²⁷ As a consequence, the Venaria works remained the largest and most recent plant of the group in 1927; the attention attached to it reflected its weight in terms of output (it accounted for about 40 and 46 percent of the company’ capacity and

¹²⁴ GA, Snia Viscosa Papers, Stefano Sordelli, Memorandum about the Venaria Reale plant [Promemoire relative à la transformation de l’Usine de Venaria Reale], 12 August 1930, SV 179,

¹²⁵ Cerretano, ‘The Benefits,’ p.248 (Table 5).

¹²⁶ Idem.

¹²⁷ Idem

output in 1927) and in terms of best industry practice.¹²⁸ As a leading technologist of Snia Viscosa and Lunge reported between summer 1930 and spring 1931, the idea was to extend to the other plants of the firm the innovations stemming from Venaria, where, given its recent construction, innovations and economies of scale would more likely be developed.¹²⁹

According to Sordelli and Lunge, the Germans were of the opinion that a dramatic reduction of output was *a sine qua non* for the qualitative improvement of the company's yarn.¹³⁰ The Italian technologists, by contrast, dismissed it as outright sabotage.¹³¹ One feature of the Scherer and Hesse scheme was the replacement of the existing spinning machines with those in use in Kelsterbach, Germany, which were smaller, older and likely to increase costs.¹³² As Sordelli put it, the argument of the Italians was that the capital equipment of Venaria works was only four years old, and that Snia Viscosa only needed to improve the existing system based on bigger spinning machines.¹³³ As Lunge recalled, while spinning machines at Venaria were being destroyed and conflicts between German and Italian technologists reached a new height, in June 1930, Lunge

¹²⁸ Idem.

¹²⁹ GA, Snia Viscosa Papers, Stefano Sordelli, Memorandum about the Venaria Reale plant [Promemoire relative à la transformation de l'Usine de Venaria Reale], 12 August 1930, SV 179 and Ernst Lunge to Sam Courtauld, 11 April 1931, E7-1-10bis14

¹³⁰ Idem

¹³¹ Idem

¹³² Idem

¹³³ Idem

replaced Scherer with Stefano Sordelli, who had meanwhile been appointed manager of Venaria.¹³⁴ The latter drew up a scheme intending to restore the original production capacity (23 metric tonnes per day) and the original spinning system.¹³⁵

As will be seen in the next section, the Germans abandoned plans for the reduction of output once and for all in 1930.¹³⁶ There were three interconnected reasons for this change in strategy. As Coleman pointed out, one of these was the deterioration of relations occurring after 1929 between Glanzstoff and Courtaulds, which controlled Snia Viscosa together.¹³⁷ Another motive must be found in the fact that Snia Viscosa, given the company's huge capitalisation, could pay dividends - these became matter for concern for Courtaulds after 1929 - only by avoiding a dramatic reduction of output, as Gualino put it to a letter to the managing director of Glanzstoff.¹³⁸ Most important, the growing discontent from Fascist circles, as will be seen in the next section, held a weight in that decision.¹³⁹ These became unhappy about the alleged role of foreign

¹³⁴ Idem

¹³⁵ Idem and GA, Snia Viscosa Papers, Conrad Herman (Glanzstoff), Memorandum about the visit to Snia Viscosa's works at Venaria Reale on Sunday 11 September 1930 [Aktennotiz über den Besuch bei der Snia Werk Venaria Reale an Donnerstag dem 11. September 1930], SV 179

¹³⁶ Coleman, *Courtaulds*, II, p.378

¹³⁷ Idem, pp.377-9

¹³⁸ GA, Snia Viscosa Papers, Gualino to Fritz Bluethgen, 3 May 1929, E7-1-15bis21,

¹³⁹ CA, John Hanbury-Williams papers, Balfour-Murphy to John Hanbury-Williams, 1 January 1931, JHW.51,

interests in the company and about the destruction of machinery in what still remained the largest Italian firm measured by capital.¹⁴⁰

As a director of Courtaulds in a visit to Italy stressed to his company's board in 1933, Snia Viscosa began to produce yarn of good quality by the end of 1930, while Courtaulds and, above all, Glanzstoff made important contributions to the know-how of the Italian firm.¹⁴¹ These included improvements of the filtration systems of the liquified wood pulp and of the spinning bath where dissolved wood pulp would solidify in the forms of filaments; the 'gear pump', which allowed a more regular size of the filaments; and the establishment of textile and chemical laboratories in all factories of Snia Viscosa.¹⁴² In addition to that, Snia Viscosa reproduced innovative bleaching systems as in use in Courtaulds' plants in Britain and in the U.S.A.¹⁴³ According to a prominent director of Glanzstoff, even the new and innovative spinning machines of Snia Viscosa (namely, the so-called SILM 81) developed in the company's works were largely modelled on those in use at Glanzstoff's works.¹⁴⁴

¹⁴⁰ Idem.

¹⁴¹ CA, Samuel Courtauld papers, Report by J.E. Pedder on a visit to the factories of Snia Viscosa at Venaria Reale, Cesano Maderno, Pavia and Abbadia di Stura, September 1933 and Notes on Pedder's report, 31 October 1933, SAM.12,.

¹⁴² Idem

¹⁴³ Idem

¹⁴⁴ GA, Snia Viscosa Papers, Conrad Herman (Glanzstoff), Memorandum about the visit to Snia Viscosa's works at Venaria Reale on Sunday 11 September 1930

V

The previous section mentioned that Snia Viscosa abandoned plans of output reduction in 1930. Here, we now turn attention to the role of the regime in this outcome. What emerges is that the latter facilitated relations with foreign stakeholders, helping however domestic interests regain control over the daily management of the firm.

