

The 'Benefits of Moderate Inflation'. The Rayon Industry and Snia Viscosa in the Italy of the 1920s

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Although it has drawn little attention, the development of rayon¹ in the 1920s is one of the major episodes in Italian industrialisation. Between 1922 and 1927, Italy became the largest European producer and the world's

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Abbreviations:

ACS - Archivio Centrale dello Stato, Rome; AN - Archivio Nitti; SPD,CR - Segreteria Particolare del Duce, Carteggio Riservato; PRO - Public Record Office, Kew (London); BT - Companies Registration Office, Files of dissolved companies, Board of Trade; FO - Foreign Office; AS BCI - Archivio Storico della Banca Commerciale Italiana, Milan; SOF - Sofindit; ST - Segreteria dell'Amministratore Delegato Giuseppe Toeplitz; CA - Courtaulds' Archives, Coventry; Ch - Châtillon, Montefibre Direzione Generale, Milan; VCA - Verbali del Consiglio di Amministrazione; VCP - Verbali del Consiglio di Presidenza; Sn - Snia BPD: Direzione Generale, Milan; VCA - Verbali del Consiglio di Amministrazione; VGF A - Vereinigten Glanzstoff-Fabriken Archiv, Wuppertal.

¹ Rayon, a cellulosic fibre made out of wood-pulp, was the first and only man-made fibre to be mass-produced until the early 1940s. The term rayon is anachronistic for the period under consideration but, here, it is used for simplicity. In Europe, cellulosic fibres were named 'artificial silk' until the early 1930s.

largest exporter of the new fibre². It is, however, when account is taken of the financial aspects that this episode appears particularly spectacular³.

Behind these results lay largely the expansion of Snia Viscosa. Set up as a highly speculative venture during the First World War and emerging as a corporate new giant of Italian capitalism immediately thereafter, Snia Viscosa became one of the great European concerns in rayon manufacture in the 1920s. The history of this company suggests that war and post-war inflation were major factors at work behind the establishment of the sector in Italy. The war facilitated the rapid accumulation of capital in the hands of innovative businessmen who reinvested these resources in the sector in the early 1920s. Post-war inflation and depreciation of the lira, alongside decreasing real wages, eased the subsequent expansion.

The ways in which monetary instability in the 1920s affected Snia's growth form the main object of this article. It is generally accepted that behind the short-lived, though intense, Italian economic growth in the 1920s lay inflation⁴. It seems, however, that empirical reviews and case studies have not been provided.

The question as to why a foreign company sold technologies to Snia Viscosa is equally crucial. The history of rayon in Italy is largely the history of how Italian interests obtained foreign technologies, but because of space restraints this question will not be addressed in full here. Suffice it to mention that pioneer rayon corporations combined technical assistance with international cartel agreements, by which they sought to retain control over the industrial and commercial policy of the

² In these years, Italian rayon output increased from 3 to 25 thousand metric tons; exports increased from 2.4 (1923) to 14.9 thousand metric tons, whereas the number of workers, from a few hundreds, soared to almost 25 thousand.

³ The capitalisation of the sector increased from 173.6 million lire in 1922 to 1.3 billion lire in 1927.

⁴ Barry Eichengreen, 'Understanding 1921-1927: inflation and economic recovery in the 1920s' in *Evasive stability. Essays in the History of International Finance, 1919-1939*, (Cambridge, CUP 1990), pp. 24-56; Gianni Toniolo, *L'economia dell'Italia fascista*, (Roma-Bari, Laterza 1980), pp. 31-81; Pier Luigi Ciocca and Gianni Toniolo, 'Industry and Finance in Italy, 1918-1940', *Journal of European Economic History*, 2 (1984), pp. 113-36, now also in *The Economic Development of Italy since 1870*, eds. Giovanni Federico, (Aldershot, Edward Elgar 1994), pp. 565-88; Charles H. Feinstein, Gianni Toniolo, Peter Temin, *The European Economy between the Wars*, (Oxford, OUP 1997), pp. 47-8; 68-9.

licensees. As a result of this, Snia Viscosa was forever faced with a 'catch 22' situation in which limitations to the potential for expansion that cheap Italian labour could provide in export outlets became the trade off for the acquisition of foreign technical support and technologies. As we will show in this article, inflation, alongside the evolution of a global rayon market as well as some technical characteristics of the industry, offered a way out of this dilemma. These conditions lasted, however, until the mid-1920s, when the turnaround in Italian monetary policy hit Snia's rickety financial structure, and put the company in the hands of the European giants of the industry, the German company 'Vereinigten Glanzstoff-Fabriken' (VGF) and the British corporation Courtaulds.

Finally, the originality of this article lies to a considerable extent in the sources which are held in a number of Italian, British and German public as well as company archives. Perhaps, one of the reasons for the scanty attention attached to the growth of this sector in Italy is identifiable in the paucity of primary sources⁵. This article overcomes this problem, by using scattered pieces of information in Germany, Britain and Italy.

I

The earliest days of Snia Viscosa remain largely obscure. The surviving evidence is too patchy to provide an exhaustive picture of the

⁵ On the development of rayon in Italy see Pietro Grifone, *Il capitale finanziario in Italia. La politica economica del fascismo*, (Turin 1971 edn), p. 49, 97; Rodolfo Morandi, *Storia della grande industria in Italia*, (Turin, 1977 edn), pp. 230-1, 260-2, 283-4; Rosario Romeo, *Breve storia della grande industria in Italia*, (Bologna 1963 edn), pp. 146-7; Valerio Castronovo, *Storia economica d'Italia. All'Ottocento ai giorni nostri*, (Turin 1995), p. 256, 259 - 60, 262, 264, 297; Vera Zamagni, 'L'industria chimica in Italia dalle origini agli anni 50' in *Montecatini. 1866-1966. Capitoli di storia di una grande impresa*, ed. by Bruno Bezza and Franco Amatori, (Bologna 1990), pp. 69-139, 75, 103-8. On Italian rayon companies see Anna Maria Falchero, "'Quel serico filo impalpabile...'" Dalla Soie De Châtillon a Montefibre (1918-1972)', *Studi Storici*, 33 (1992), pp. 217- 33; Martino Orsi, 'L'evoluzione della Snia negli anni Venti e Trenta' in *Imprese e storia. Archivi, documenti, ricerche*, 19 (1999), pp. 7-45; Marcella Spadoni, 'La SNIA 1917-1939. Dai trasporti marittimi alle fibre tessili artificiali', in *Nuova Economia e Storia*, 3 (April 1997), pp. 69-97; M. Spadoni, *Le dinamiche patrimoniali del gruppo Snia Viscosa durante la gestione Gualino in Tra rendita e investimenti. Formazione e gestione dei grandi patrimoni in Italia in età moderna e contemporanea*, ed. Società italiana degli Storici dell'Economia, (Bari, Cacucci Editore 1998), pp.527-45.

company in the years preceding its entry into rayon. Nevertheless, some remarks on Snia's founding and initial operations can be made.

Snia was launched as a speculative venture during World War I. The chronic shortage of shipping tonnage, soaring freight rates and inflated coal prices provided the background to its founding. What, in particular, prompted the creation of the 'Società di Navigazione Italo-Americana' (Snia) were the entry of the USA into the war, in April 1917, and some of the new maritime privileges as well as tax concessions that the Italian government introduced in May 1917. Incorporated by its founder, Riccardo Gualino, in July 1917, in Turin, to commission and supply shipping capacity, and with it to transport coal from the USA to Italy, Snia was perhaps the only shipping business concerned with trade with the USA to be successfully launched in 1917⁶. After the US entry into war, several plans for the acquisition of new tonnage from the USA were hatched; all these plans rested upon the assumption that the USA would provide Italy with new tonnage⁷. But it soon became clear that this was not to be the case, and that these plans conflicted with the Wilson maritime policy⁸. By contrast, the launch of Snia rested upon Gualino's success in promptly obtaining tonnage from the USA. How did Gualino manage to circumvent restrictions from the US Shipping board and transfer tonnage to Italy?

⁶This was the most critical year for Italy. On the loss of Italian tonnage and coal shortages see ACS, 'Approvvigionamenti e trasporti marittimi per l'Italia', undated but May-June 1917, AN, B12, F26, Sf3.

⁷ACS, 'Desiderata dell'industria marittima italiana nei rapporti tra l'Italia e gli Stati Uniti', AN, B 12, F 26, Sf 3.

⁸A prestigious member of the diplomatic delegation in the USA wrote to the Italian prime minister in May 1917: 'The ... provisions of the US Government regarding commandeering have denied the diplomatic mission the opportunity to recommend (as was agreed and as had been proposed by the Chamber of Commerce of Genoa [Ansaldo?]) facilities regarding possible acquisition and chartering of US ships by Italians, for ... the [US] Government intends to commandeer and put at its own disposal all transatlantic ships under the American flag', 'Lettera di Francesco Saverio Nitti a Paolo Boselli', undated but May-June 1917, in ACS, AN, B12, F26, Sf3. On the Italian diplomatic mission see Alberto Monticone, *Nitti e la Grande Guerra (1914-1918)*, (Milano, Giuffrè 1961), pp. 59-110. On the US maritime policy see Jeffrey Safford, *Wilsonian Maritime Policy, 1913-1921*, (New Brunswick, NJ, Rutgers University Press 1978), pp. 95-115. See also Richard Sicotte, 'Crisis and Political Response: the Political Economy of the Shipping Act of 1916', *Journal of Economic History*, 4 (Dec.1999), pp. 861-84.

It seems that the reasons for this success lay both in the technical features of the ships that Snia acquired and in the shipping and shipbuilding, as well as timber, businesses that Gualino had already set up both in the USA and in Italy since the outbreak of the war. All the ships that Snia commissioned were wooden vessels provided with diesel engines (the so-called motor-schooners), which could be built rapidly and inexpensively compared to steel steamships. Yet wooden vessels were also inferior to the latter, for their cargo facilities were limited and their life expectancy was uncertain⁹. This had one important implication. Had foreign companies acquired these vessels, the resulting increase in the Allied Powers' shipping tonnage would only be temporary. Very probably, for this reason, wooden motorised schooners did not rank high on the list of priorities drawn up by the US marine authorities, leaving a policy niche that Gualino shrewdly exploited. Moreover, these vessels were ordered by the New York-based 'International Shipbuilding Corporation' (ISC). This company, together with the shipping company 'Marine Commerce Corporation' (MCC) and forest properties in the south of the USA, was controlled by Gualino himself¹⁰. Most probably, he used the MCC and the 'SA Marittima e Commerciale Italiana' (MCI), his Italian shipping company, to avoid the commandeering of ships by both the American and Italian authorities, at least until Snia was incorporated¹¹.

Besides the availability of tonnage from the USA, the extension of the main provisions of the *sistema Arlotta* to wooden vessels provided a

⁹ William Joe Webb, 'The United States Steamship Program during World War I', in *American Neptune*, 35 (October 1975), pp. 275-88.

¹⁰ Gualino took part in the boom which the US wooden shipbuilding experienced from 1914. On this boom see William J. Williams, *The Wilson Administration and the Shipbuilding Crisis of 1917. Steel Ships and Wooden Steamers*, (Lewiston-Queenston-Lampeter, The Edwin Mellen Press 1992), pp. 23-4; on Gualino's US shipbuilding activities see ACS, 'Relazione per Paolo Boselli', undated but May-June 1917, AN, B12, F26, Sf3.

¹¹ Spadoni, *Le dinamiche patrimoniali del gruppo Snia Viscosa durante la gestione Gualino*, p. 530, fn 8; Francesco Chiapparino, *Note per una biografia imprenditoriale di Riccardo Gualino* in *Storie di imprenditori*, ed. Duccio Bigazzi, (Bologna, il Mulino, 1996), pp. 357-413, 364. After July 1917, Gualino continued to run Snia's ships under the American flag, through MCC, in order to avoid any formal transfer of American tonnage to the Italian flag. See also the provision of the agreement secured with the 'Ministero del Traffico' in November 1917, Sn, VCA, 22/12/ 1917, and Nicola De Ianni, *Gli affari di Agnelli e Gualino. 1917-1927*, (Napoli, Prismi 1998), p. 40.

major opportunity for the incorporation of Snia¹². The evidence suggests that Gualino could continue his shipping business without the benefits of the Arlotta system. Probably, taking advantage of these provisions, Gualino promoted Snia as a safe haven for surplus wartime profits coming from other businesses. It is also possible that Henry Piaggio, a major Genoa shipbuilder, Giovanni Agnelli, general manager of Fiat, and other major personalities involved in Gualino's shipping ventures, used their friendly relations with the state authorities for the extension of these maritime concessions¹³. To what extent Snia gained from these relations and from the sale of coal to the administration is, however, largely obscure.¹⁴ It can only be noted that the UK remained the main single source of coal for Italy after 1917, that Snia's overall available tonnage was not impressive and that Snia did not transport large volumes of coal¹⁵. In spite of this (see Table 11), Snia proved fairly profitable as a shipping and shipbuilding company. Arguably, shortages of shipping tonnage made even small quantities of delivered coal very profitable.

