

Swiss Investments in Italy from the XVIIIth to the XXth century

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Switzerland's image as a 'financial power' goes back far into history. It would not be easy to date its origin, but the Genevan branch of the Medici bank was the one that had the largest volume of business, making it the most powerful bank in the West at that time.¹ In this paper we shall attempt to reconstruct Swiss investments in Italy in the period from the XVIIIth century onwards. What we offer is essentially a general description rather than an original research, and the paper relies mainly on secondary sources even though these are scarce and generally indirect.² Nonetheless we shall first attempt to outline the principal pattern of Swiss investments in Italy in this period and then to quantify their importance in more general terms.

Two general periods can be identified in Swiss investment in Italy, the first running from about 1750 to 1850-60, the second from 1860-70 to 1920-30. The investment to which we shall be referring — it should be stressed — were long-term investments (lasting at least one year), and we shall be concerned only with gross figures, or in other words the total of Swiss assets in Italy. These investments are divided into two groups: direct investment (in factories and plant or majority shareholdings) and in-

¹ J.-F. BERGIER, *Problèmes de l'Histoire Economique de la Suisse*, Berne 1968, p. 73.

² The lack of recent studies has forced us to rely mainly on works published between the wars when the recession of the 1920s gave rise to numerous studies seeking to explain whether foreign investment had been beneficial or damaging to the Swiss economy.

direct investment (government stock and minority shareholdings).

a) *The First Period (1750 - 1850-60)*

Before the middle of the XIXth century there is very little information about either investment in Italy or Swiss foreign investment more generally,³ but it seems that indirect investment in Italy during this period was slight. The Swiss 'foreign portfolio' in the XVIIIth century was negligible, and there is no mention of any investment in Italian stock in the records of the Berne Treasury or those of the Leu & Co. bank at Zürich.

Direct investment in Italy was more popular in Switzerland in the late XVIIIth century, however. The Jenny family, for example, who owned the *Wienerhandlung*, opened agencies at Ancona and Bologna, as well as establishing an important banking and commercial business at Trieste that dealt in corn and manufactured goods.⁴ The Blumers were another leading commercial family with enterprises throughout Europe who ran a trading house in Ancona. Swiss capital was also invested in a commercial company in Sicily and with a Genoese importer named Ricardi.⁵ As well as these commercial activities, Swiss capital was also attracted into Italian manufacturing, in particular textiles, which at that time formed the most important sector of the Swiss economy and accounted for 70% of Switzerland's total exports around 1840 and 50% of value-added in Swiss industry as late as 1880. This was the sector in which Swiss direct investment in Italy reached its highest proportions during the early period, and within textile investments the most important branch was cotton manufacturing. But throughout this first

³ See in particular: B. VEYRASSAT, *Négociants et Fabricants dans l'Industrie Cotonnière Suisse 1760-1840*, 1982; J. LANDMANN, *Leu and Co*, Zurich 1905, Id. "Der schweizerische Kapitalexport" in *Revue Suisse d'Economie Politique et de Statistique*, (52) 1916; A. JENNY-TRÜMPY *Handel und Industrie des Kantons Glarus*, Glarus, 1898-1900.

⁴ B. VEYRASSAT, *op. cit.* p. 102.

⁵ *Ibid.*, p. 102.

period these investments were quite random and were the work of individual adventurers or families with established interests in the field who were looking for new outlets. It is not possible, therefore, to give any general reasons (for example lower production costs) to explain why Swiss capital was invested in textile production in Italy in this period.

Examples of such investments in this period include the printed textile factory that J. Speich founded at Cornigliano in 1789, which survived until about 1850.⁶ On the 17 September 1816 the Kingdom of Naples banned the import of certain types of cotton fabrics (*balazores*) with the aim of protecting the industry recently founded in the Kingdom by J. J. Egg of Zürich at Piedimonte d'Alife. S. Clough refers to this enterprise and wrote that "cotton plants owned by Swiss and directed by Swiss technicians grew so fast that one company, that of J. J. Egg, had in 1834 five hundred looms in operation and employed 1,300 workers".⁷ Shortly after J. R. Glarner founded a calico factory at Sarno in the 1830s, while K. Blumer also opened a factory at Messina.