In 1932 and in 1936, the British and the Germans renewed the controlling voting pool of 1927 with the Credito Italiano, which, along with the Comit, was the other dominant giant mixed bank of the country, holding large industrial assets.¹⁴⁵ As mentioned in Section III, Credito Italiano replaced Gualino in the voting pool, while the bank's representatives and stakeholders joined the company's board. These included the bank's chairman Carlo Feltrinelli, Senatore Borletti, a textile industrialist succeeding Gualino as chairman of Snia Viscosa in 1929, and Franco Marinotti, a close business associate of Borletti and the managing director of Snia Viscosa from 1930.¹⁴⁶ Although the British and the Germans kept a say in the commercial policy of the firm throughout the 1930s, as Coleman noted, the original plan of Courtaulds

[Aktennotiz über den Besuch bei der Snia Werk Venaria Reale an Donnerstag dem 11. September 1930], SV 179

¹⁴⁵ TNA, Foreign Office papers, memorandum by W. Allit to the British Embassy in Rome, 9 February 1946, FO 371/58290

¹⁴⁶ Idem.

and Glanzstoff (part of A.K.U. from 1930) to control Snia Viscosa did not survive after 1930.¹⁴⁷

Coleman attributed this loss of influence to the ‘development of the Fascist regime in Italy and worsening Anglo-Italian relations’.¹⁴⁸ Crucial to these developments were in particular the changes in the statutes of the company in 1930-1. As a director of Courtaulds explained to the Foreign Office after the war, the new statutes forbade foreign nationals from running the firm, while envisaging the transfer of the controlling stakes to two holding companies, namely the Società Anonima Finanziaria Rayon (Safra) and the Società Anonima Gestioni e Partecipazioni Industriali (Sagepi) (see Table 8).¹⁴⁹ While drawing a neat line between management, which became in the main Italian from 1930, and ownership, now mostly British and German, this system of holding companies, as Coleman noted, ‘in itself hardly facilitated [Courtaulds and Glanzstoff’s] practical control’.¹⁵⁰

The history of Snia Viscosa confirms that, while Italy continued to attract a flow of investments after 1918, the regime placed renewed

¹⁴⁷ Coleman, *Courtaulds, II*, pp.378-9

¹⁴⁸ *Idem*, p.378

¹⁴⁹ TNA, Foreign Office papers, memorandum by W. Allit to the British Embassy in Rome, 9 February 1946, FO 371/58290

¹⁵⁰ Coleman, *Courtaulds, II*, p.378

emphasis on investment as an engine of growth.¹⁵¹ Fascism welcomed Courtaulds and Glanzstoff's investment in Italy in an attempt to mitigate the credit crunch after 1925 and to facilitate the import of foreign know-how.¹⁵² In relation to this, the history presented here adds substance to the claim that the regime kept good relations with multinationals bringing know-how into the country.¹⁵³ In 1927, Courtaulds and Glanzstoff made their investment conditional to a 'suitable expression of satisfaction' from Mussolini.¹⁵⁴ When obtaining it, Gualino stressed the technological benefits deriving from foreign participation.¹⁵⁵ The 'foreign groups provide Snia Viscosa with the right to use all their patents, advances and know-how' - wrote a representative of Snia Viscosa to the Duce in January 1927 - 'and undertake to send their technologists to implement these methods in the plants of the company.'¹⁵⁶ For the same reasons Mussolini intervened personally to avoid the sequestration of Courtaulds'

¹⁵¹ Piluso, 'L'Italia', pp. 24-30.; Colli, 'Foreign enterprises,' pp.92-3 and idem, 'Multinationals,' p.305; Amatori and Colli, *Impresa e industria*, pp.31-5; Amatori and Colli, 'La grande impresa', p. 695

¹⁵² Colli, 'Multinationals,' p. 308 and Toninelli, 'Between Agnelli and Mussolini,' p.356, p.360

¹⁵³ Colli, 'Multinationals,' p. 308; Toninelli, 'Between Agnelli and Mussolini' ; ACS, IRI, Notes and memorandum on Fassini's proposal [Note e memoria sulle proposte di Fassini], Negotiations for the merger between Cisa and Châtillon [Trattative di fusione Cisa-Châtillon], 22 February and 7 April 1936, IRI -SR 15, B15

¹⁵⁴ CA, Snia Viscosa Papers, Glanzstoff to Courtaulds' Board, 17 January 1927, SNI.6

¹⁵⁵ ACS, Segreteria Particolare del Duce, Memorandum by Marchesini to Mussolini [Memoria di Marchesini al Duce], 12 March 1927, SPD, CR, B102, F169/R

¹⁵⁶ Idem

stake after that Italy entered the conflict on the side of Nazi Germany in May 1940.¹⁵⁷ In a memorandum dated 1941, the Italian Ministry for Finance stressed that the Italian government considered ‘the financial participation of foreign groups in national companies favourably’ because this facilitated ‘technical and commercial co-operation.’¹⁵⁸ Little wonder, then, that the same memorandum stressed that the assets in foreign hands had not been sequestrated as enemy property.¹⁵⁹

The history of Snia Viscosa also lends credence to the view that the regime withstood foreign interests when these became, in the words of Colli, a threat for ‘national champions.’¹⁶⁰ The point has also recently been made in relation to Norway that political factors, notably rising economic nationalism, proved as important as economic forces in shaping the relationship between the government and foreign firms as well as the success of multinationals after 1918.¹⁶¹

In connection to this, it should be mentioned that Borletti justified the changes in the statutes on political grounds.¹⁶² As Lunge recalled, Borletti announced a reform of the firm’s statutes as a matter of urgency

¹⁵⁷ Coleman, *Courtaulds*, III, p.109

¹⁵⁸ ACS, IRI, Memorandum of the Ministry for Finance [Relazione del Ministero delle Finanze], undated but 1941’, SR: Fasc. Châtillon

¹⁵⁹ Idem.