Another point that should be made is that the rationale behind Snia as a shipping venture rested upon a relatively long-term strategy. At the time

¹² This was the pillar of the Italian merchant marine policy during World War I. Exemptions given to Italian shipping companies from the commandeering of their ships and from the payment of taxes on surplus wartime profits were the most important provisions of this system. But see 'Decreto Luogotenenziale n 783, 6 maggio 1917', and Luigi Einaudi, *La guerra e il sistema tributario italiano*, (Bari-New Haven, Laterza and Yale University Press 1927 edn), pp. 190-7.

¹³ Incidentally, a prominent figure of the Ministry of Foreign Affairs during the war, Senatore Luigi Borsarelli di Rifredo, was to become, in 1920, a director of Snia. See Mario Missori, *Alte cariche dello Stato e prefetti del Regno d'Italia*, (Roma, Bulzoni Editore 1973), p. 104, 106. Borsarelli di Rifredo was also a member of the above-mentioned diplomatic mission to the USA.

¹⁴ Information provided by Camera dei Deputati, Atti Parlamentari, Legislatura XXVI (Sessione 1921-23), *Relazioni della Commissione Parlamentare d'inchiesta per le spese di guerra, 6 febbraio 1923* (2 vols, Rome, tipografia della Camera dei Deputati 1923), vol. II: (Inchiesta sui carboni esteri'), pp. 750-1, is insufficient to this end.

¹⁵ In 1917 the planned tonnage was 75,000 tonnes, but it was never attained. In December 1918 Snia maintained only 6 motorschooners out of 22 ordered in 1917. The number of motor-schooners increased to 12 in May 1919. See De Ianni, *Gli affari di Agnelli e Gualino, 1917-1927*, pp. 41-2, and Spadoni, 'La SNIA 1917-1939. Dai trasporti marittimi alle fibre tessili artificiali', 71. On Italian imports of coal, see Ministero della Marina, Ufficio del Capo di Stato di Maggiore, Ufficio Storico, *Il traffico marittimo*, (2 vols, Roma 1932), I, pp. 83-4 (Tables).

Snia was founded or soon after, a widely shared view was that maritime traffic would take a long time after the war to return to normality; until then freight rates and coal prices would stay at a high level. This explains Snia's attempts to branch into steamships and shipbuilding early in 1919, when the company implemented an impressive increase in capital from 40 to 120 million lire¹⁶. This also explains why Snia was caught completely unprepared by the worsening of the shipping trade which began to take hold a few months after the increase in capital. This crisis, and Snia's difficulties, resulted from a number of factors: the unexpected and sudden return to a normal peace economy and the ensuing world economic slump by the early 1920s which produced a substantial drop in freight rates, as well as the drop in the lira starting from March 1919 which increased the management costs of US ships and shipyards.

It was this crisis that urged Gualino to diversify into rayon. High rayon prices and profit margins pointed him towards this sector, whereas the global patent politics of one of the few old-established rayon companies, the French company *Comptoir des Textiles Artificiels* (CTA), (which, in turn, were affected by the collapse of the pre-war international rayon cartels¹⁷) provided a major opportunity to rebuild Snia. In December 1919, Gualino secured the technical support from CTA; this marked Snia's passage into rayon.

II

Without the support of CTA, Snia's rapid acquisition of a solid position within the industry would have scarcely been feasible. The reasons for this were two-fold. Firstly, notwithstanding the launch of Châtillon in September 1918¹⁸, CTA was the only concern to possess all

¹⁶ This increase was implemented in order to cover the expenses for the complete acquisition of ISC, which was to build steamships for Snia. Sn, VCA. 20/4/1919 but also M. Spadoni, 'La SNIA 1917-1939. Dai trasporti marittimi alle fibre tessili artificiali', 71-2.

¹⁷ On this subject, see Donald C. Coleman, *Courtaulds: an economic and social history*; (3 vols, Oxford, Oxford University Press 1969-80), vol II: *Rayon* (1969), pp. 77-103.

¹⁸ On the legal proceedings against this company for the part of Gualino and CTA some information is also in Falchero, "Quel serico filo impalpabile..." Dalla Soie De Châtillon a Montefibre (1918-1972)', np 220, fn 4.

technical and legal requirements to make rayon on a commercial scale in Italy early in the 1920s¹⁹. Moreover, besides providing Snia with the basic viscose rayon patents (the set of Mueller patents) and technical assistance for ten years, CTA gave Gualino the chance of acquiring large holdings in its Italian subsidiaries²⁰. On the basis of the agreements signed in Lausanne in January 1920²¹, Snia purchased a minority stake (29,580 shares) in the 'Società Seta Artificiale di Padova' (SAP), led by Fassini, and a controlling interest both in the 'Società Viscosa di Pavia' (SVP) and in the 'Società Italiana Seta Artificiale' (SISA), which maintained the works of Pavia and of Cesano Maderno, near Milan. In addition, Snia acquired the 'Société Italienne de la Viscose' (SIV)'s plants at Venaria Reale²² - the largest rayon works in Italy - which were transferred to the newly founded 'Unione Italiana Fabbriche Viscosa'(UIFV), in which Snia held a 70% stake. In December 1922, it was finally agreed that CTA would forgo further payments in exchange for a stake in Snia (225 thousand shares; 15.75 million lire; or about 4.5% of Snia's capital in 1923), and an enormous pay-off of about

¹⁹ After its establishment in 1910-1, CTA acquired the Italian rights to the Mueller patents as well as the Italian rayon companies that French interests had established in conjunction with Alberto Fassini, a minor Piedmont entrepreneur, and Banco di Roma in the course of the 1900s and 1910s. On this issue, see also 'Cines- Seta Artificiale. Relazione e bilanci. I esercizio 1/7/12- 31/12/1913. Assemblea Ordinaria e Straordinaria', 28 March 1914' [Feltrinelli Library in Milan]; and Giancarlo Falco, 'Crisi bancarie e trasformazioni del sistema finanziario italiano tra prima guerra mondiale e restaurazione monetaria. Il Banco di Roma' in *Materiali di discussione*, (July 2001), pp.161-2; Luigi De Rosa – Gabriele De Rosa, *Storia del Banco di Roma*, (3 vols, Rome 1981-3) vol II: (Luigi De Rosa), p. 127. See also L.G. Fauquet, *Histoire de la rayonne et des textiles synthétiques*, (Paris, Libraire Armand Colin 1960), pp. 99-106, 125, 133-5; and Bernard Pierre, *Les textiles artificiels and synthétiques en France* (Paris, SPIE 1946), *passim*.

²⁰ The Mueller patents, named after the German technologist Max Mueller, were basic patents for viscose rayon spinning, and were registered in European countries in 1905 and in 1912. These concerned the chemical composition of the spinning bath, that is where cellulose solidified in the form of filaments.

²¹ VGF A, 'Convention de Lausanne', 14 Jan. 1920, E7-1-22 bis 34.

²² SVP was founded in 1905 and became part of CTA in 1911; SISA was founded by CTA and SA Fabbriche Coloranti Bonelli in 1919. Venaria plants were set up by SIV soon before World War I. Snia perfected the acquisition of these companies in 1922 and 1923. See VGF A, 'Hambros' report on Snia. 30 November 1925', E7-1-22bis34; and Sn, VCA, 1920-1923.

30 million lire²⁴. With that stake, composed mainly of preference shares, Fassini joined Snia's board as CTA representative. In addition, SAP was to deliver 500 tons of rayon yarns within 1921, enabling Snia to market nearly the totality (75%) of rayon manufactured in Italy (see Table 3)²⁴.

The reasons behind CTA's action cannot be treated here. Suffice it to say here that this was part of CTA's wider patent and cartel strategy, and that, just as Gualino entered into agreements with CTA, the latter company struck arrangements of the same sort with DuPont in the USA²⁵. The instability of the French franc, new costly investments in the domestic market, the need to keep up with the major boom in world rayon demand, cheap Italian labour and the weakness of its old Italian associates probably encouraged the French corporation to expand in Italy, and seek new partners there.

This gave Gualino ample margins for manoeuvre. Before Gualino turned to rayon, the financial weakness of CTA's old Italian associates – Fassini had severed his links with the Banco di Roma during the war – had already attracted powerful interests towards the industry. Early in 1919, CTA and Fassini accepted a proposal from Carlo Bonelli for the setting up of another rayon company. The latter was general manager of 'Fabbriche Italiane Materie Coloranti Bonelli, SA' (FIMCB), a major Italian chemical company which had expanded remarkably during the war years (between 1915 and 1918, FIMCB's capital grew from 1.25 to 30 million lire). The joint rayon company, SISA, in which Bonelli held the controlling interest, was launched in

²⁴ VGF A 'Letter from CTA to Snia', 5 Dec. 1922', E7-1-22 bis 34; VGF A, 'Hambros' report on Snia. 30 November 1925' and VGF A, 'Letter from CTA to Snia', 11 March 1922', E7-1-22 bis 34.

²⁵ VGF A, 'Agreements between R.Gualino and Alfred Bernheim' 17 July 1920, attached to the 'Letter from R. Gualino to Gillet & Fils', 8 Oct. 1920', E7-1- 22bis34; Sn, VCA, 15 Jan. 1920.

²⁶ On DuPont – CTA joint rayon company see William Dutton, *DuPont: One Hundred and Forty Years*, (New York 1949), p.302; Graham D Taylor and Patricia E. Sudnik, *DuPont and the international chemical industry*, (Boston, Mass., Twayne Publishers 1984), p. 82, 118; Alfred Chandler, *Strategy and Structure*, (Cambridge, Mass. 1962), pp. 80-1; and, above all, David A Hounshell and John K. Smith, *Science and Corporate Strategy. DuPont R&D, 1902-1980*, (Cambridge, Cambridge University Press 1988), pp.161-70, 182.

the spring of 1919²⁶. The impressive losses of SISA, the financial strength of Gualino, and the weakness of both Bonelli and CTA-Fassini, provided Snia with the chance of acquiring SISA entirely. In the summer of 1921, Bonelli proposed to sell his stake to Châtillon, but the latter refused because the liabilities of SISA', which was constructing a works in Cesano Maderno (Milan), were too large (51 million lire against a capital of 20 million lire)²⁷. At this point in time, there was no way out but to sell the majority stake to Gualino.

Technical assistance was the weapon with which CTA sought to check Gualino's ambitions. On the basis of the 'Convention of Lausanne', Snia merely added to the other concerns headed by Fassini. Besides setting out the administration of Snia's prices in Paris, these agreements made CTA's technical assistance subject to Snia's observance of an output quota of eight thousand kilos of rayon yarns a day (about three million kilos per year), which at the time belonged to SVP, SISA and SIV.

Yet notwithstanding this weapon, CTA did not succeed in controlling Gualino's industrial and patent policy. A few months after the establishment of the CTA-DuPont joint rayon enterprise in the USA, Gualino sold the CTA – VGF set of patents²⁸ to US interests (summer 1920), and set up business in Spain and in Japan late in 1921. The opposition of CTA to Gualino's unscrupulous patent policy was clearly understandable. Late in 1921, Fassini expressed his strong disagreement 'with the negotiations carried out in Japan and in Spain and, more particularly, with the agreements signed in the USA, being of the opinion that the company will be damaged by these negotiations and agreements, because the *Comptoir des Textiles* will use every tool against Snia...'²⁹. What the reaction of CTA

²⁶ On Bonelli and SISA, see also Credito Italiano, *Società per azioni. Notizie statistiche*, (Milan 1920), pp. 1614, 2773.

²⁷ Ch, VCA, 17/6/ 1919 and Ch, VCP, 11 June 1921.

²⁸ The Mueller patents were jointly owned by these two companies.

²⁹ Sn, VCA, 17/11/1921. In the original: 'Fassini dichiara che egli è contrario, sia alle trattative svolte in Giappone ed in Spagna, come e più specialmente agli accordi stipulati in America, essendo che egli è d'opinione che la società avrà da ciò gravi danni perché il Comptoir des Textiles agirà con ogni mezzo contro la Snia...'

and DuPont to Gualino's moves was is, once again, unknown. Certainly, as Snia's expansion progressed rapidly beyond eight tonnes per day, CTA broke relations with the Italian company. After the decision to implement a new impressive increase in capital late in 1924, CTA sold its Snia's stake to Gualino, and Fassini resigned from the company's board.

But what about technical assistance?

Besides Gualino's financial strength, as well as his distinctive sound and shrewd business skills, what made Snia's independence viable was a major boom in world rayon demand which, given the characteristics of the industry in the 1920s, created large outlets for poor and coarse yarns³⁰. The fact that these yarns did not require long-standing technical expertise to be made on a large scale gave Snia the chance of pursuing its expansion without relying further on the assistance of the pioneer companies. These conditions were, however, to last only until the mid-1920s.

III

The day after the agreements with CTA, Snia changed its name to the 'Società di Navigazione Italiana Industria e Commercio'³¹. This change showed that general commercial ventures in rayon were the new field of Snia's operations. Only when Snia succeeded in abandoning all shipping and shipbuilding operations and in establishing itself in rayon once and for all (1922), did it finally adopt the name of the 'Società Nazionale Industrie Applicazioni Viscosa' (Snia Viscosa)³², which remained unchanged until the late 1960s.