However, the capital sums involved in the first phase were modest and the reasons for the investments very varied. There is little indication of Swiss investments in other branches of the Italian economy in this period, and Italy was not a major recipient of Swiss capital — in contrast to France and, albeit to a lesser extent, Britain and Germany.⁸ However, although Swiss investments in Italy before 1850 were concentrated mainly in the cotton industry, the gradual disengagement from French markets during the early XIXth century served to stimulate the flow of investment towards Italy, although conditions in each of

⁶ A. MASNATA, *L'Emigration des Entreprises Suisses*, Lausanne, 1924, p. 18.

⁷ S. CLOUGH *The Economic History of Modern Italy*, New York Columbia University 1964, p. 21.

⁸ A good example of a small enterprise in this period is the Swiss Assurance Company of Livorno which operated in marine insurance between 1820 and 1830 (see H. T. VON NIEPHANS "Die Compagnie d'Assurance Suisse in Livorno" in *Revue Suisse d'Economie Politique et de Statistique* 1976, pp. 87-99.

the Italian states varied greatly on account of the different customs and tariff systems.

b) The Second Period (1860-70 to 1920-30)

It was in the second half of the XIXth century that Swiss investments in Italy grew most rapidly. Although there was some Swiss capital present before 1860 it was in the years between 1870 and 1890 that the flow of Swiss direct and indirect investment in Italy increased most quickly. These were also years that have been described as "the most critical period in the development of the Italian economy."⁹ This was the phase in which Swiss activity in Italy reached its peak, and is therefore the one to which we have devoted most attention, starting with a sectoral analysis of direct investment.

In the previous period textiles provided the principal branch of direct Swiss investment in Italy. These investments increased as a result of the combined effect of protectionist tariffs, lower land and wage costs and labour legislation that was less rigorous than in Switzerland. The lower cost of the factors of production was probably the critical attraction in this period. In the cotton industry, as a result, at the time of the discussions of a new commercial treaty between Italy and Switzerland in 1868 there were already seven Swiss cotton-spinning establishments in Italy with 108,000 spindles and another 10 weaving enterprises that employed 2,050 looms.¹⁰ Customs tariffs were certainly a matter of great concern for contemporaries, and in particular the steep increase in duties that occurred with the new Italian tariffs of 1 March 1888. The Federal Customs Department observed, with reference to the new Italian tariff of 1888, that "exports have fal-

⁹ L. DE ROSA, "Economics and Nationalism in Italy" *Journal of European Economic History*, vol. 11 (1982), no. 3 (winter), p. 556.

¹⁰ *Vorort report*, 1884, 1896.

len as a result of the new tariff regime from 65 to 51 millions, that is by 21%... and three quarters of the 14 millions by which our exports have declined are explained by the effect of the increased duties now in force in Italy'' (a loss of 3.4 million Swiss Francs on cotton fabric and 3.7 million Swiss Francs on cheeses were the two articles worst affected).¹¹

By 1900 there were 46 cotton manufactures in Italy that had been founded by the Swiss, distributed as follows:

28 spinning mills employing	770,000 spindles
13 reeling mills	65,000 spindles
26 weaving mills	15,000 looms
5 cotton printing works employing 40 mechanical printing roller.	¹²

These were equivalent to 50%, 80% and 100% of the plant used in each of these sectors in Switzerland itself at this period. Nonetheless contact with Switzerland declined rapidly, and the Swiss concerns were quickly taken over by Italians either as a result of the formation of public companies or as a result of increased capitalization. By 1922 Masnata was able to trace only 24 of the 46 companies that had been operating in 1900,¹³ and of these 10 were still in Swiss hands (with a total of 200,000 spindles and 4,000 looms). Beck estimated that the Swiss investment in the Italian cotton industry in 1922 amounted to 150 million lire.¹⁴

¹¹ *Statistique du Commerce de la Suisse avec l'Etranger en 1888*, Department Federal des Douanes, Berne 1888.

Total of Swiss exports to Italy (millions of Swiss Francs)

1886	1887	1888	1889	1890	1891
58	65	51	53	51	47

¹² A. MASNATA, *L'Emigration des Industries Suisses*, Lausanne, 1921, p. 19.

¹³ *Ibid.*, p. 20.

¹⁴ F. BECK, *Die Handelsbeziehungen zwischen Italien und der Schweiz*, Weinfelden 1922.

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The geographical distribution of Swiss investment in the Italian cotton industry in 1908 is illustrated in the map below:



Source: Jenny-Trümpy. *op. cit.* p. 670

As can be seen, there was a heavy concentration of Swiss enterprises in Lombardy around Bergamo, Como, and Luino, as well as in the Turin region. Swiss capital was attracted primarily to the traditional heartlands of Italian textile production.