¹⁶⁰ Colli, ‘Multinationals’, p.308;

¹⁶¹ Jones, *Multinationals and global capitalism*, p.277; Sandvik and Storli, ‘Big business’, p.111, pp.119-23, p.129

¹⁶² On Credito Italiano, Borletti and his associates see Segreto, *I Feltrinelli*, pp.291-308; and Castronovo- Falchero, *L’avventura*, pp. 81-117

in December 1930.¹⁶³ This reform imposed the transfer of preference shares bearing multiple votes and allowing control over the firm (see Tables 6, 7 and 8) first to the Società Marittima Commerciale, a moribund company of the group, and, in 1933, to Safra and Sagepi (see Table 8).¹⁶⁴ Borletti justified the new provisions with these words:

Those changes have not been carried out for the sake of it...but have been imposed by factors, I would say, of political and general nature...those changes have been proposed only to moralise, so to speak, the situation.¹⁶⁵

There is reason to believe that the justification that Borletti provided for his move was not simply a fine piece of business opportunism. Coleman argued that the changes in the statutes and the creation of these holding companies followed new provisions of Italian law.¹⁶⁶ It would however be safer to infer that these reflected a stronger nationalistic stance and a changing attitude towards foreign investment after 1929.¹⁶⁷ As Colli and Amatori warned, economic nationalism and the emphasis on ‘corporativism’, which was rather suggestive of a trend towards economic self-sufficiency and an alternative to both market

¹⁶³ CA, John Hanbury-Williams Papers, Memorandum of Lunge to John Hanbury-Williams, 1 December 1930, JHW.16

¹⁶⁴ Coleman, *Courtaulds*, II, p.378 and idem, *Courtaulds*, III, p. 108; CA, John Hanbury-Williams Papers, Memorandum by Arthur Johnson regarding proposed new holding company for Snia preference voting shares, undated but 1933, JHW.16; TNA, Foreign Office papers, memorandum by W. Allit to the British Embassy in Rome, 9 February 1946, FO 371/58290

¹⁶⁵ Idem

¹⁶⁶ Coleman, *Courtaulds*, II, p.378 and idem, *Courtaulds*, III, p.108

¹⁶⁷ De Felice, *Mussolini il Duce*, I, p.135; Zamagni, *An economic history*, p.269;

capitalism and communism, reflected the adaptation of the Italian economy to the transformation of the global economy after 1929.¹⁶⁸ Under the impact of the depression, moreover, vested interests found it easier to influence ownership and industrial policy.¹⁶⁹

Nationalism translated into a series of hostile measures against foreign influences.¹⁷⁰ One well-documented case pertains to the decision of Mussolini to deny Ford the approval to set up business in Italy, a move for which Fiat lobbied.¹⁷¹ As for Snia Viscosa, police reports increasingly emphasised after 1929 that the bailout and the industrial policy of Snia Viscosa after 1927 raised much criticism from within various prominent Fascist circles.¹⁷² Early in 1931, an informant complained to Mussolini that, although saving the firm from collapse, foreign intervention was humiliating.¹⁷³ A liaison officer of Courtaulds reported that the German officials in Snia Viscosa had gained a very bad reputation in 'Northern Italian Fascist circles owing to [their] insistence that production should be very much reduced.'¹⁷⁴ Economic nationalism had implications on

¹⁶⁸ Amatori e Colli, *Impresa e industria*, p.175

¹⁶⁹ De Felice, *Mussolini il Duce, I*, p.157

¹⁷⁰ Colli-Amatori, *Impresa e industria*, p.175;

¹⁷¹ Castronovo, *Giovanni Agnelli*, pp.339-45; Toninelli, 'Between Agnelli and Mussolini,' pp.356-60

¹⁷² Archivio Centrale dello Stato (hereafter ACS), Segreteria Particolare del Duce, Notes to Mussolini on the General Assembly of Snia Viscosa, 31 marzo 1931 [Note al Duce sull'assemblea general della Snia Viscosa], , CR, b102, f169/R

¹⁷³ Idem

¹⁷⁴ CA, John Hanbury-Williams Papers, Balfour-Murphy to Hanbury-Williams, 1 January 1931, JHW.51

strategy and on the structure of the industry. In the 1930s, the Istituto per la Ricostruzione Industriale repeatedly rejected proposals envisaging the merger of Snia Viscosa with Châtillon (which, as mentioned in Section II, was now owned by the Istituto) and the Cisa group (which was the Italian subsidiary of the Comptoir).¹⁷⁵ The argument was that that merger would give foreign interests a controlling hand on what would become a domestic monopoly.¹⁷⁶ Confirming that the launch of Safra and Sagepi was influenced by political factors was also a memorandum of the Istituto per la Ricostruzione Industriale reporting that ‘in one of our conversations, Borletti has denied [foreign] control [and] in order to prove this he has shown the statutes of Safra and Sagepi.’¹⁷⁷

While trying to keep Courtaulds and Glanzstoff at bay from the management of the firm, Borletti and his associate Marinotti made Snia Viscosa profitable once again (Table 5).¹⁷⁸ They reduced investments (see Table 5), implementing a merger with the Varedo company, a medium sized competitor, and a reduction of the company’s share capital from one billion to 300 million lire in 1931.¹⁷⁹ The reduction of capital

¹⁷⁵ ACS, IRI, SR, Memorandum IRI on Snia’s shares [Relazione IRI su Azioni Snia], 3 November 1933 in Negotiations for the merger between Cisa and Châtillon [Trattative di fusione Cisa-Châtillon], 22 February and 7 April 1936, IRI –SR 15, B15,

¹⁷⁶ Idem

¹⁷⁷ ACS, IRI, SR, Snia’s shares [Azioni Snia], 3 November 1933 in IRI –SR 15, B15: negotiations with Snia Viscosa [trattative con Snia Viscosa], 1935

¹⁷⁸ Spadoni, *Il gruppo Snia*, p.104-8

¹⁷⁹ Idem, p.105

left the size of Courtaulds and Glanzstoff's share in Snia Viscosa unchanged, as Tables 6 and 7 show. It however allowed a huge shift of resources to reserves, which grew considerably in relation to nominal and subscribed capital. As Borletti stressed, this move reflected a scramble for liquidity and the aim of the big shareholders, namely Courtaulds and the ailing Credito Italiano, to reduce financial commitment.¹⁸⁰

During the latter half of the 1930s, while Glanzstoff reduced its participation by selling the bulk of its ordinary shares to Safra in 1935 (the German firm retained the preference shares of Snia Viscosa until 1947), Courtaulds kept a large share in Snia Viscosa (18.5 percent of the capital and 28 percent of the votes, but see Tables 6 and 7). The Italian firm paid dividends in the 1930s, becoming a good source of profits for the British.¹⁸¹ Courtaulds likely accepted a loss of influence to gain dividend payments, while, as Jones emphasised, this became mostly a portfolio investment.¹⁸² While in general acceptable, this conclusion needs some qualifications, the most important of which is that the profits could not be remitted in the 1930s while Snia Viscosa became an important source of new technology for the British in the 1930s.¹⁸³

VI

¹⁸⁰ CA, John Hanbury-Williams Papers, Borletti to Hanbury-Williams, 21 November 1930, JHW.16

¹⁸¹ Idem and Jones, 'Courtaulds,' p.121

¹⁸² Idem.