Before passing on to look closely at Snia's expansion in rayon, a few observations must be made. First, Snia's successful diversification in rayon was not at all a foregone conclusion late in 1919, for, as Table 1 shows, it required financial resources that were astounding by contemporary standards. This success appears even more striking when the Italian financial difficulties and the fierce

³⁰ On this issue, see the section IV.

³¹ Sn, VCA, 15 Jan. 1920.

³² Sn, VCA, 14 Oct. 1922.

TABLE 1: Snia's main investments in the years 1920-2	
<i>(current million lire)</i>	
SA Viscosa di Pavia	70.0
SISA (Cesano Maderno)	57.0
UIFV (Venaria Reale)	76.5
Royalties:	33.5
to CTA	30.5
to Fassini (CISA)	3.5
Total	237.0
<i>Source: VGF A, 'Hambro's report on Snia. 30 November 1925'. E7-1-22-bis34</i>	

scramble for liquidity in the years 1920-22 – a critical period for Italian capitalism³³ – are taken into account.

Moreover, behind Snia's financial strength lay a powerful new financial force within the Italian business community which emerged during the war. This force was led by Riccardo Gualino and by Giovanni Agnelli, who were concerned with a host of undertakings which, as in the case of Snia, benefited enormously from the exceptional economic conditions of the time³⁴. A large part of the initial capital of Snia – which emerged from the war as one of the largest Italian companies (see Table 2) – came very probably from these undertakings and from those banks, such as *Credito Italiano*, in which Gualino and Agnelli became very interested in the war years.

Within this force, Agnelli was initially the most prominent figure. Agnelli did invest conspicuously in Snia, yet his support came mostly in

³³ Sraffa, Piero, 'The Bank Crisis in Italy' in *The Economic Journal*, 32(1922), pp. 178-97.

³⁴ On this subject, see De Ianni, *Gli affari di Agnelli e Gualino, 1917-1927*. Some of these undertakings were, for example, single-voyage chartered shipping, very lucrative until 1916, the 'Unione Italiana Cementi' (UIC), the largest cement Italian producer, Rumianca, a chemical company converted to explosives during the war, and Fiat, the car manufacturer which, in the years 1914-8, had experienced one of the most impressive expansions in its history. On Fiat during the war, see Alberto Caracciolo, *La crescita e la trasformazione della grande industria durante la prima guerra mondiale* in *Lo sviluppo economico in Italia*, ed. by Giorgio Fuà (3 vols, Milan, Franco Angeli 1969-75), p. 240; on Fiat as well as the business relations between Agnelli and Gualino see Valerio Castronovo, *Giovanni Agnelli. La Fiat dal 1899 al 1945*, (Turin, Einaudi 1977), pp. 109-10, 137-41.

**TABLE 2: Italy: Largest companies by capital
(share capital and reserves), 1917-22**

(current million lire)								
	Ansaldo	Fiat	Montecatini	Snia	Ilva	Terni	Edison	SENegri
1917	101.5	60.2	54.8	40.0	54.5	33.3	50.9	50.6
1918	502.2	191.7	54.5	40.2	340.3	69.2	91.6	110.7
1919	505.6	304.0	79.2	120.3	339.3	120.	105.3	111.2
1920	508.0	281.4	210.5	200.5	242.8	120.2	109.3	110.8
1921	511.6	246.0	209.5	176.4	570.6	101.3	142.7	110.8
1922	511.6	246.3	208.5	176.4	150.4	124.3	194.7	110.8

Sources: Author's calculations from *Credito Italiano, Società Italiane per azioni, Notizie statistiche*, (Milano: 1918, 1925, 1930)

**TABLE 3: Snia Viscosa: Output of rayon filaments and yarns
and its share of Italian and world output, 1920 - 27**

	Snia metric tonnes	Italy %	World %
1920	538	77.0	3.6
1921	918	61.0	4.2
1922	1,679	56.0	4.8
1923	2,994	60.0	6.4
1924	5,301	50.0	8.2
1925	9,506	68.0	11.2
1926	10,500	58.0	10.7
1927	13,000	52.0	9.7

Sources: Author's calculations from (Snia) CA 'Hudson's Draft on Courtaulds' History' SNI.1: (Italy and world) *Textile Organon* (New York, January 1962), pp.18-21

the form of financial guarantees³⁵. Most of Gualino's pre-war ventures went bankrupt in the years 1913-15, and, although he displayed uncommon financial and entrepreneurial skills during the war (this encouraged Agnelli to seek Gualino's partnership), Gualino was yet to become one of the most eminent figures of Italian capitalism when Snia

³⁵ There is plenty of evidence of this in De Ianni, *Gli affari di Agnelli e Gualino, 1917-1927*, pp. 80-1, 85; and Antonio Confalonieri, *Banche miste e grande industria in Italia, 1914-1933*, (2 vols, Milano, Banca Commerciale Italiana 1997); II: (*I rapporti banca-industria*), pp. 165-266.

entered into rayon. This is not a minor consideration when explaining Snia's success of these years, for in backing new initiatives the Italian banks attached great weight to the personal wealth and particular business experience of the capitalists they were prepared to support. This was truest of the years 1920-2.

In the history of Snia Viscosa in the 1920s two waves of investments can be identified: the first in the years 1920-22, when the company divested from shipping and shipbuilding and moved into rayon, and the second between the years 1923 and 1927. Between the years 1920 and 1922, Snia assembled a system of firms, directly or indirectly concerned with rayon, through financial concentration. As a measure of the speed of this concentration, it is worth mentioning that Châtillon, the second largest Italian rayon producer, took almost ten years to create a production structure similar to that of Snia³⁶. However, given Gualino's plans, this concentration was not wholly successful. Between the years 1920-7, on a number of occasions, Gualino sought to acquire Châtillon, CISA, as well as other minor rayon makers, but, of these companies, he only managed to acquire 'Varedo' and the 'Fabriche Chimiche del Veneto' in 1927. The failure of these attempts had some repercussion on Snia's performance in the late 1920s. As Snia – by 1927 largely controlled by Courtaulds and VGF - curbed its expansion, CISA and Châtillon seized the opportunity to boost output and sales (see Table 3).

In the years 1920-2, Snia made investments outside rayon with the purpose of securing machinery, as well as chemicals, not easily available in the market, and experimenting with rayon yarns. These investments are set out in Table 7 and figure 1. None of these investments resulted from the need to integrate vertically the company's operations. The chemical company Rumianca was already held by Gualino and his close associates before the war, and supplied Snia with soda as well as special chemical compound for the spinning bath. When Snia's production began to expand substantially, Gualino promptly secured a ten-year agreement with

³⁶ Falchero, "Quel serico filo impalpabile..." Dalla Soie De Châtillon a Montefibre (1918-1972), p. 221.

Soda Solvay's subsidiary in Milan rather than invest in the expansion of Rumanca³⁷.

In these years, Snia also conducted investments abroad. There is not enough space here to examine them in detail. Suffice it to say that Snia, from the early 1920s, reflected a new tendency within Italian capitalism which saw Italian corporations increase foreign direct investments to an unprecedented extent³⁸. Immediately after its entry into rayon, Snia established subsidiaries in the USA, Japan and Spain. It seems that behind the launch of these subsidiaries lay mainly the need to provide Snia with a further source of revenue, that is royalties³⁹.

TABLE 4: Snia Viscosa: Invested capital and its sources									
(yearly averages), 1918-27									
1918 - 22		1923 - 7		1918 - 22		1923 - 7			
million lire	%	million lire	%	million lire	%	million lire	%		
Works	25.6	10.0	395.0	33.0	Subscribed capital	142.0	49.1	716.0	59.9
Materials	13.3	5.2	168.6	14.1	Reserves	0.8	0.3	157.5	13.2
Holdings	85.6	33.4	192.0	16.0	Reinvested profits	2.4	0.8	25.4	2.1
Credits	131.5	51.4	441.9	36.9	Debts	143.9	49.8	297.0	24.8
Total	256.0	100.0	1.197.5	100.0	Total	289.0	100.0	1.195.9	100.0

Source: Author's calculations from official balance sheets.

It was in the years 1923-7 that Snia Viscosa experienced the most striking expansion in its history. This expansion is summarily outlined in the Tables 3,4,5 and especially 6, which shows that Snia overtook, in terms of output, Courtaulds and VGF as early as the mid-1920s.

Snia made these investments with the aim to bring output to 30,000 tons per year. This output target was to be attained not only by increasing the production of yarn, but also by launching the mass-

³⁷VGF A, 'Hambros report on Snia, 30 November 1925'.

³⁸ See Peter Hertner and Geoffrey Jones, *Multinationals: Theory and history in Multinationals: Theory and history*, ed. Peter Hertner and Geoffrey Jones, (Aldershot, Gower Publishing 1986), p. 9; and Giancarlo Falco, *La bilancia dei pagamenti italiana tra la prima guerra mondiale e il 1931*, in *Ricerche per la storia della Banca d'Italia*, (6 vols, Roma-Bari, Laterza 1990-); VI(1995), pp.1-264,7.

³⁹See Sn, VCA, 17 Nov 1921.

TABLE 5: Snia: Daily output and capacity by plants, 1922-27
(metric tons)

	Output			Capacity
	1922	1924	1927	1927
Pavia	1.7	5.0	9.6	16.0
Cesano (Milan)	na	4.0	9.0	15.0
Venaria (Turin)	0.5	8.0	18.5	23.0
Abbadia (Turin)			2.0	2.6
Total	2.2	17.0	40.1	56.6

Sources: CA, 'Report on sales organization', by John Hanbury-Williams and Moewes, 28 Feb. 1927' SAM.7; CA, 'Letter from Pier Giuseppe Gurgo – Salice to Ernst Lunge', 9 Aug. 1927' SNI.4; VGF A 'Hambros' report on Snia', E7-1-22 bis 34.

production of the 'Sniafil', Snia's staple fibres, for which Gualino had conceived Snia's most grandiose initiatives in the mid-1920s. Staple fibres were to be produced in Abbadia di Stura (Turin) - the first factory that Snia set up - whose envisaged productive capacity was 60,000 kilos per day (more than the whole of Snia's daily output capacity in 1925)⁴⁰. In addition, Gualino envisaged the setting up of a number of Sniafil subsidiaries abroad⁴¹, the first of which was to be formed in England in conjunction with Hambros Bank. The capital of 'British Snia Viscosa' (BSV) - this was the name of the company incorporated in late 1925⁴² - was to be impressive indeed (£ 1.7 million or 204 million lire).

Staple fibres were rayon filaments cut into regular lengths which were to make a big impact upon the evolution of the industry in the 1930s. The need to dispose of large volumes of waste, the war economy, as well as the shipping crisis, in Germany and Italy and the worsted and woollen spinning trade early in the 1920s provided major stimuli to the development of staple fibres technologies⁴³. Increasingly

⁴⁰ The productive capacity for 'Sniafil' was almost 50,000 kilos per day. Moreover, the envisaged workforce for Abbadia alone was almost 15,000 people (in 1927, Snia employed about 14,300 people). VGF A, 'Hambros' report on Snia. 30 November 1925' and Sn, VCA, 6 Feb. 1932.

⁴¹ *Snia Viscosa* in 'The Financial Times', 21 Feb. 1926.

⁴² PRO, 'British Snia Viscosa' BT 31/ 29354/ 210514; but see also D. C. Coleman, *Courtaulds: an Economic and Social History*, vol II, p. 269, 282 (fn 3).

⁴³ On the evolution of staple fibres see H. Moïis Avram, *The Rayon Industry*, (London 1930 edn), pp. 124-7, and, above all, US Tariff Commission, *The Rayon Industry*, (Washington 1944) pp. 402-3.

TABLE 6: Snia, VGF, Courtaulds: Output of viscose rayon filaments and yarns (in home markets only), 1920-30			
(metric tons)			
	Snia	VGF	Courtaulds
1920	538	2,100	2,948
1921	918	2,630	3,130
1922	1679	3,695	4,944
1923	2,994	2,955	6,486
1924	5,301	4,727	8,664
1925	9,506	5,710	10,569
1926	10,500	4,267	9,571
1927	13,000	8,170	12,519
1928	10,500	8,720	14,424
1929	9,920	10,446	11,930
1929	*13,900		
1930	*11,850	10,504	10,024

Sources: Snia: CA, 'Hudson's draft on Courtaulds' history' SNI.1, 1928, Sn, VCA, 10 March 1928; CA, 'Letter from Ernst Lunge to John Hanbury-Williams' in 26 March 1930, JHW.14; VGF A 'Memoire by R Gualino to Fritz Bluethgen, 11 April 1929' E7-1-10bis14; Courtaulds: D. C. Coleman, *Courtaulds: an economic and social history*, II, tab 16, p 127; tab 45, p 252; tab 70, p 322; VGF: *Glanzstoff 1899-1949*, (Wuppertal, 1985), p. 119
 * including Varedo.

large volumes of output in the form of waste in Snia's works had encouraged further experimentation with these technologies which Snia had originally acquired from SIV. The rationale behind Gualino's move in this field of rayon-making is easily identifiable in the fact that these fibres allowed Snia to solve the problem of waste, as well as implementing further the company's industrial policy based on large economies of scale⁴³. The fact that staple fibres allowed dramatic reduction of costs as a result of the elimination of many operations⁴⁴ as well as of waste, and the fact that staple fibres could be spun with cotton or wool or used more easily than yarns in weaving machinery made this type of rayon fibres the most significant technical

⁴³ On this score, see the next section.