The development of Swiss investments in silk-spinning in Italy provides a very clear indication of the motives that lay behind industrial investment of this sort. The cost of spinning was heavily determined by labour costs, even though the work was performed mainly by women and children, and by the proximity to raw materials. In 1898 the employment of school-age children in Switzerland was prohibited, and Masnata observed that "in the same year one Ticinese spinning works was forced to transfer production to Italy."¹⁵ Similarly a number of Zürich silk companies opened Italian subsidiaries in 1907. A parallel but much weaker tendency also occurred in silk-weaving and Swiss manufacturers looked to benefit from the higher protective tariffs in force in Italy — but in overall terms the capital involved was far less than in the case of silk-spinning.

Table 1
MECHANICAL SILK-WEAVING LOOMS OWNED ABROAD
BY SWISS COMPANIES

	1900	1908	1912
Germany	3,652	5,891	6,802
France	1,145	2,141	2,436
Italy	1,408	1,474	1,445
USA	2,058	3,246	4,529
Swiss looms abroad as a % of total Swiss looms	43.7%	44.4%	51%

Source: Report of the Zurich Chamber of Commerce, 1913.

There do not appear to have been major Swiss investments in silk ribbon weaving or embroidery abroad, and those that did exist were in Austria, France and Germany. The first attempts at

¹⁵ A. MASNATA, *op. cit.*, p. 22.

¹⁶ H. WARTMANN, *Industrie und Handel des Kantons St. Gallen 1867-80*, St. Gallen, 1887, p. 146.

mechanized silk embroidery¹⁶ were made in Switzerland in 1885-8 but did not prove successful. Nor do there appear to have been significant foreign investments in other branches of the textile and clothing industry, although a Swiss straw plaiting manufacture was established in Italy in 1854 to take advantage not only of cheap labour but also the wide range of specialist products made in the region around Florence.

Swiss foreign investment in textiles in this period was concentrated primarily in the cotton industry, as a result of advantageous production costs and the possibility of circumventing Italian import duties.

Investment in the iron and engineering industries provide further typical examples of direct Swiss investment in Italy. The Swiss engineering and machine-making industries had traditionally been directed abroad both in terms of sales and the location of its main centres of production. This strategy of direct foreign investment was one that was followed quite deliberately by Swiss manufacturers who were well aware that developing countries sought to rely on native producers. To break into foreign markets in durable goods, therefore, it was essential to invest directly in those countries. One of the best examples was the Brown-Boveri Company (BBC) of Baden which created a huge network of foreign subsidiaries - at Mannheim in 1898, at Paris in 1902, and at Milan in 1904 where it acquired the Tecnomasio Italiano Brown-Boveri. Virtually every leading Swiss durable goods producer followed a similar strategy in the late XIXth and early XXth century, and in this context, as Masnata noted, "Italy is increasingly favoured as a country in which to open new factories because the disturbed situation in Germany has limited the possibility of expansion in that country."¹⁷ The Dubied Company opened a subsidiary at Milan, for example, and although the trend slowed down during the First World War it did not come to an end: the Sulzer Company opened a

¹⁷ A. MASNATA, *op. cit.*, p. 63.

new factory at Milan in 1916, Escher-Wyss entered into partnership with an existing company at Schio to form the Pretto-Eschwyss Company, and the Gardy company went into business at Turin.

The list is far from exhaustive, and there is unfortunately no comprehensive record of these investments. There were fewer direct Swiss investments in the iron and steel industries, however. A Genevan company opened an ironworks in Turin in 1920, and there is reference to two other Swiss iron and steel foundries in Turin. However, the bulk of Swiss investment in this sector went to Germany and France.

Swiss investments in the food industries followed a pattern similar to investments in engineering. The first of these that comes to mind is of course the chocolate industry, although it was only at the very end of the XIXth century that this began to expand rapidly in Switzerland. Here again the development of foreign markets involved substantial direct investment from Switzerland in the first place. In the case of Italy, the Tobler Company purchased the Michele Talmone chocolate company of Turin in 1905. In 1921 the Italo-Swiss Chocolate Manufacturers' Union was established with its head-quarters at Varese with 5 million lire capital and a management board that included three Swiss citizens. The milk product industry was of course dominated by Nestlé and the Anglo-Swiss Condensed Milk Co, and before 1913 they did not own any factories in Italy when a factory run by the *Società Henri Nestlé* was opened at Abbiategrosso.