¹⁸³ Coleman, *Courtaulds*, II, p. 379 and idem, *Courtaulds*, III, p.108

In sum, after initial growth fuelled by inflation, Snia Viscosa came to be taken over by foreign firms in 1927. This article has sought to direct attention to the weight of the stabilisation crisis after 1925 in this outcome. The huge scale economies, cheap labour and profitability of Snia Viscosa might provide an incentive to Courtaulds and Glanzstoff's move in Italy. Moreover, this investment was likely also influenced by the European cartel arrangements that these firms had put in place since 1924-5. Evidence however points to the conclusion that it was triggered by the deteriorating conditions of the country and Snia Viscosa in particular. While inflation had been crucial in the early development of the firm, deflation and the credit crunch after 1925 exposed the weak financial structure of Snia Viscosa. The credit crunch and monetary restoration also smoothed inward foreign investment and, with it, the internationalisation of the company's equity capital. In the context of the mid-1920s, the joint investment of Courtaulds and Glanzstoff salvaged Snia Viscosa and the Italian rayon industry from collapse, likely avoiding state bail-out. At a more general level, there also seems to be here some indications on how recessions, by offering multinational firms the chance of making fire sale investments in host economies, reshaped patterns of foreign investment after 1918.

Moreover, while coming under the control of foreign interests, the rayon industry became one of the largest and most technologically

advanced manufacturing sectors in Italy after 1918.¹⁸⁴ There is no exaggeration in the claim that its growth represented a central episode in the industrialisation of the country.¹⁸⁵ This is one reason why the history of Snia Viscosa offers a particular vantage point in the analysis of the benefits that firms which were taken over derived from foreign investment.¹⁸⁶ This also sheds light on the weight of multinationals in the international spread of industry.¹⁸⁷ The evidence presented here, finally, seems fully consistent with Colli's claim that foreign influences had a greater role in Italy's industrialisation than hitherto suggested by Italian historians.¹⁸⁸ Foreign firms provided long-term capital and know-how to Snia Viscosa, thus helping the Italians to develop innovative technologies.

Another hypothesis emerging from this account is that between foreign interests and the Italian government there probably was what Jones, Sandvik and Storli identified as a power struggle which the crisis exacerbated.¹⁸⁹ The regime welcomed the investment in Snia Viscosa, but also resisted dramatic output reductions. As this article has shown, the prospect of acquiring foreign technology and expertise represented a

¹⁸⁴ Zamagni, *Economic History*, p. 276; Romeo, *Breve storia*, pp.115-6, p.120

¹⁸⁵ *Idem.*

¹⁸⁶ Wilkins, 'Comparative hosts,'

¹⁸⁷ *Idem*

¹⁸⁸ Colli, 'Foreign enterprises,' p.97 and 'Multinationals', p.304

¹⁸⁹ Jones, *Multinationals and global business*, p.277; Sandvik and Storli, 'Big Business.', p.111, p.129

major element at work behind this posture. The history of Snia Viscosa seems however to indicate that there was a tension between the acquisition of foreign know-how and unrestrained growth, a point that the historical literature on technology transfer and multinational business seems to have generally underrated and that would be worth pursuing in future research.¹⁹⁰

Footnote references

Amatori, F., 'Italy: the tormented rise of organizational capabilities between government and families' in Chandler, A. D. jr, Amatori, F., Hikino T. (eds.), *Big business and the wealth of nations* (Cambridge, 1997), pp.246-76

Amatori, F. and Colli, A., 'La grande impresa' in *Annali di Storia d'Italia*, vol.15: *L'Industria* (Torino, 1999), pp.691-753

Amatori, F. and Colli, A., *Impresa e industria in Italia. Dall'Unità ad oggi* (Venezia, 1999)

Athukorala, P.-C., 'Foreign direct investment in crisis and recovery: lessons from the 199-1998 Asian crisis' *Australian Economic History Review*, 43 (2003), 197-213

Baffi, P., 'La rivalutazione del 1926-7, gli interventi sul mercato e l'opinione pubblica' in idem., *Nuovi studi sulla moneta* (Milano, 1973), pp. 101-22

Baia Curioni, S., 'Evoluzione istituzionale della borsa valori in Italia dal 1918 alla vigilia della legge bancaria del 1936' in *Ricerche per la storia della Banca d'Italia* (Roma-Bari, 1994), vol V, pp.153-205

Blomström, M., Kokko, A., Zejan, *Foreign direct investment: firms and host country strategy* (Basingstoke, 2000)

Blonigen, B. A., 'Firm-Specific Assets and the Link Between Exchange rates and Foreign Direct Investment,' *American Economic Review* 87(1997), pp.447-65

Blonigen, B.A., 'A Review of the Empirical Literature on FDI Determinants'. *Atlantic Economic Journal* 33 (2005), pp.383-403.

Bonelli, F., 'Il capitalismo italiano. Linee generali d'interpretazione' in Federico, G., ed., *The economic development of Italy since 1870* (Aldershot, 1994), pp.99-142

Castronovo, V., *Giovanni Agnelli. La Fiat dal 1899 al 1945* (Torino, 1977)

Carocci, G., *La politica estera dell'Italia fascista (1925-1928)* (Laterza, 1969)

¹⁹⁰ A case in point is Wilkins, 'The role,' pp.166-9, but see also Jeremy, *Technology transfer*, pp.XIII-XXIV