⁴⁴ According to A. H. Silverman, 'The Artificial Textile Industry' in *Studies in Industrial Organisation*, ed. Silverman, A.H., (London 1946), pp. 303-54, 327, in the years 1930-9, in the UK, the output per man-hour was 3 and 20 lbs in the case of yarns and in that of staple fibres respectively.

breakthrough in the inter-war period. In the mid-1920s, however, as Gualino admitted ('he could not, as yet, judge precisely what the future of these fibres was'⁴⁶), staple fibres were still at an experimental stage.

In order to assist the planned increase in production, Snia made a group of investments outside rayon (see Table 7). These were implemented for the control over, or the expansion of, textile

	Capital		Snia's holding		
	shares	mill.lire	shares	%	million lire
Rumianca	10,000	5.0	8,192	82.0	4.1
SAIZ	80,000	16.0	75,513	94.4	15.1
MIC	50,000	5.0	48,000	96.0	4.8
AAI		20.0		100.0	20.0
SIP	4,400,000	600.0	108,334	2.4	20.7
	(p) 1,000,000		63,562	6.3	14.4
	(o) 3,400,000		44,772	1.3	6.3
Tocila			31,056		6.0
SILM	70,000	7.0	70	100.0	7.0
IEMI	10,000	1.0	9,100	91.0	0.9
SNF	250,000	50.0	243,345	97.3	48.7
Manifattura Altessano	100,000	10.0	100,000	100.0	10.0
BAI	300,000	75.0	100,000	33.3	25.0
	(MIC)		34,205	11.4	8.5
	(Gualino)		(165,795)	(55.3)	(41.5)
Tomaszow	500,000	75.0	31,667	63.3	42.8
*Other					5.4
Total					239.7

Source: VGF A, 'Hambro's report on Snia, 30 November 1925'

companies whose task was to experiment with Sniafil ('Manifatture di Altessano') and to improve profitability in some of the company's textile operations ('Torciture ex-Diatto and Torciture ex-Sant'Andrea')⁴⁷. The acquisition of another mechanical engineering company (the 'Industria Elettrica Meccanica Italiana' (IEMI)), the reconstruction of MCI, the acquisition of 'Assicurazioni Alta Italia' (AAI)

⁴⁶ Sn,VCA, 16 June 1925 see also 'The Financial Times', 17 November 1925.

⁴⁷ These factories were engaged in the twisting of rayon filaments produced at Venaria. Significantly, until then, this operation had been carried out by roughly 40 mills belonging to companies outside the group.

and that of the Torino-Cirié-Valli di Lanzo railway lines (Tocila) were other important initiatives carried out in these years. Among these, Tocila deserves special mention. It was Snia's need for an increasing supply of labour⁴⁸ (this was a major requirement when selecting sites for rayon works⁴⁹) that encouraged Gualino to invest in Tocila. That labour shortages were a major concern of Gualino is also demonstrated by the expensive construction of houses for workers near Abbadia, built to house people, mostly peasants, coming from the Veneto.

Alongside Abbadia, Snia's major investments were implemented to acquire majority holdings in the 'Societa' Anonima Industrie Zolfi' (SAIZ), in the 'Società Elettrica Piemontese' (SIP), and in the Polish rayon company 'Fabrique de Soie Artificielle Tomaszow' (Tomaszow). The investments in SAIZ and Sip were clear attempts at vertical integration for the company's operations. The acquisition of SAIZ, which held mining rights for a large area of Northern Italy (Emilia Romagna) was carried out to supply Snia with increasing volumes of sulphuric acid and carbon disulphide to be processed at Rumianca's and Snia's plants when output would increase substantially. Why Gualino did not enter into agreements with Montecatini is not clear. Probably, Snia, as with Châtillon⁵⁰, was on poor terms with Montecatini, which moved into acetate rayon in 1927; or, presumably, the latter company could not keep up with the greater demand for these chemicals. Whatever the underlying reasons, the moves towards vertical integration in these chemicals made Snia unique within the European rayon industry⁵¹. Between 1925 and 1928, the major rayon

⁴⁸ Tocila maintained two railway lines, the Venaria-Turin and the Abbadia di Stura-Turin lines, which crossed the densely populated Canavese valley, and could readily bring labourers to Snia's plants.

⁴⁹ Avram, *The Rayon Industry*, pp. 353-5.

⁵⁰ Montecatini founded the 'Società Rhodioceta Italiana' in 1927 in conjunction with the French company Rhodioceta, which was in turn a joint enterprise formed by CTA and Usines du Rhône, thus entering into acetate rayon at a time when Châtillon was implementing major investments in this field. Moreover, late in the 1920s, Châtillon was in dispute with Montecatini, the bone of contention being the payment of large supplies of certain chemical compounds. On Montecatini- Rhodioceta see George W. Stocking and Myron W. Watkins, *Cartels in Action*, (New York 1946), p. 464 (chart 6) and AS BCL, 'Controversia Châtillon-Montecatini', SOF, C71, F2.

and chemical companies in Britain, in Germany and in France entered into agreements to abstain from invading their respective field of operations, and, as with Germany and France, they even launched joint enterprises in the field of acetate rayon⁵².

Unlike the investment in SAIZ, Snia carried out its investment in SIP, which was the second largest Italian electrical company, in conjunction with major electrical interests, that is Comit, Italgas and Fiat. This action stemmed from the need to avoid bottlenecks in electricity supply, extensively used in the electrolysis of melted cellulose, and was largely justified by rigidities in electricity supply which surfaced in the years 1922-4. On the basis of the agreements between Comit and these companies, Snia shared in the increase in Sip's capital from 200 million to 500 million lire⁵³. In addition, Gualino joined the board of SIP along with Agnelli and Panzarasa, with whom he formed the newly-appointed Executive Committee. Archival evidence suggests that Comit, Sip's major shareholder, led the initiative. 'The aim of the arrangements - read the agreement-is to favour the development of ... SIP'⁵⁴. Besides the need for steady outlets for SIP (Snia and Fiat were to

⁵² On the British rayon industry see G.C. Allen, *British Industries and their Organization*, (London, Longman 1970), pp.294-300; Silverman, 'The Artificial Textile Industry', pp. 302-3, 324-7, 332-7; D.C. Hague, *The Economics of Man-Made Fibres* (London, 1957) and *idem*, 'The man-made fibres industry' in *The Structure of British Industry: A Symposium*, ed. in Duncan Burn (2 vols, Cambridge 1958),II,pp. 259-90; J. Harrop, *Rayon in British Industries between the Wars*, ed. Neil K Buxton and Derek H Aldcroft, (London, Scolar Press 1979), pp. 284-90; Board of Trade, *Survey of Textile Industry. Cotton, Wool, Artificial Silk*, (London 1928), (Chapter III: 'The Artificial Silk Industry'), pp 279-305; Robert A. Read, 'The Synthetic Fibres Industry: Innovation, Integration and Market Structure' in Mark Casson, *Multinationals and World Trade*, (London 1985), pp.196-223. On the German and French rayon industry, see L.G.Fauquet, *Histoire de la rayonne et des textiles synthétiques* and Paul Heinz Boeddinghaus, *Die Konzentration in der Kunstseidenindustrie* (Koeln, 1931)

⁵³ On this issue, see W.J.Reader, *Imperial Chemical Industries. A history*, (2 vols., Oxford, 1970-5), II (1975), p.368 and Coleman, *Courtaulds*, II, p.265; VGF A, Otto, Oskar, '50 Jahres Glanzstoff 1899-1949 (Elberfeld,1949)', L-7-5-1; Gottfried Plumpe, *Die I.G.Farbenindustrie AG. Wirtschaft, Technik und Politik 1904-1945*, (Berlin 1990), pp. 306-8.

⁵⁴ Snia formed a voting pool (*sindacato di blocco*) of the newly issued preference shares (800,000; 3/8 to Gualino-Agnelli, 1/8 to banks and 4/8 to Panzarasa) and a syndicate to place the new ordinary shares (2.4 million).

⁵⁵ AS BCI, 'Convenzioni SIP, Snia Viscosa, Fiat relative all'aumento di capitale SIP, dicembre 1924'

buy electric power from Sip for ten years⁵⁵), behind Comit's move, arguably, lay the intention to pre-empt any attempt by Snia, Fiat and Italgas to enter the electricity business. The role of Comit as a long-term industrial investor clearly proved a bargaining counter to encourage Snia and its associates to invest in SIP. As part of the investment in Sip, Comit made a six-months loan of 17.7 million lire to Snia⁵⁶.

The investment in Tomaszow also resulted from the collaboration with Comit, which was already largely concerned with the Polish company⁵⁷. The reasons for this investment are to be found in the high Polish tariff (specific duty of 40 zloty corresponding to 80% of Snia's price in 1925), in the monopoly position that Tomaszow enjoyed in Poland, in the expanding textile industry of this country and in its proximity to the vast Russian market. When, late in 1924, Tomaszow needed to upgrade its technology for the viscose rayon process, Comit involved Snia in the Tomaszow business. Why Comit did not involve some of the more experienced pioneer companies or even Châtillon (this came to be wholly controlled by Comit in 1925-6) is not entirely clear. Probably, Snia was legally better equipped than Châtillon. Presumably, Comit sought Snia's partnership in order to reduce the financial burden of the operation or simply to provide Snia with a profitable investment. However, the answer to this question seems to lie in the intricate connections that Snia established with Comit over the 1920s. On the basis of one of the provisions of the the Comit- Snia agreement, Comit made a loan (*credito speciale*) of 35 million lire (about £ 291,000) for three years to Snia⁵⁸. This money was used to buy Tomaszow shares⁵⁹.

⁵⁵ On Snia's investment in Sip, some information is also available in Luciano Segreto, *Gli assetti proprietari in Storia dell'industria elettrica in Italia*, (5 vols, Bari-Roma, Laterza 1993-1998), vol. III (*Espansione e oligopolio, 1926-1945*, ed. by Giuseppe Galasso), pp. 89-173, 119-23; otherwise, see AS BCI 'Convenzioni SIP, Snia Viscosa, Fiat relative all'aumento di capitale SIP, dicembre 1924' SOF, C 199, F 1, Sf 1.

⁵⁶ VGF A, 'Hambro's Report on Snia, 30 November 1925'.

⁵⁷ AS BCI, 'Azioni Soie Artificielle De Tomaszow-Varsovie' ST, C 36, F 4, Sf 2; on the Comit in Poland see Zbigniew Landau and Jerzy Tomaszewsky, 'Foreign Policy and international business in Poland:1918-1939' in *Multinational enterprise in historical perspective*, ed. Alice Teichova, Maurice Lévy-Leboyer and Helga Nussbaum, (Cambridge, 1989), pp. 270-85, 279-80.

⁵⁸ AS BCI, 'Copia degli accordi tra Snia Viscosa e Comit', 30 March 1925, ST, C 36, F 4, Sf 1.

⁵⁹ VGF A, 'Hambro's Report on Snia, 30 November 1925'.

IV

So much for Snia's investments. But what about the company's strategy?

Output on a impressively large scale and specialisation in mid-quality yarns were the main tenets of Snia's industrial policy. In a letter to a leading VGF director, early in 1929, when he no longer possessed control over Snia's management and rayon demand was clearly slackening in many markets, Gualino stubbornly reiterated his views: 'L'ensemble de nos usines avait été bâti en partout de (*sic*) la prévision d'une production d'au moins 80,000 kg par jour...d'environ 30,000,000 kg par an...la Snia-Viscosa doit être mise en condition de faire de fortes productions de bonne moyenne qualité à des prix bas, ... on peut obtenir un prix bas de production seulement (*sic*) avec une grande quantité de production...'⁶⁰. Behind this strategy lay Ford's innovative ideas that had great impact within the most dynamic Turin industrial spheres, in which Gualino moved⁶¹. However, if a Ford-like strategy applied to rayon was certainly innovative, it also posed tremendous technical problems. In the mid-1920s the production of marketable viscose rayon yarns – whether of high or mid quality – on a very large scale was not yet feasible, largely because it produced large volumes of non-recyclable waste. To put matters bluntly, Snia had broken relations with CTA, and did not, as yet, possess sufficient expertise to combine large economies of scale with the making of mid-quality rayon. The acquisition of an autonomous technical expertise in this

⁶⁰VGF A 'Memoire of Riccardo Gualino to Fritz Bluethgen', 19 April 1929, E7-1-10 bis 14.