- Castronovo, V. and Falchero, A. M., *L'avventura di Franco Marinotti. Impresa, finanza e politica nella vita di un capitano d'industria* (Milano, 2008)
- Cerretano, V., 'The benefits of 'moderate inflation'. The rayon industry and Snia Viscosa in the Italy of the 1920s,' *Journal of European Economic History* 33 (2,2004), pp. 233-83
- Cerretano, V., 'European cartels, European multinationals and Economic De-globalisation: insights from the European rayon industry, 1920-1940,' *Business History* 54 (2012), pp. 594-622
- Cerretano, 'European cartels and technology transfer', *Zeitschrift fuer Unternehmensgeschichte*, 56(2,2011), pp.206-24
- Chiapparino, F., 'Note per una biografia imprenditoriale di Riccardo Gualino' in Bigazzi, D., ed., *Storie di imprenditori* (Bologna, 1996), pp.357-413.
- Coleman, D. C., *Courtaulds: an economic and social history (3 vols): Vol II: Rayon*, (Oxford, 1969)
- Coleman, D.C., *Courtaulds: an economic and social history (3 vols): Vol. III: Crisis and Change* (Oxford, 1980)
- Colli, A., 'Foreign enterprises (1913-1972)' in Colli, A. and Vasta, M., eds., *Forms of enterprise in 20th century Italy: boundaries, structures and strategies* (Cheltenham, 2010), pp.87-111
- Colli, A., 'Multinationals and Economic Development in Italy during the Twentieth Century' *Business History Review*, 88 (3, 2014), pp. 303-327
- Confalonieri, A., *Banche miste e grande industria in Italia, 1914-1933* (2vols, Milano, Banca commerciale Italiana, 1997); II (*I rapporti banca industria*), pp.244-5
- Cotula, F. and Spaventa, L. (eds), *La politica monetaria tra le due guerre, 1919-1935* (Roma-Bari, 1993)
- Credito Italiano, *Società per azioni: notizie statistiche* (Milano, 1925,1930,1937,1940)
- De Felice, R., *Mussolini il Duce. I. Gli anni del consenso, 1929-1936* (Turin, 1974)
- De Ianni, N., *Gli affari di Agnelli e Gualino* (Napoli, 1998)
- Dunning, J.H., *Explaining international production* (1988)
- Eichengreen, B., 'Understanding 1921-1927: inflation and economic recovery in the 1920s' in *Rivista di Storia Economica*, 3 (1986), pp.34-66 and idem, *Elusive stability. Essays in the history of international finance, 1919-1939* (Cambridge, 1990), pp. 24-56
- Eichengreen, B., *Golden fetters: the gold standard and the Great Depression, 1919-1939* (Oxford, 1996)
- Falchero, A.M., '“Quel serico filo impalpabile...” Dalla Soie de Châtillon a Montefibre (1918-1972)' *Studi Storici*, 33 (1, 1992), pp.217-233
- Falco, G, 'La bilancia dei pagamenti italiana tra la prima guerra mondiale e il 1931' in *Ricerche per la storia della Banca d'Italia* (Roma-Bari, 1995), pp.1-264

- Froot, K.A. and J.C.Stein, 'Exchange rates and foreign direct investment: an imperfect capital markets approach,' *Quarterly Journal of Economics*, 106 (4, 1991),pp.1191-1217
- Gilpin, R, *Global political economy: understanding the international economic order* (Princeton and Oxford, 2001)
- Guarneri, Felice, *Battaglie economiche tra le due guerre, 1918-1940* (2vols, Milan, 1953) Vol I
- Hertner, P., *Il capitale tedesco in Italia dall'Unità alla Prima Guerra Mondiale. Banche miste e sviluppo economico italiano*, (Bologna, 1984)
- Huebler, Michael, 'Foreign direct investments and technological convergence,' in H.Hveem and C.H.Knutzen (eds.), *Governance and knowledge: the politics of foreign investment, technology and ideas* (Abingdon, 2012), pp.119-32
- Jensen, N., *Nation states and the multinational corporation: a political economy of foreign direct investment* (Princeton and Oxford, 2006)
- Jeremy, D., (ed.), *Technology transfer and business enterprise* (Aldershot, 1994)
- Jones, G. and Hertner, P., *Multinationals: Theory and History* (Aldershot, 1986)
- Jones, G., 'Courtaulds in Continental Europe' in Jones, G., ed., *British Multinationals: Origins, Management, Performance* (Aldershot, 1986), pp.119-139
- Jones, G., 'Foreign Multinationals and British Industry before 1945', *Economic History Review*, 2nd Ser, XLI, 3 (1988), pp.429-453
- Jones, G. and Schröter, H.G., 'Continental European Multinationals, 1850-1992,' in Jones, G. and Schröter, H.G., eds, *The Rise of Multinationals in Continental Europe* (Aldershot, 1993), pp. 3-23
- Jones, G. and F. Bostok, 'U.S. Multinationals in British Manufacturing before 1962,' *Business History Review*, 70, (2, 1996), pp. 207-256
- Jones, G., 'Multinationals' in Amatori, F. and Jones, G., *Business history around the world* (Cambridge, 2003), pp. 353-71
- Jones, G., 'Multinationals from the 1930s to the 1980s' in Chandler, A.D., and Mazich, B., *Leviathans. Multinational corporations and the new global history* (Cambridge, Mass., 2005), pp.81-103
- Jones, Geoffrey. *Multinationals and Global Capitalism from the Nineteenth to the Twenty-first Century*. Oxford: Oxford University Press, 2005
- Imperial Economic Committee, *Industrial Fibres* (1939)
- Istat, 'Il valore della moneta in Italia dal 1861 al 2008' *Informazioni*, 8 (2009)
- Krugman, P, 'Fire-sale FDI', in Edwards, S., ed., *Capital Flows and the Emerging Economies: Theory, Evidence, and Controversies* (Chicago, 2000), pp.132-158
- Landes, D, *The unbound Prometheus. Technological change and industrial development from 1750 to the Present* (Cambridge, 1969 1st ed.)
- Limido, F., 'La Snia Viscosa di Marinotti e la rinascita tecnologica degli anni Trenta'. *Imprese e Storia*, 25 (2002), pp. 3-45

- Lipsey, R. E., 'Foreign Direct Investors in Three Financial Crises' in *NBER Working Paper 8084*, January 2001
- Giorgio Mortara, *Prospettive economiche* (Citta' di Castello, 1928-30).
- Orsi, M., 'L'evoluzione della Snia Viscosa tra gli anni Venti e Trenta' in *Imprese e storia*, 19(1999), pp. 31-59
- Petri, R., 'Cartels and the diffusion of technologies: the case of the hydrogenation and catalytic refining' in Dominique Barjot (ed.), *International Cartel Revisited, 1880-1990* (Caen, 1994), pp.287-300
- Petri, R., *Storia economica d'Italia. Dalla Grande Guerra al miracolo economico (1918-1963)* (Bologna, 2002)
- Piluso, G., 'L'Italia e il gold standard: genesi e razionalità del modello Beneduce, 1905-1935' in *Imprese e storia*, 41-42 (2011), pp. 13-33
- Plumpe, Gottfried *Die IG Farbenindustrie AG. Wirtschaft, Technik und Politik, 1904-1945* (Berlin, 1990)
- Rollings, N. 'Multinational enterprises and government controls on outward foreign direct investment in the United States and the United Kingdom in the 1960s.' *Enterprise and Society*, 12 (2,2011),398-434
- Romeo, R., *Breve storia della grande industria in Italia, 1861-1961* (Milano, 1988)
- Schröter, H.G., 'Risk and Control in Multinational Enterprise: German businesses in Scandinavia, 1918-1939' *Business History Review*, 62 (3, 1988), pp.420-443
- Segreto, L., *I Feltrinelli. Storia di una dinastia imprenditoriale (1854-1942)* (Milano, 2011)
- Spadoni, M., *Il Gruppo Snia dal 1917 al 1951* (Torino, 1953)
- Wilkins, M., 'Comparative hosts' in *Business History*, 36 (1,1994), pp.18-50
- Teichova, A., *An economic background to Munich. International business and Czechoslovakia, 1918-1939* (Cambridge, 1974)
- Textiles Economics Bureau, *Textile Organon. Statistical Base Book* (New York, 1962)
- Toninelli, P.A., 'Between Agnelli and Mussolini: Ford's unsuccessful Attempt to Penetrate the Italian Automobile Market in the Interwar Period' *Enterprise and Society*, 10 (2, 2009), pp.335-75
- Toniolo, G., *L'economia dell'Italia fascista* (Roma-Bari, 1980)
- Unctad, *World Investment Report 2012* (New York, 2013)
- Wilkins, M., 'The Role of Private Business in the International Diffusion of Technology' *Journal of Economic History*, 34 (1,1974), pp.166-188
- Zamagni, V., *The economic history of Italy, 1860-1990* (Oxford, 1993)

Table 1 Italian rayon exports (in metric tons) by destination, 1922-8

	1922	1923	1924	1925	1926	1927	1928
<i>Germany</i>	113.0	122.0	196.0	725.0	2,475.0	3,529.0	3,211.0
<i>UK</i>	91.0	831.0	1,601.0	2,019.0	387.0	371.0	459.0
<i>USA</i>	360.0	233.0	107.0	1,484.0	970.0	2,860.0	2,056.0
<i>India</i>	1.0	30.0	102.0	462.0	1,300.0	1,795.0	1,508.0
<i>China</i>	:	114.0	223.0	433.0	1,181.0	2,211.0	4,006.0
<i>Others</i>	886.0	996.0	2,354.0	2,137.0	3,478.0	4,091.0	3,764.0
<i>Total</i>	1,451.0	2,326.0	4,583.0	7,260.0	9,791.0	14,857.0	15,004.0

Source: Mortara, *Prospettive*

Table 2. Snia Viscosa: share of Italian and world's output and exports, 1928-34

	Output ^a			Exports			
	Thousand metric tons	As % Italy	As % world	Thousand metric tons	As % Snia output	As % Italian exports	As % world's exports
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1921	0.9	61.0	4.0				
1922	1.7	56.0	4.8				
1923	3.0	59.9	6.4				
1924	5.3	50.5	8.1				
1925	9.5	67.8	11.2				
1926	10.5	58.3	10.7				
1927	13.0	52.0	9.7				
1928	10.5	40.4	6.4				
1929	9.1	30.2	5.0				
1930	11.8	38.1	5.6	8.3	72.2	43.9	14.9
1931	15.5	49.1	6.9	9.4	60.6	41.8	16.5
1932	12.5	41.0	5.3	8.1	64.8	42.9	14.7
1933	12.8	39.4	4.3	9.2	71.9	48.2	16.1
1934	17.4	44.7	5.0	4.8	85.1	49.3	20.9

Note: a) From 1930, figures about Snia Viscosa's output include the newly acquired Varedo company, the output of which in 1929 was 3.9 thousand metric tons.

Sources: col 1 and col 4-5, TNA, Foreign Office Papers, Memorandum by W. Allit to the British Embassy in Rome, 9 February 1946, FO 371/58290; col 6-7, Imperial Economic Committee, *Industrial Fibres*, 1937 and 1939; col.2-3, Textile Economics Bureau, *Textile Organon* 1962, p.18

Table 3 Italy: rayon firms and their capitalisation (subscribed capital plus reserves) in million lire and in million pounds in 1913 values