⁶¹ On Fordism in Italy, see Castronovo, *Giovanni Agnelli. La Fiat dal 1899 al 1945*, p. 114, 418-9; Francesca Fauri, 'The Role of Fiat in the Development of the Italian Car Industry in the 1950s' in *Business History Review*, 70 (1996), pp. 167-206 and Bruno Bottiglieri, *Strategie di sviluppo, assetti organizzativi e scelte finanziarie nel primo trentennio di vita della Fiat* in Progetto Archivio Storico FIAT, *FIAT 1899-1930. Storia e Documenti* (Milano, Fabbri Editori 1991), pp.27-32. In the 1920s, Gualino sought to develop in a similar way also the chocolate and the artificial leather industry. On chocolate see Francesco Chiapparino, 'Il tentativo di concentrazione dell'industria dolciaria negli anni Venti. Gualino e l'Unica' in *Annali di storia dell'impresa*, 5/6, (1989/1990), pp. 323-374, 336-340. On the leather industry see C. Bermond, *Formazione e dissoluzione di un patrimonio industriale e finanziario nel primo trentennio del secolo XX: il trust Gualino*, in *Tra rendita e investimenti. Formazione e gestione dei grandi patrimoni in Italia in età moderna e contemporanea*, ed. Società Italiana degli Storici dell'Economia, (Bari, Cacucci Editore 1998), pp. 493-526, 516.

field required a longer time than, say, two or three years. DuPont, for example, started to produce rayon without the support of CTA only in 1930 after it had purchased CTA's holding in DuPont Fibersilk.

As a result of a lack of technical expertise, Snia specialised in the making of what for the old-established companies was simply an expensive, unwanted by-product: low-grade rayon yarns. Yet the market for poor rayon in which Snia became entrenched was huge in the first half of the 1920s. In the attempt to find outlets for a large part of their output and when demand was still particularly elastic, Snia, alongside the pioneer corporations, had pushed sales of poor rayon yarns, thus creating a vast market for them. Why the pioneer companies pushed sales of low-grade yarns can be understood from these words of Samuel Courtauld, Chairman of Courtaulds, to his Board:

«Every viscose maker is bound to make a certain percentage of such inferior yarn, ... likely up to 25% of his total production. This yarn costs him no less to make than his 'A' quality, and countries like the USA, with high costs of production, cannot possibly export it; however they are bound to sell it at home. This being so, it is perfectly obvious that [it] cannot permit importers to undersell them in corresponding grades, as it is absolutely essential to the carrying on of their business that they get rid of their low qualities⁶².

In conclusion, in the niche, but huge, market for poor rayon, competition was led merely on the basis of prices. In this market, Snia was a formidable competitor of the high-cost rayon-makers - CTA, Courtaulds, the 'American Viscose Corporation' (AVC), DuPont, VGF and the Dutch company Enka. Alongside other Italian rayon companies, Snia made it difficult for these corporations to sell a large part of their output.

V

What made Gualino's strategy viable was the evolution of a global rayon market. Tables 8 and 9 show that the Italian rayon market was lean throughout the 1920s, that the growth of Snia and of the Italian rayon

⁶²CA, Samuel Courtauld, 'Memorandum regarding arrangements with Snia', 26 January 1927, SAM.7.

industry relied heavily on exports, which grew at a breakneck speed after 1922, and that Britain was Snia's largest outlet. In this country and in the USA alike, a major boom in demand took place immediately after the war. This boom was caused by a number of factors: improvements in the quality and appearance of yarns, major cultural changes in British society and women's fashion⁶⁵, and price-cuts by Courtaulds and AVC (these were brought about to a considerable extent also by the downward price trend in natural fibres⁶⁶). Although the USA was the world's largest rayon market, Britain remained the largest outlet for Continental rayon makers throughout the first half of the 1920s, and absorbed on average 40% of Italian output in the years 1922-25⁶⁵. The reasons for this are easily identifiable in the different tariff regimes of the two countries⁶⁶.

Yet this boom alone does not tell the whole story. With hindsight, Snia's growth would have scarcely been feasible without the depreciation of the lira and domestic inflation. The depreciation of the lira secured commercial advantages, and paved the way for a rapid conquest of export outlets. High profits and cheap money allowed Gualino to exploit the favourable trend, by swiftly increasing the company's capitalisation as well as plants.

When US financial help to Italy ended (March 1919), the value of the lira relative to the pound dropped dramatically in the course of 1919 and 1920. The Italian currency continued to fluctuate falling slightly until the end of 1924, when a supply shock worsened dramatically the balance of payments, and brought the lira down to a new low⁶⁷. The reasons for this are to be found in the post-WWI inflation which resulted mainly from the

⁶⁵ On this see Arthur Marwick, *The Deluge: British Society and the First World War*, (Basingstoke, 1991 edn), pp. 127-62.

⁶⁶ Edgar Jones, 'Price Leadership in the Rayon Industry' in the *Manchester School of Economic and Social Studies*, 12(1940), pp. 80-96, 82-4 and J.W. Markham, *Competition in the Rayon Industry*, (Cambridge, Mass. 1952), p. 115, 119.

⁶⁷ Giorgio Mortara, *Prospettive economiche* (Citta' di Castello, 1924-33).

⁶⁸ In the USA, tariffs on rayon were established as early as 1897 and increased in 1909, in 1913 and in 1922. By contrast, in Britain, a specific duty on rayon was imposed only in 1925.

⁶⁹ Relative to the pound, the lira depreciated from 25.22 to 102 between March 1919 and December 1920; it fluctuated between 90/100 and 100/107, respectively, in the years 1921/22 and 1923/4; at the end of 1924 it dropped from 107 to 138.5, and was temporarily stabilised at 120 in September 1925.

reconstruction of Italian corporate economy. This reconstruction was financed essentially through money creation and sustained by a cheap-money policy that made a quick return to gold extremely arduous, if not impossible⁶⁸. The post-WWI financial evolution was the key to Snia's

TABLE 8: Italy: Output, imports, exports and domestic consumption of rayon, 1923-30 (thousand metric tons)

	Output	Imports*	Exports	Consumption	Exports as percentage of output	Imports as percentage of consumption
1923	5.0	0.5	2.4	3.1	48.0	16.1
1924	10.5	0.6	4.7	6.4	44.8	9.4
1925	14.0	0.6	7.4	7.2	52.9	8.3
1926	18.0	0.8	9.9	8.9	55.0	9.0
1927	25.0	0.5	14.9	10.6	59.6	4.7
1928	26.0	0.5	15.6	10.9	60.0	4.6
1929	32.5	1.2	18.5	15.2	56.9	7.9
1930	30.5	0.3	19.4	11.4	63.6	2.5

Source: Author's calculations of figures (Imports) from Board of Trade, *Survey of Industrial Fibres*, (London 1928); Imperial Economic Committee, *Industrial Fibres*, (London, 1936, 1937, 1938, 1939, 1951), Mortara, Giorgio, *Prospettive economiche (Citta' di Castello, 1924-33)*; (output), *Textile Organon*, (New York, *Statistical Base Book, January 1962*), p.18

*Apart from 1929, not retained imports

⁶⁸ On Italian financial instability and monetary policies in the 1920s see, above all, Sraffa, 'The Bank Crisis in Italy' in *The Economic Journal*, Sraffa, Piero and Tasca, Angelo, 'Il vero significato di 'quota 90'', Nov-Dec 1927 in Lucio Villari, *Il capitalismo italiano del Novecento*, (Roma-Bari 1993), pp. 100-109; P. Sraffa, 'Speech addressed to the Emmanuel Economic Society', November 1927, (Wren Library, Trinity College, Cambridge; S 2/3). See also Paolo Baffi, 'La rivalutazione del 1926-7, gli interventi sul mercato e l'opinione pubblica' in *idem, Nuovi studi sulla moneta*, (Milan 1973), pp. 101-22; Franco Cotula, and Luigi Spaventa, *La politica monetaria fra le due guerre. 1919-1935*, (Roma-Bari, 1995), pp. 9-154 and appendices; Douglas J. Forsyth, *The Crisis of Liberal Italy. Monetary and Financial Policy, 1914-1922*, (Cambridge 1993), pp.195-285; D.J.Forsyth, 'The rise and fall of German-inspired mixed banking in Italy, 1894-1936' in *The Role of Banking in the Interwar Economy*, ed. Harold James, Håkan Lindgren and Alice Teichova, (Cambridge and Paris 1991), pp. 179-205; J.S. Cohen, 'The 1927 revaluation of the lira: a study in political economy' in *The Economic History Review*, 25 (November 1972); Giancarlo Falco and Marina Storaci, 'Il ritorno all'oro in Belgio, Francia e Italia: stabilizzazione sociale e politiche monetarie (1926-1928)' in *Italia Contemporanea*, (March 1977), 3-14; Gianni Toniolo, 'Italian Banking, 1919-1936' in *Banking, currency and finance in Europe between the wars*, ed. Charles Feinstein, (Oxford 1995), pp. 296-314.

commercial success. Clearly, the depreciation of the lira made the launch costs as well as the management of ventures abroad more expensive, and

	9 months to 30-Jun-22		6 months to 31-Dec-23		6 months to 30-Jun-24		6 months to 31-Dec-24		6 months to 30-Jun-25	
	kg	%	kg	%	kg	%	kg	%	kg	%
Italy	652,439	69.1	489,397	35.4	635,387	24.9	806,042	32.9	1,003,450	21.0
UK	49,943	5.3	294,481	21.3	846,137	33.1	700,215	28.6	2,146,178	44.9
USA	86,385	9.2	65,045	4.7	68,172	2.7	85,685	3.5	545,319	11.4
Germany	61,679	2.4	90,942	3.7	195,567	4.1				
Spain	43,463	4.6	52,818	3.8	74,974	2.9	103,460	4.2	105,360	2.2
Austria	39,401	4.2	129,072	9.3	409,480	16.0	278,297	11.4	278,550	5.8
Swit.	36,566	3.9	50,073	3.6	111,350	4.4	117,242	4.8	130,342	2.7
Far East	28,074	3.0	250,152	18.1	267,076	10.5	209,286	8.6	323,369	6.8
Other	7,419	0.8	50,000	3.6	78,932	3.1	56,618	2.3	55,229	1.2
Total	943,690	100.0	1,381,038	100.0	2,553,188	100.0	2,447,787	100.0	4,783,364	100.0
Total value										
(L)	69,899,118		89,670,797		162,944,458		158,249,430		324,838,249	
	1.0		1.3		2.3		2.3		4.7	
(£)	768,967		888,886		1,615,231		1,478,967		2,346,080	
	1.0		1.2		2.1		1.9		3.0	
L/£	90.9		100.88		100.88		107.0		138.46	
Source: VGF A, 'Hambro's Report on Snia Viscosa, 30 November 1925'										

inflated the price of essential imported wood-pulp. However, it also enhanced Snia's strategy of maximising output. Snia flooded markets with enormous volumes of cheap rayon, and, without reducing margins, gained large market shares through huge discounts and off-list selling. This trend is summed up in Table 9 (see the entry 'total value').

Snia's profit margins remained high because wages did not follow inflation and because productivity increased. In the mid-1920s, Snia had not yet developed systems for recovering chemicals and Snia's technical efficiency was not higher than that of European competitors⁶⁹. In the 1920s, Snia's low costs of production relied rather on rapidly expanding outlets and subsequent increasing economies of scale, as well as on the

⁶⁹ On the cost-structure of the industry see Avram, *The Rayon Industry*, p. 412; and Markham, *Competition in the rayon industry*, p. 171.

fact that nominal wages in Italy did not increase substantially during inflation. Although reliable data on trends in real wages in rayon are seemingly not available, it is safe to assume that these followed the general tendency in Italian industry and decreased in these years⁷⁰. In the mid-1920s, nominal rayon wages in Italy were even lower than in countries with a weak or non-existent industrial structure. Early in 1924 a technologist reported to Comit that in Poland the 'salaires sont un peu supérieurs (5 à 10%) aux salaires pratiqué en Italie'⁷¹. This tendency progressed further in the latter half of the 1920s. Early in the 1930s, Snia's wages and wage rates, higher than those paid by other Italian rayon companies, were much lower than those paid by its European rivals. In 1931, in the spinning department of Snia's works, a proxy for rayon wages, the weekly wages amounted to 128.74 lire, while in Varedo they were 98.51 lire. More significantly, in the Courtauld plants of Castle and Wolverhampton wage rates per hour were 14.6d and 16.0 d respectively, while in Snia these amounted to 4.29 d⁷².

Toniolo observed that 'the possibility of increasing productivity more than wages was the key to the success' of rayon as well⁷³. Why did not wages keep up with increasing productivity? It seems that the answer to this question lies partly in the high elasticity of labour supply and in the authoritarian new labour relations that Fascism helped implement after 1922. During the 1920s, the difficulties of certain sectors of agriculture (small holdings) in Northern Italy freed a large number of workers, thus making a vast market of unskilled labour available⁷⁴. Within five years, the number of people working in Snia's plants increased from a few thousand to 14,350 (1927). While allowing Snia to pursue its strategy of large economies of scale, this vast labour market

⁷⁰ Romeo, *Breve storia della grande industria in Italia*, p.134 and Vera Zamagni, 'Le dinamiche dei salari nel settore industriale' in *L'economia italiana nel periodo fascista*, ed by P. Ciocca, and G.Toniolo, (Bologna 1976).

⁷¹ AS BCI, 'Rapport du Dr A. Fath sur sa visite a l'usine de Tomaszow, Varsovie, le 24 février 1924', ST, C36, F4.

⁷² CA, SNI.2 and CA, CHI.1.

⁷³ Toniolo, *L'economia dell'Italia fascista*, p.67 (In the original: 'Ancora una volta, la possibilita' di accrescere la produttività ad un tasso piu' elevato di quello dei salari constitui' la chiave del successo').

⁷⁴ I would like to thank Giancarlo Falco for this suggestion.

contributed to keep wages low. The fact that Snia's workers were in the main young women, paid less than men, obviously, contributed to keeping labour cheap. Yet women were the majority within the rayon labour force in all European countries. What was unique in the case of Snia was that workers - men and women alike - were overwhelmingly poor peasants. This had significant repercussions on Snia's industrial relations and labour costs, especially after the regime outlawed Catholic and socialist trade unions. A prominent Courtaulds director observed late in 1933 that the 'bulk of the men and girls are country people and as such are used to hard work and economic living: a great many, both girls and men, come to work with no shoes and almost all of them without stockings. They, therefore, do not expect so much as our people'⁷⁵. Increases in productivity could be implemented without particular concern for the safety of workers, and without major clashes between them and Snia's management. The process for producing rayon was highly toxic and accidents, as well as professional maladies, were common. This was truest of Italy. One authoritative source argued that in this country labour conditions in rayon plants were worse than anywhere else in Europe or in the USA⁷⁶. Moreover, in the 1930s, Courtaulds experienced major strikes in its British plants, after which trade unions extended their influence over the company's management of labour relations. Nothing like this seems to have happened in Snia. In that decade, working conditions worsened and the reorganisation of the entire sector (1928-34) relied on reductions in the workforce and on the parallel intensification of production times. Behind Snia's further surge of productivity in the first half of the 1930s, also noted by Professor Coleman⁷⁷, lay these factors. In this sense, authoritarian labour relations were the major long-lasting contribution of the Fascist regime to the development of Snia.

⁷⁵ CA. J.E. Pedder, General observations upon a visit to Snia Viscosa, September 1933', SAM.12.

⁷⁶ Bruna Bianchi, *Lavoro e produzione nell'industria della seta artificiale. Il caso della fabbrica di Padova (1925-1933)* in *Annali 1980. Impresa e manodopera nell'industria tessile*, (Padova 1980), pp 121-77 and *idem*, 'Tessili: lavoro, salute, conflitti' in *Annali della Fondazione Gian Giacomo Feltrinelli*, 23 (1979/80), pp. 973-1070.

⁷⁷ Coleman, *Courtaulds*, II, pp. 346-7 and fig. 33.

The depreciation of the lira, inflation and increasing productivity activated the financial channels that made Snia's expansion possible. Snia based its financial growth on the continuous transfer of debts from banks to the public. In the years 1923-7, Snia's capital almost trebled (see Table 10). Clearly, new issues could be successful as long as profits and dividends were handsome and in the period 1923-6, very few Italian companies made as large profits as Snia. Not only did handsome dividends sustain the company's share prices in the Milan stock market, they also limited the reinvestment of profits, which was very low in this period (see Table 10), thus contributing to the extreme instability of Snia's financial structure. Limits upon reinvested profits was one major drawback of Snia's policy of high dividends. This policy derived largely from the structure of the Italian stock market, which was dominated by a few universal banks, such as Comit and *Credito Italiano*, and from the fact that Snia's shares were distributed in large blocks. As a result of this structure, small reductions in Snia's dividends could easily result in substantial reductions in Snia's security price, thus impeding future increases in capital as well as limiting bank support.

It is undeniable that Snia's financial expansion coincided, and was therefore greatly facilitated by the boom of the Italian stock exchange, which attracted capital to a degree that is incomparable in Italian history before the 1960s⁷⁸. Whether this depended on the 'crowding in' effects of the reduction in public spending, as Toniolo and Ciocca suggested, is open to question, not least from a theoretical standpoint. Very probably, increasing industrial profits and the lack of confidence in the lira, as well as inflationary expectations, especially in late 1924, greatly accounted for this boom⁷⁹. Under the circumstances, it is

⁷⁸ Toniolo, *L'economia dell'Italia fascista*, pp. 31-57 and in particular pp. 40-1; and Ciocca and Toniolo, 'Industry and Finance in Italy, 1918-1940'.

⁷⁹ Stefano Baia Curioni, *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, Laterza 1994), vol V, pp.153-205, 179; but also Grifone Pietro, *Il capitale finanziario in Italia*, (Turin 1971edn), p. 49; and Giancarlo Falco and Marina Storaci, 'Il ritorno all'oro in Belgio, Francia e Italia: stabilizzazione sociale e politiche monetarie (1926-1928)', p. 9.

scarcely surprising that Gualino reported enthusiastically to the Bank of Italy late in 1924 that 'nowadays our company can aim at achieving

(million current lire)											
Year	Gross profits	Less depreciation, taxation and other expenses	Net profits	* Dividends:				Reinvested profits	Share capital: Nominal capital, subscribed capital, reserves		
				overall of sub. cap.	as % of cap. (lire)	per share (lire)	per share (as % of nom. value)				
1918	4.9	0.6	4.4	3.2	8.0	8.0	8.0	1.2	40.000	40.000	0.2
1919	9.9	2.7	7.2	3.2	2.6	8.0	8.0	4.0	120.000	120.000	0.3
1920	44.7	30.1	14.7	8.0	4.0	4.0	4.0	6.7	200.000	200.000	0.5
1921	41.5	50.1	.	.	.	.	.	.	175.000	175.000	1.4
1922	8.4	49.9	.	.	.	.	.	.	175.000	175.000	1.4
1923	64.8	36.7	28.1	22.3	6.3	16.0	8.0	5.8	350.000	350.000	29.8
1924	104.5	44.4	60.1	41.2	6.8	20.0	10.0	18.8	600.000	600.000	32.2
1925	203.5	55.0	148.5	75.0	7.5	25.0	12.5	73.5	1.000.000	750.200	77.4
1926	171.8	73.9	97.9	69.0	6.9	20.0	10.0	28.9	1.000.000	880.000	346.2
1927	110.3	64.0	46.3	.	.	.	.	.	1.000.000	1.000.000	301.6

Source: Author's calculations from official balance sheets and (subscribed capital), from Confalonieri, A., *Banche miste e grande industria in Italia, 1914-1933*, vol II, tab. 38, p. 243
 *This also includes the share of net profits retained by the board of directors
 Note: 1918 and 1919: first ten months; 1920: from 31 October 1919 to 28 February 1921; 1921 includes the first two months of 1922; 1922: first seven months; 1923: from 30 September 1922 to 31 December 1923;

any reasonable development by means of the stock exchange ... [no other system is] ... safer than the increase in capital' to achieve 'an absolute independence' from banks⁴⁶⁾.

Yet the role of the stock market ought not to be over-emphasised since Snia remained heavily dependent on bank support. Table 4 shows that Snia's bank debts decreased relative

⁴⁶⁾ Confalonieri, *Banche miste e grande industria in Italia, 1914-1933*, II, pp 244-5.

to overall invested capital, but balance-sheet figures, not wholly reliable, obscure the complexity of relations that Snia established with banks in these years, as SIP and Tomaszow operations demonstrate. One salient feature of this relationship is to be found in the fact that Snia was supported by many banks, and that this support, although valuable, proved unstable⁸¹. The bank that most financed Gualino's companies was the 'Banca Agricola Italiana' (BAI), whose impressive growth largely derived from inflation and scanty bank surveillance in the 1920s⁸². Reconstructed early in the 1920s, BAI became the captive bank of Gualino, and backed Snia's operation to an increasing extent after 1924⁸³. The difficulties of BAI emerged in 1928, after

TABLE 11: UIC: Capital (subscribed capital plus reserves) and holding, 1918-28 (million current lire)

	Capital	Holding
1918	10.6	3.4
1919	10.6	5.2
1920	50.8	30.8
1921	50.9	47.3
1922	26.2	7.2
1923	26.2	4.2
1924	101.3	17.0
1925	101.4	50.9
1926	52.5	0.9
1927	53.5	1.1
1928	53.7	0.9

Source: UIC's official balance-sheets, Gualino's speech to the shareholders general assembly, 1919-30 (Biblioteca Feltrinelli, Milan)

⁸¹ *ibid.*, II, pp. 259-60.

⁸² From 1922 to 1929, BAI's financial holding and deposits increased from 2,7 to 293,7 million lira and from 202 to 646 million lira respectively.

⁸³ In this year, Gualino failed to bid for Credito Italiano. Most probably, this failure encouraged him to use BAI to finance Snia. See also Ernesto Cianci, *Nascita dello Stato imprenditore in Italia*, (Milan 1977), p. 23 and Castronovo, *Storia economica d'Italia*, p. 222.

deflation hit Snia and Gualino's other ventures, as well as most of the companies which BAI had come to control through numerous mergers with other minor banks⁶⁴.

Another system that Gualino used to augment capital and which worked smoothly during inflation was the *partecipazione incrociata*, by which Gualino's other companies increased capital to purchase Snia's shares. Table 11 shows the figures for UIC, from which we can see that operations of this sort were aimed at sustaining Snia's security price when this plummeted dramatically⁶⁵.

VI

By early in 1925, the financial mechanisms upon which Snia had constructed its financial development came under extreme pressure. At the time Snia was implementing a major increase in capital from 600 million lire to 1,000 million lire, the Italian government halted abruptly the expansion of the Italian stock market (*Decreti De Stefani*), whereas the Bank of Italy increased the official discount rate from 5 % to 7%. These measures came after a period of unprecedented increase in the Milan stock markets' operations, and were intended to stop speculation in the depreciating Italian currency⁶⁶.

This considerable increase in capital, which made Snia the largest

⁶⁴ See Ministero dell'Industria e del Commercio, *L'Istituto per la Ricostruzione Industriale - IRI*, (3 vols, Turin Unione Tipografico-Editrice Torinese 1956), III (*Origini, ordinamento e attività svolte (rapporto del professor Saraceno)*), p. 336; C. Bermond, *Formazione e dissoluzione di un patrimonio industriale e finanziario nel primo trentennio del secolo XX: il Trust Gualino*, pp. 524-5; see, above all, documents reproduced in *La Banca d'Italia e il sistema bancario, 1919-1936*, ed. by Giuseppe Guarino and Gianni Toniolo, (Roma-Bari, Laterza 1993), pp. 596-627.

⁶⁵ In 1921 and in 1925, Snia's shares accounted for more than 98% (50 million lire out of 50.9 million lire) and 60% (28.5 million lire out of 47.3 million lire) of UIC's holding.

⁶⁶ In December 1923, the index of security prices (1918=100) was 85.67; in June and December 1924 it reached 110.82 and 130.22 respectively; in February 1925 it peaked to 146, see Franco Cotula and Luigi Spaventa, *La politica monetaria tra le due guerre, 1919-1935*, Tab A.13, pp. 855-6.

Italian company, was carried out to cover debts incurred by the investments examined in the preceding sections. With hindsight, the Italian stock market could probably not absorb Snia's new issue entirely, not least because most Italian corporations were concerned with colossal investments, and were seeking the capital to finance them. Whatever the actual capabilities of the Milan stock market to finance Snia's impressive bank debts, the sudden reduction in the stock market's operations made the placement of the new shares extremely difficult. It was at this time that Gualino turned to non-Italian financial markets. In 1925, the idea of seeking recourse to non-Italian financial markets was not particularly far-sighted. Other major Italian corporations, such as Fiat, Pirelli, Edison or Montecatini, processed bond issues in foreign markets in conjunction with major Italian and foreign banks in the mid-1920s. Moreover, Italian financial, as well as influential academic, spheres were generally prone to holding conventional views and regarded long-term foreign financial support as the most viable solution for Italian industrial growth⁸⁷. Under the prevailing circumstances, it will come as no surprise that industrialists or financiers viewed the contraction of the Italian stock market as the necessary trade off for the return to gold.

What was original in the case of Snia was the attempt to place large blocks of shares in foreign capital markets. Between autumn 1925 and summer 1926, Snia issued shares in Holland, Germany, France, the USA and in Britain, with the assistance of major banks there. These were Teixeira de Mattos in Amsterdam, Disconto Gesellschaft in Berlin, Oustric Bank in Paris, Chase National Bank in New York and, finally, Hambros Bank in London. The rationale behind these moves was the transformation of Snia into a purely public company. In November 1925, Gualino pointed out to his board that his intention was 'to create a big international market for Snia's security by lightening the Italian market in the interests of [Italian] shareholders, and to allow the Company to place other possible increases in capital when these will become useful or

⁸⁷ Falco, *La bilancia dei pagamenti italiana*, pp. 6-9, 217-8 and fn 281.

necessary⁸⁸. In a report made to the Bank of Italy late in 1925, Gualino complained of the absence, in Italy, of a 'mass of small savers who purchase and keep industrial securities'⁸⁹.