	Snia Viscosa			Châtillon			Cisa Group			Others			Total			Number of firms
	L	£	%	L	£	%	L	£	%	L	£	%	L	£	%	
1913							5.3	0.21	100				5.3	0.21	100	1
1922	42.5	1.67	52.3	7.4	0.29	9.1	9.7	0.38	11.9	0.9	0.01	26.7	60.5	2.4	100	2
1923	92.2	3.62	67.3	7.6	0.30	5.5	14.7	0.58	10.7	0.9	0.28	16.5	115.4	4.8	100	3
1924	148.3	5.83	65.2	25.0	0.98	10.8	24.3	0.96	10.5	1.2	0.30	13.5	198.8	8.1	100	6
1925	172.8	6.80	65.8	31.8	1.25	10.0	29.6	1.16	9.3	1.9	0.64	15.0	236.1	9.9	100	5
1926	237.3	9.33	58.0	41.7	1.64	11.1	40.8	1.60	10.9	2.9	2.63	20.0	322.7	15.2	100	6
1927	275.5	10.83	58.2	45.7	1.80	9.7	55.5	2.18	11.7	3.8	2.51	20.4	380.5	17.3	100	4
1928	238.2	9.36	50.9	58.4	2.30	12.5	79.5	3.13	17.0	3.6	0.38	19.6	379.7	15.2	100	9
1929	235.3	9.25	48.5	57.6	2.26	12.0	78.3	3.08	16.3	4.4	0.41	23.2	375.6	15.0	100	8
1930	241.6	9.50	48.3	47.3	1.86	9.1	81.0	3.19	15.7	5.5	0.37	26.9	375.4	14.9	100	3
1931	112.8	4.44	34.0	52.7	2.07	15.9	89.6	3.52	27.0	3.0	0.90	23.0	258.1	10.9	100	3
1932	121.3	4.77	29.1	54.1	2.13	15.3	97.2	3.82	27.6	3.9	1.14	28.0	276.5	11.9	100	3
1933	135.3	5.32	45.2	31.4	1.23	11.5	86.5	3.40	31.7	1.2	1.46	11.6	254.4	11.4	100	4
1934	127.7	5.02	37.1	33.1	1.30	10.5	70.3	2.76	22.2	3.8	1.36	30.2	234.9	10.4	100	7
1935	42.5	1.67	38.6	32.7	1.29	10.7	50.4	1.98	16.4	4.1	0.72	34.3	129.7	5.7	100	10
1936	92.2	3.62	36.5	30.9	1.22	10.1	30.9	1.22	15.6	1.2	0.77	37.8	155.2	6.8	100	12
1937	148.3	5.83	48.9	28.5	1.12	12.3	na	na	na	1.1	1.16	38.8	177.9	8.1	100	18
1938	172.8	6.80	53.7	26.4	1.04	11.2	na	na	na	1.0	0.58	35.1	200.2	8.4	100	16

Source: Credito Italiano, *Società per azioni* various years; Istat, 'Il valore', p.65; Exchange rate: 25.43 lire to the pound in December 1913 from Cotula-Spaventa, *La politica monetaria*, p.857, (Tab A14)

Table 4 Courtaulds, Glanzstoff, Snia Viscosa: output (home markets only) in thousand metric tons and sources of capital and investment in million pound sterling (1927 exchange rates)

	Output			Sources of capital									Investment																	
				Subscribed capital			Funds and reserves			Debt			Total			Plants, machinery, materials			Holdings			Credit to firms of the group			Total					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)			
Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	Cou	Gla	Sni	
1920	2.9	2.1	0.5																											
1921	3.1	2.6	0.9	12.0		1.9	2.0	0.0	3.8		3.0	17.8		1.9	2.6	0.5	13.2		1.6	0.7		2.7	16.5		4.8					
1922	4.9	3.7	1.7	12.0		1.9	4.0	0.0	3.6		2.8	19.6		1.9	2.7	0.2	14.7		1.0	0.5		2.9	17.9		4.1					
1923	6.5	2.9	2.9	12.0		3.8	6.4	0.3	3.8		2.9	22.2		4.1	3.5	2.8	15.1		0.9	0.7		3.5	19.3		7.3					
1924	8.7	4.7	5.3	20.0	1.5	6.5	9.4	0.3	0.3	4.6	0.1	2.0	34.0	2.1	6.9	4.2	0.7	3.6	25.2	0.6	1.2	0.8	0.6	4.6	30.2	1.9	9.5			
1925	10.6	5.7	9.5	20.0	1.5	8.1	12.2	0.2	0.8	4.8	0.2	2.2	37.0	2.1	9.0	5.7	1.0	5.7	26.2	0.7	2.5	0.8	0.3	5.8	32.7	2.1	14.1			
1926	9.5	4.2	10.5	20.0	2.1	9.5	16.2	1.2	3.7	5.3	0.7	4.2	41.5	3.4	13.3	7.3	1.0	9.0	26.1	1.0	2.6	0.7	0.7	5.1	34.1	2.7	16.6			
1927	12.5	8.2	13.0	20.0	3.0	10.8	36.2	5.9	3.3	3.5	0.9	4.6	59.7	11.2	14.1	7.7	1.5	9.4	33.3	1.9	3.1	1.3	1.2	4.8	42.3	4.6	17.4			
1928	14.4	8.7	10.5	32.0	3.7	10.8	15.0	5.8	0.5	3.8	0.1	1.6	50.9	11.8	11.3	8.7	2.7	9.2	36.4	4.3	1.4	1.3	1.3	3.1	46.5	8.4	13.6			
1929	11.9	10.4	9.9	32.0	3.7	10.8	15.5	4.2	0.5	3.7	0.1	1.5	51.3	11.7	11.3	9.1	2.6	8.7	33.0	3.6	1.3	0.7	1.9	3.1	42.9	8.1	13.1			

Sources: col.1, Cerretano, 'The benefits', Tab.6, p.249; col 2-7, Franco Marinotti, Relazione a Raffaele Mattioli [memorandum to R.Mattioli], April 1931, Sofindit Papers, SOF 168 fasc.3, Archivio Storico della Banca Commerciale Italiana, Milan

Table 5 Snia Viscosa: Holdings, Turnover, Profits, Dividends and Capital in Million Lira (L) and Million Pounds Sterling (£), 1918-34 (1913 values)