However, only the placement of shares in London (one million shares in October 1925) and in Paris (180,000 in June 1926) proved successful. The fact that Gualino established close connections with Hambros and Oustric, major financial institutions in those markets, largely accounted for this success. By contrast, the operation in Wall Street proved a failure. Given the size of this market and the boom in rayon securities in the USA in the mid-1920s, this clearly had repercussions on Snia's financial developments. The reasons for this failure are identifiable in the lack of support from Agnelli as well as from Comit and from J.P.Morgan Bank, the banks which helped Fiat and Edison process bond issues in New York⁹⁰.

Why Hambros Bank supported Snia and turned to industrial securities is partly unknown⁹¹. As with other merchant banks, Hambros focused on a few European countries, on Italy and on Scandinavia in particular⁹². In Italy, this bank had mainly dealt with government securities since the time of the unification of the country (1860s). According to one source, it was Higginson Bank, which, in association with Hambros, processed a host of issues on behalf of Scandinavian companies and Snia Viscosa in the 1920s⁹³. In this connection, it is worth stressing that merchant banks did not possess very great assets

⁸⁸ Sn,VCA, 24/11/1925. In the original: 'intento sia di creare un grande mercato internazionale per la Snia Viscosa ... alleggerendo il mercato italiano nell'interesse degli azionisti, sia di facilitare alla Societa' l'eventuale collocamento di ulteriori aumenti di capitale quando gli stessi si renderanno utili o necessari'.

⁸⁹ Quoted in Confalonieri, *Banche miste e grande industria in Italia, 1914-1933*, II, p. 246. In the original: 'manca...la massa numerosa di piccoli risparmiatori che compri e conservi titoli industriali ripartiti'. 'Relazione Snia, 1925'.

⁹⁰ Agnelli and Gualino broke off business relations in summer 1926, but see below.

⁹¹ Hambros archives at the London Guildhall do not hold significant documents covering the period after World War I (apparently, most records were destroyed during World War II). It is therefore very difficult to provide an answer to these questions as well as tracing a history of the Snia-Hambros relationship over the years. Information on the company's history by Bo Bransen, *The Hambros*, (London 1979), is useless for the purposes of this work.

⁹² Stanley Chapman, *The Rise of Merchant Banking*, (London 1984), pp. 59-60.

⁹³ Richard Kellet, *The Merchant Bank Arena*, (London 1967), p. 55.

but they were able to recruit large sums at short notice in conjunction with other merchant banks⁹⁴. It was probably the boom in rayon, after the imposition of rayon duties in Britain (July 1925) which encouraged Hambros, in association with Higginson, to help the Italian company place a large number of shares in London in November 1925. The relationship between Hambros and the Italian company went beyond the stage of financial mediation. While Snia's shares were being placed in the London market, Hambros and Gualino agreed jointly to establish BSV. A few months later, two Hambros accountants, John Ivan Spence and I. Oscar M. Clarck, joined Snia's board. In contrast to Hambros, Oustric Bank only conducted a number of speculative operations in France and in Italy along with Gualino. In 1928, Snia's President shared in the increase in capital of this bank and joined its board, while Albert Oustric became Snia's director. The French bank finally lost its stake in Snia in 1931 at the time it went bankrupt.

The failure to place Snia's shares in foreign markets was a major blow to Gualino's strategy, which appeared for the first time as too ambitious. Early in 1926, the production target of 30,000 tons per year was postponed together with the completion of Abbadia, the launch of Sniafil and the formation of BSV, whereas other major operations (Sip, Zolfi and Tomaszow) proved merely overbuying operations in the light of the current financial difficulties. In June 1926, Snia's floating debt amounted to 450 million lire (£ 3,106,000; at a rate of 144.91 lire), corresponding to 45% of the company's nominal share capital. Taking advantage of new legal provisions that facilitated financial operations abroad, Snia reached another agreement with Hambros early in 1926. This envisaged the launch of a bond issue in the London stock market, the value of which amounted to 3 million pounds (144.91 lira per pound)⁹⁵. During the summer, as part of the policy to defend the lira, the Fascist government temporarily suspended overseas financial movements⁹⁶. By the time these impediments were removed (late

⁹⁴ Chapman, *The Rise of Merchant Banking*, p. 62.

⁹⁵ Sn,VCA, 14 June and 26 October 1926.

⁹⁶ Sn, VCA, 26/10/1926 and Falco, *La bilancia dei pagamenti italiana tra la prima guerra mondiale e il 1931*, p. 223.

October 1926), the Italian currency had appreciated by about 20%, thus reducing the value of the bond issue. Meanwhile, the miners' strikes in Britain worsened the financial conditions of the London stock market. As a result, Hambros and Higginson were only able to process a bond issue of £ 1.4 million, equivalent to only 154 million lire. Late in October 1926, a new agreement was reached⁹⁷, and in December, after securing formal authorisation from the Minister of Finance, Volpi di Misurata, the launch of a bond issue was finally processed⁹⁸. The conditions for the issue – which the London market 'received very well'⁹⁹ – were fairly onerous for Snia. The interest amounted to 7.5% per year (£ 105,000 or, at a rate of 115 lire per pound, 12.0 million lire per year), and the mortgage covered all Snia's properties, including the company's patent rights¹⁰⁰.

When presenting the agreements for the debenture issue, Gualino announced a further reorganisation in Snia's share capital, which was agreed with Hambros¹⁰¹. Snia's capital was reduced from 1,000 million to 750 million lire, and then restored to 1,000 million lire. With this new issue Snia was to cover the remaining part of its floating debt. Under the prevailing financial circumstances, Snia's big Italian shareholders were not in the position to subscribe to the new issue, and, very probably, for this reason Agnelli resigned from Snia's board in the summer of 1926.

VII

Who was then to purchase these new shares?

Immediately after the announcement of Snia's capital reorganisation, rumours about the company's imminent financial collapse began to circulate across Europe. Late in November, Hambros, through the mediation of Texeira de Mattos, arranged a meeting with Fritz Bluethgen, the leading figure in VGF. On that occasion, the German

⁹⁷ *The Economist*, 6 November 1926.

⁹⁸ CA, 'Letter from the Italian Minister for Finance to Snia Viscosa, 13 December 1926' in 'Atti del notaio Torretta', SNL2.

⁹⁹ *The Economist*, 5 February 1927.

¹⁰⁰ CA, 'Atti del notaio Torretta'.

¹⁰¹ Sn, VCA, 26 October 1926 but also *The Economist*, 6 November 1926.

businessman agreed to rescue Snia in conjunction with Courtaulds. Other meetings with Ernst Lunge, a prominent director of Courtaulds, followed in Elberfeld and in St. Moritz¹⁰². Early in January 1928, a number of agreements between VGF, Courtaulds and Snia were finally struck¹⁰³. These agreements stipulated that VGF and Courtaulds were to control Snia's industrial and commercial policy in exchange for financial help and technical assistance. In January 1927, VGF and Courtaulds wholly subscribed to the new issue (Courtaulds and VGF took up, respectively, £ 1,957,000 (215,325,000 lire) and £ 652,500 (71,775,000 lire) of Snia's shares, becoming the largest shareholders of the company, but see Table 12). In addition, Gualino and the British-German counterpart, agreed to form a five-year voting trust, in which Courtaulds 'shall have a controlling interest...with the effect that [Courtaulds'] vote shall decide the vote of the majority of votes in the Snia Viscosa Co. general meetings'¹⁰⁴. Other members of this voting trust (see Table 12) were Hambros, VGF and Gualino. Secondly, an Executive Committee of four members replacing the board of Snia was also created; Courtaulds and VGF's representatives (Lunge and Bluethgen) were to join this committee with 'a majority of the voting strength upon special requests'¹⁰⁵. These special requests concerned 'les lignes générales de la politique de production et de vente à suivre par la Snia Viscosa dans l'intérêt' of Courtaulds and VGF¹⁰⁶. Thirdly, Snia, VGF and Courtaulds entered into 'a system of mutual technical co-operation' for five years. More than Courtaulds, it was VGF that was to help Snia Viscosa improve the company's manufacturing methods. This was because VGF employed spinning systems similar to those of Snia. As with most Continental rayon-

¹⁰² VGF A, 'Snia Transaktion', L7-5-1

¹⁰³ CA, 'Letter from VGF to Courtaulds', 17 January 1927, SNI.6; and VGF A, 'Accord entre la Snia Viscosa et la VGF, 17 January 1927', Snia Viscosa, 1930-6/ 179.

¹⁰⁴ CA, 'Letter from VGF to Courtaulds', 17 January 1927.

¹⁰⁵ *ivi*.

¹⁰⁶ CA, 'Letter from VGF to the Courtaulds' Board, 17 January 1927' SNI.6 and VGF A, 'Accord entre la Snia Viscosa et la VGF, 17 January 1927', 179. But see also Coleman, *Courtaulds*, II, p. 282 and Geoffrey Jones, *Courtaulds in Continental Europe in British Multinationals: Origins, Management, Performance*, ed. G. Jones, (Aldershot-Brookfield 1986), pp.119-139, 123.

makers, VGF produced 'bobbin spun' rayon yarns, while Courtaulds, which specialised in 'box spun' yarns, possessed little expertise in bobbin spinning. Some years later Lunge remarked to Samuel Courtauld that 'our industrial experience was confined to box spinning ... every scrap of the technical assistance to Snia had to come from VGF. We could not join in an agreement to assist bobbin spinners without looking ridiculous'¹⁰⁷.

Finally, Gualino was to provide a 'suitable expression of satisfaction' about this operation from the Italian Government¹⁰⁸. Some days after the agreements, Snia's representative in Rome sent a long memorandum to the Duce, explaining the terms of the agreements¹⁰⁹. Very probably, Mussolini did not oppose this operation, for the regime allowed closer financial ties between Italian companies and foreign interests to fight the

TABLE 12: Snia Viscosa: distribution of shares and votes, 1927

	Shares						Voting power					
	Preference		Ordinary		Total		Preference		Ordinary		Total	
	000	%	000	%	000	%	000	%	000	%	000	%
Courtaulds	135	67.5	1,080	16.7	1,215	18.2	1,350	67.5	1,080	16.7	2,430	28.7
VGF	40	22.5	360	5.6	405	6.1	450	22.5	360	5.6	810	9.6
Gualino	20	10.0	200	3.0	220	3.3	200	10.0	200	3.0	400	4.7
Hambros	:	:	600	9.3	600	9.0	:	:	600	9.3	600	7.1
Voting pool	200	100.0	2,240	34.7	2,440	36.6	2,000	100.0	2,240	34.7	4,240	50.1
Not controlled	:	:	4,266	65.3	4,226	63.4	:	:	4,226	65.4	4,226	49.9
Total	200	100.0	6,466	100.0	6,666	100.0	2,000	100.0	6,466	100.0	8,466	100.0

Source: CA, 'Notes on Snia', undated, SNI.4

incoming deflation. Yet Gualino and his collaborators paid great attention to presenting these agreements as being particularly useful to Snia from a technical standpoint. The stress lay more on the provision by which VGF and Courtaulds were to assist Snia technically; the fact that Courtaulds, VGF and Hambros held Snia's financial control was carefully concealed from Mussolini and from the shareholders alike. 'By virtue of these agreements - the company's representative wrote emphatically to

¹⁰⁷ VGF A, 'E.Lunge, Memorandum to Samuel Courtauld, (Rapallo), 11 April 1931', E7-1-10bis14.

¹⁰⁸ CA, 'Letter from VGF to Courtaulds, 17 January 1927'.

¹⁰⁹ ACS, 'Memoria di Marchesini al Duce, 24 January 1927' but also 'Telegramma di Gualino al Duce, 21 January 1927' and 'Nota del sottosegretario all'interno al Duce, 12 March 1927', SPD, CR, B102, F 169/R.

Mussolini – the foreign Groups provide Snia Group with the right to use all their significant patents, advances and know-how... obtained in 30 years ... and undertake to send their technologists in order to rapidly apply these methods in Snia's plants"¹¹⁰. But VGF's assistance could not be taken for granted, for it was made conditional on Snia's reducing output and increasing prices in most markets.

VIII

The rationale behind Courtaulds and VGF's move was control over Italian rayon exports, and fell within the logic of the companies' cartel policies. The campaigns for setting up an international rayon cartel continued in the following years and were an important chapter in the history of Snia. Although this history cannot be treated here, it is worth emphasising that Italian deflation greatly helped VGF and Courtaulds pursue their cartel politics. After a major confrontation with Lunge, Bluethgen and Samuel Courtauld, late in June 1927, Gualino wrote a letter to Mussolini in which he argued that 'the policy of revaluation recently pursued is mistaken' – a bold and courageous statement to make in the Italy at that time - and that 'industrial sectors are at present entering an extremely severe crisis, from which they will come out ... *totally or partially subject to foreigners*'(my italics)¹¹¹. Probably, Gualino was not referring only to rayon. In the mid-1920s, international cartels were being established in a number of sectors¹¹². These were the response of pioneer companies to the loss of patents and markets during and after the war years, and formed weapons against newcomers. Under the circumstances, little wonder that deflation weakened Italian companies

¹¹⁰ ACS, 'Memorandum di Marchesini al Duce, 24 January 1927'. In the original: 'In virtù di queste intese i Gruppi stranieri concedono il diritto al Gruppo Snia di utilizzare tutti i loro importanti brevetti, procedimenti conosciuti o segreti e conoscenze tecniche ottenute in 30 anni di sviluppo (...) si impegnano di mandare i loro tecnici per una rapida applicazione dei loro brevetti negli stabilimenti della Snia'.