	Holdings		Turnover ^a		Gross Profits: Trading (X) and Total (Y)				Less Depreciation (X) and Taxes and Expenses (Y)				Net Profits		Dividends: Overall (X); As % Sub.Capital (Y); current L per sh (z)			Capital: Nominal (X), Subscribed (Y), and Reserves (Z)					
	L	£	L	£	L	£	L	£	L	£	L	£	L	£	L	%	L	L	£	L	£	L	£
1918							1.9	0.07			0.2	0.01	1.6	0.06	1.2	8.0	8.0	15.1	0.60	15.1	0.60	0.1	:
1919							3.7	0.15			1.0	0.04	2.7	0.11	1.2	2.6	8.0	44.8	1.76	44.8	1.76	0.1	:
1920							12.7	0.50			8.5	0.34	4.2	0.16	2.3	4.0	4.0	56.8	2.23	56.8	2.23	0.1	0.01
1921							10.0	0.39			12.0	0.47	:	:	:	:	:	42.0	1.65	42.0	1.65	0.3	0.01
1922			16.9	0.66			2.0	0.08			12.0	0.47	:	:	:	:	:	42.2	1.66	42.2	1.66	0.3	0.01
1923			21.8	0.86			15.7	0.62			8.9	0.35	6.8	0.27	5.4	6.3	16.0	85.0	3.34	85.0	3.34	7.2	0.28
1924			37.1	1.46			24.5	0.96			10.4	0.41	14.1	0.55	9.7	6.8	20.0	140.7	5.53	140.7	5.53	7.6	0.30
1925	50.0	1.97	67.8	2.67			42.5	1.67			11.5	0.45	31.0	1.22	15.7	7.5	25.0	208.8	8.21	156.6	6.16	16.2	0.64
1926							33.2	1.31			14.3	0.56	18.9	0.74	13.4	6.9	20.0	193.5	7.61	170.3	6.70	67.0	2.63
1927	60.7	2.39	85.2	3.35			23.4	0.92			13.5	0.53	9.8	0.39	:	:	:	211.7	8.32	211.7	8.32	63.8	2.51
1928	28.7	1.13	75.4	2.96	19.4	0.763	22.8	0.90	8.0	0.32	22.7	0.89	:	:	:	:	:	228.4	8.98	228.4	8.98	9.8	0.38
1929	26.1	1.03	70.0	2.75	10.1	0.399	10.7	0.42	7.6	0.30	2.9	0.11	0.2	0.01	:	:	:	224.8	8.84	224.8	8.84	10.5	0.41
1930	31.4	1.24	61.6	2.42	9.5	0.374	9.8	0.38	7.2	0.28	5.0	0.20	2.5	0.10	:	:	:	232.2	9.13	232.2	9.13	9.4	0.37
1931	29.0	1.14	41.8	1.64	16.0	0.628	17.2	0.68	5.5	0.22	5.6	0.22	6.0	0.24	5.4	6.0	12.0	90.0	3.54	90.0	3.54	22.8	0.90
1932	38.8	1.53	56.3	2.22	14.2	0.559	15.5	0.61	5.7	0.22	4.0	0.16	5.9	0.23	5.5	6.0	12.0	92.4	3.63	92.4	3.63	28.9	1.14
1933	44.9	1.76	63.2	2.49	17.9	0.703	19.6	0.77	6.6	0.26	6.6	0.26	6.5	0.25	5.9	7.0	14.0	98.2	3.86	98.2	3.86	37.1	1.46
1934	31.7	1.25			21.6	0.849	22.7	0.89	7.8	0.31	7.8	0.31	7.7	0.30	6.2	8.0	16.0	93.2	3.66	93.2	3.66	34.5	1.36

Note: a) Between 1922 and 1925: six months only.

Sources: Snia Viscosa official balance sheets and minutes of the board's meetings; columns in lira, Istat, 'Il valore', p. 65; Exchange rates L/£: 25.4 in December 1913, see Cotula –Spaventa, *La politica*, p.857 (Tab.A14)

Table 6. *Snia Viscosa: distribution of shares and votes in 1927*

	Shares						Voting power					
	Preference		Ordinary		Total		Preference		Ordinary		Total	
	000	%	000	%	000	%	000	%	000	%	000	%
<i>Courtaulds</i>	135.0	67.5	1,080.0	16.7	1,215.0	18.2	1,350.0	67.5	1,080.0	16.7	2,430.0	28.7
<i>VGF</i>	40.0	22.5	360.0	5.6	405.0	6.1	450.0	22.5	360.0	5.6	810.0	9.6
<i>Gualino</i>	20.0	10.0	200.0	3.0	220.0	3.3	200.0	10.0	200.0	3.0	400.0	4.7
<i>Hambros</i>	:	:	600.0	9.3	600.0	9.0	:	:	600.0	9.3	600.0	7.1
<i>Voting pool</i>	200.0	100.0	2,240.0	34.7	2,440.0	36.6	2,000.0	100.0	2,240.0	34.7	4,240.0	50.1
<i>Not controlled</i>	:	:	4,266.0	65.3	4,226.0	63.4	:	:	4,226.0	65.4	4,226.0	49.9
<i>Total</i>	200.0	100.0	6,466.0	100.0	6,666.0	100.0	2,000.0	100.0	6,466.0	100.0	8,466.0	100.0

Source: CA, *Snia Viscosa Papers*, SNI.4, *Notes on Snia*, undated

Table 7. *Snia Viscosa*: distribution of shares and votes in 1945

	Shares (Thousand)			Share capital		Voting power (Thousand)			
	Ordinary	Preference	Total	Current million lire	%	Ordinary	Preference	Total	%
<i>Courtaulds</i>	453.9	68.3	522.1	156.6	15.5	453.8	683.3	1,137.1	23.3
<i>Hambros</i>	209.4	:	209.4	62.9	6.2	209.4	:	209.4	4.1
<i>A.K.U</i>	:	18.9	18.9	5.7	0.5	:	189.0	189.0	3.8
<i>Snia, Cisa, CTA</i>	2,528.8	80.8	2,609.6	782.9	77.8	2,528.8	807.7	3,336.5	68.8
					100.				
<i>Total</i>	3,192.0	168.0	2,360.0	1,008.0	0	3,192.0	1,680.0	4,872.0	100.0

Source: Report by W. Allit on *Snia Viscosa*, August 1945 in CA, SAM.48; Memorandum by W. Allit to the British Embassy in Rome, 9 February 1946 in TNA, Foreign office papers, FO 371/58290

Tab. 8. *Snia Viscosa: preference shares and holding companies in 1933*

SAGEPI				SAFRA			
	number of shares	million current lire	% of capital		number of shares	million current lire	% of capital
Courtaulds	33,750	6.8	75.0	SAGEPI shares (Court.)	33,750	6.8	30.7
Glanzstoff/ AKU	11,250	2.2	25.0	SAGEPI shares (VGF)	11,250	2.2	10.3
				Credito-Borletti 's preference shares	30,000	6.0	27.2
				Snia's ordinary shares	35,000	7.0	31.8
Total capital	45,000	9.0	100.0	Total capital	110,000	22.0	100.0

Source: TNA, Foreign Office Papers, Memorandum by W. Allit to the British Embassy in Rome, 9 February 1946, FO 371/58290