¹¹¹ ACS, 'Lettera di Gualino al Duce 28 giugno 1927', SPD, CR, B102, F169/R also in Cotula and Spaventa, *La politica monetaria tra le due guerre, 1919-1935*, (appendices).

¹¹² US Department of Commerce (Louis Domeratsky), *The International Cartel Movement*, (Washington 1928) is a very useful source for this topic.

vis à vis their competitors in these international games. An authoritative source long ago suggested that the main concern of most Italian businessmen in 1926/7 was 'to defend themselves against international cartels'¹¹³. Late in 1926, Giorgio Falk, a prominent steel industrialist, argued that the German-French iron cartel could 'be considered a disgrace for the Italian industry', and that this cartel was aimed at 'obliging us to reduce production'¹¹⁴.

In the course of 1927, as the revaluation of the lira removed any commercial advantage and exacerbated the company's financial difficulties as well as throwing BAI into deep financial crisis, Gualino's position within Snia became increasingly uncertain. At the end of 1927, Snia's floating debt was still considerably high (this amounted to about 260 million lira¹¹⁵); the need to consolidate this debt sprang from the difficulties of the banking system. An overvalued currency, the removal of commercial advantages, sinking profits as well as security prices and contraction of money supply, all contributed to a fierce scramble for liquidity that forced banks to recall loans. In 1927, Snia lost support from Comit and from *Credito Italiano*, and relied heavily on BAI, whose increasing illiquidity most probably urged Gualino to consolidate Snia's debt. In a meeting held in Paris in December, Gualino and Gurgo-Salice presented Lunge and Fritz Bluethgen with the request for another rescue. This envisaged either the issue of new shares or the issue of another bond issue as well as the sale of Tomaszow's interest. They stressed to Lunge and Bluethgen: 'it is *indispensable* that the Company pays all its bank debts...Snia Viscosa is disposed to follow either

¹¹³ Giampiero Carocci, *La politica estera dell'Italia fascista, 1925-1928*, (Bari 1969), p.5.

¹¹⁴ In ACS, *Carte Volpi* quoted by Carocci, *La politica estera*, pp.248-9, fn 12, and Renzo De Felice, 'I lineamenti politici della 'quota 90' attraverso i documenti di Mussolini', in *Il Nuovo osservatore politico economico sociale* (May 1966)

¹¹⁵ Investments in 1927 went in to the completion of the Tomaszow plant, the acquisition of Varedo (40 million lira) conducted in agreement with Courtaulds and VGF - this stemmed from the urgent need to control a larger portion of Italian output - in the replacement of machinery (depreciation) as well as in the rationalisation of the company's operation (130 million lira), that created the Merger between Snia and the companies that nominally maintained Venaria (Turin) and Cesano (Milan), prompted by new legal provisions.

program but it is necessary, in the interest of the Company, to take an early decision'¹¹⁶ (italics in the original). Financial rescue did come from Courtaulds and VGF which took up a substantial part of the newly issued shares (25%) early in 1928 (£ 476,150 or 45 million lire and £ 158,700 or 15 million lire). With this new support, however, VGF and Courtaulds developed a stronger grip over the administration of Snia, which was attained by sending Carl Scherer to Italy. Scherer was an eminent VGF technologist and director, who came to be entrusted, alongside Gualino, with the management of Snia.

The remainder of the newly issued shares (187 million lira) was taken up by a syndicate of Swiss and German banks (the 'Disconto Gesellschaft', part of the 'Deutsche Bank' by 1930), and by a group of Milan financiers and industrialists, led by Senatore Borletti, Franco Marinotti and Carlo Feltrinelli, and backed by *Credito Italiano*. These businessmen, who came mostly from the textile trade, joined Snia's administration and Board between the years 1928 and 1930, and helped Scherer oust Gualino from Snia. They led Snia's reconstruction between the years 1928 and 1934, and also managed to reduce Courtaulds and VGF's control over the management of Snia, while keeping close ties with these companies (especially Courtaulds) until the late 1960s. They also succeeded where Gualino failed, that is in internationalising the holding of Snia's shares (see Table 13), and in entrenching Snia in the market of mid-quality rayon yarns.

During 1928, Gualino lost control over the management of the company altogether. His isolation from the most influential Italian financial groups, BAI's difficulties, the launch of another colossal venture (SALPA), this time in artificial leather, and the new regime in Snia encouraged him to abandon his company. After 1929, Gualino's decline was rapid. Early in 1931, the British Consul in Turin reported to London that Gualino, 'the most striking figure of Italian *big business*'¹¹⁷, had been arrested by Mussolini, and banished to a remote island near Sicily. The reasons behind Mussolini's decision are not completely clear. Most probably, Gualino's involvement in the bankruptcy of BAI

¹¹⁶ VGF A 'Memorandum of the meeting held in Paris, 13 December 1927' E12-1-1bis5.

¹¹⁷ PRO, 'Despatch from Turin consul to British Embassy in Rome, 31 February 1931', FO 371/15254 -C1061/1061.

and in that of the Oustric Bank in 1930-1, one of the major scandals in the Third French Republic¹¹⁸, had an influence. Once he was freed, one year later, Gualino started up new businesses, but none of these, however, was to have the same success as those launched in the 1920s.

Contemporary commentators came to regard Gualino as a showy, unscrupulous and eccentric speculator. This judgement, which was also echoed in the analysis of eminent scholars (Romeo, Grifone, Morandi), was greatly influenced by the propaganda of the regime: Mussolini himself termed Gualino the 'Cagliostro' of Italian big business in the first assembly of the national corporations (1 October 1930). During the financial and economic difficulties of the years 1930-3, Fascism radicalised its political agenda as well as its anti-capitalist stance which was epitomised by the launch of the 'Corporative State'. But in reality, behind Fascist 'revolutionary' rhetoric and propaganda - which was quite effective if it succeeded in influencing intellectuals of the calibre of Mosley, Keynes or Shaw - lay the conventional wisdom of Italian academic as well as political environments, imbued by a strong deflationary stance which remained in place until 1936. In this context, little wonder that Gualino, the most successful businessman emerging from the tumultuous growth of the war and post-war era, became the scapegoat for current difficulties.

One major Italian industrialist, in acknowledging Gualino's uncommon innovative ideas, argued late in the 1920s that 'I do not agree with his optimism'¹¹⁹. Gualino's optimism had certainly proved excessive and sounded out of place in the depressed Italy of the late 1920s, and yet it fitted well with the Italy of the war years and of the mid-1920s. Hazardous, large undertakings in Italy as well as abroad (Ukraine, Russia, Romania, Corsica) which had soon failed had already scarred Gualino's business life before the war. It was inflation which, during and after the war, was to make other similar colossal ventures creditworthy and successful - including, of course, Snia Viscosa.

¹¹⁸ Maurice Garçon, *Histoire de la justice sur la IIIe République*, (vols 3, Paris 1957), vol II (*Les grandes affaires*), pp. 89-101; Alfred Sauvy, *Histoire économique de la France entre les deux guerres, 1918-1931*, (Paris 1965), pp. 413 *et seq.*

¹¹⁹ Ettore Coni, *Dal taciturno di un borghese*, (Bologna, il Mulino 1986), pp. 290-2.

TABLE 13: Snia Viscosa: Distribution of ordinary shares, March 1931			
		Number of shares	%
Italy	Credito Italiano	447,505	9.4
	Banca Commerciale Italiana	479,947	10.1
	Varedo e Marittima	278,572	5.9
	Soc Generale della Viscosa	49,700	1.0
	Rebaudengo Sen Eugenio	10,043	0.2
	Banco di Sicilia	20,000	0.4
	Banca Popolare di Milano	21,000	0.4
	Total	1,306,767	27.6
Germany	Deutsche Bank	367,666	7.8
	Oppenheimer Sat. Jr & Cie	18,285	0.4
	Total	385,951	8.1
Switzerland	Banque Commerciale de Bale	491,666	10.4
	Hayer Hardegger E	125,000	2.6
	Abegg & C	83,850	1.8
	Total	700,516	14.8
Great Britain	Hambros Bank	12,900	0.3
	Hambros Bank (nominees)	400,000	8.4
	Courtaulds	1,350,183	28.5
	Total	1,763,083	37.2
Others		335,628	7.1
Preference shares		250,000	5.3
Total shares in deposit		4,742,126	100.0

Source: CA, 'Letter from Senatore Borletti to John Hanbury-Williams, 29 May 1931', JHW.16

IX

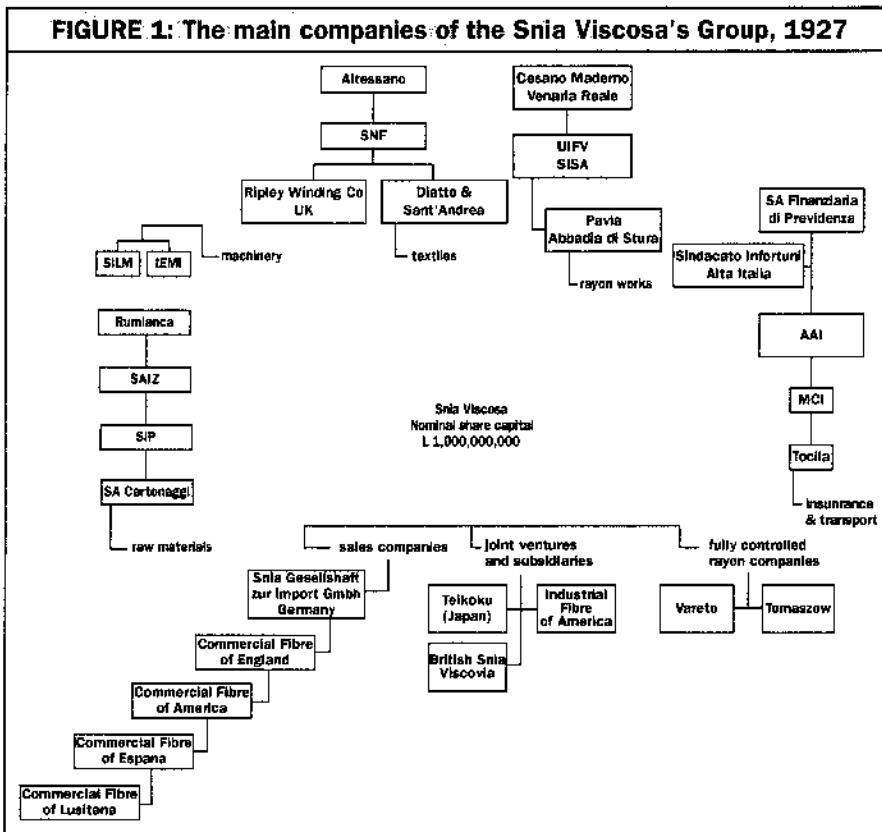
It has been emphasised that slow growth in the 1930s in the European countries which experienced moderate inflation in the 1920s was the main cost and the inevitable counterpart of this inflation¹²⁰. While in general terms this conclusion is acceptable, it needs some qualification. One major lesson that can be drawn from the experience of rayon is that when looking at the *nature* of industrial growth in the 1920s the benefits of inflation seem to have outweighed its costs. It was in this decade that vanguard, science-based sectors, such as man-made fibres, chemicals, cars, aluminium, electricity or electrical equipment - on which the Italian 'economic miracle' in the 1950s was largely to rest - were consolidated. The consolidation of these sectors has been

¹²⁰ Eichengreen, 'Understanding 1921-1927: inflation and economic recovery in the 1920s', p.26.

rightly regarded as one of the major 'transformations' of the inter-war economy¹²¹, and yet, in retrospect, this transformation was not at all a foregone conclusion in the Italy of the early 1920s, for this country lacked the capital and a vast domestic market, as well as the technical expertise with which to sustain these developments. In the light of this, it seems certain that inflation was the key to the continuation of the process of accumulation that the war had stimulated, and to the industrial renovation that the Italian economy experienced in the inter-war period.

Clearly, the underlying motives for the rapid expansion of rayon, as well as of other innovative industries, in Italy are also to be found in other factors. One of these was the post-WWI boom in global rayon demand, which was still characterised by high margins and prices that reduced the burden of tariffs. Other factors were cheap Italian labour, as well as increasing productivity, and the appearance of innovative businessmen on this industrial scene – not only Gualino and Agnelli but also Toeplitz, Conti or Cicogna of Comit. These factors favoured a process of financial and technical concentration which in countries like France and Belgium, whose financial and monetary conditions were similar to Italy, did not take hold.

¹²¹ Ingvar Svennilson, (UN), *Growth and stagnation in the European economy*, (Geneva 1954), p. 20; David S. Landes, *The unbound Prometheus: technological change and industrial development in Western Europe from 1750 to the present*, (Cambridge 1969 edn), pp. 419-85; Feinstein, Toniolo, Temin, *The European Economy between the Wars*, pp. 76-83.



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