The jam and preserves industries only began to take off at the start of the century, but here again the narrowness of the Swiss market meant that many Swiss producers looked to foreign markets and invested in factories abroad. *The Société Générale de Conserves Alimentaires* at Saxon, for example, was a holding company which until 1918 owned the *Cirio Società Generale di Conserve Alimentari* at Naples with factories at Mondragone, Paestum and Taranto. In that year the board reported that "the events that occurred at the start of the year and

the general situation make it imperative that the majority shareholding should now be in indigenous hands."¹⁸ The Wander Co. also owned a factory in Italy.

There seems to have been little direct Swiss investment in the Italian chemical industry, however, and in this sector Swiss capital was attracted mainly to France, Germany, and Russia in order to draw maximum benefit from the legal constraints that applied to these products. The pharmaceutical company Hoffman-la-Roche did open a subsidiary in Milan around 1910.

Paper making and graphics were less important branches for direct Swiss investment, although a Zürich graphics company did have a subsidiary at Como, whilst a Swiss holding company named the *Société pour la Fabrication de la Pâte de Bois* owned factories at Carmignano di Brenta and at Friola.

The hotel industry offers some interesting features, however, and Himmel has shown that Swiss investment in this sector was considerable, reaching 16.5 million Swiss Francs in 1905 and 19.9 in 1913.¹⁹ Unfortunately there is very little information available on this sector, which merits a detailed study in its own right. Nearly all the early hotel companies were based in Lucerne, amongst which was the *Italienisch-schweiz Hotelgesellschaft*.

Another sector that deserves particular attention is the electrical and hydro-electrical industry. Here direct and indirect investment were closely inter-related, but more importantly for the present study this was where Swiss investments in Italy in this period were most heavily concentrated.²⁰ The ways in which Swiss investment developed in this sector are well illustrated by the fortunes of a major electrical 'trust', the *Motor A.G. für angewandte Elektrizität* (which later became the *Motor-Colombus A.G.*). The trust was created in the year after the BBC (Brown-Boveri company) and was a mixed engineering

¹⁸ Cited in *Ibid.*, p. 73.

¹⁹ E. HIMMEL, *Industrielle Kapitalanlagen der Schweiz im Ausland*, Zürich, 1922, p. 132 (the mining industry is also included in these figures).

²⁰ *Ibid.*, pp. 116 ff.

and financial consortium that depended entirely on the BBC. Until 1904-5 the *Motor* company operated exclusively in Switzerland, where it played a leading role in the sector and according to Himmel accounted for most of the 100 million Swiss Francs invested in the industry alone.²¹ Thereafter it quickly adopted a strategy of foreign investment. It was responsible in 1903 for founding the *Società per le Forze Motrici dell'Anza* (in 1903-4 the BBC also set up *Tecnomasio Italiano Brown-Boveri* in Milan). The *Forze Motrici dell'Anza* contributed as follows to the *Motor* companies annual balances:

1903	130 million lire
1904	350 million lire
1905	2,250 million lire
1906	3,000 million lire
1907	5,000 million lire

In 1907 *Motor* acquired an interest in the *Dynamo, Società per le Imprese Elettriche* in Milan, and in 1911 took over the *Forze Idrauliche della Maira* concern. In the same period it also acquired interests in a number of other Italian companies:

- 1912 *Trazione ed Imprese Elettriche* (Milan).
Orobia Elettricità, Gaz ed Acqua (Lecco).
Società Meridionale di Elettricità (Naples).
1913 *Società Italiana de Elettrochimica* (Rome).

By means of a merger, *Motor's* 3,025 lire holding in the *Forze Idrauliche della Maira* company was transformed into a major share in the *Società Riviera di Ponente, Ing. R. Negri*, Genoa and by 1919 *Motor* held 3,375 of the company's total 110 million lire of share capital. But other Swiss companies and private investors also held shares in the company and according to an inquiry conducted by the Swiss Banker's Association the Swiss investment amounted to 17 million lire (15.5%).²²

²¹ *Ibid*, p. 76.

²² Cited in *Ibid*, p. 82.

In 1914 *Motor* also acquired an interest in the Italo-Swiss Finance Company. In 1919 its holdings in the *Società Meridionale di Elettricità* were increased from 0.5 to 4.89 million lire when the company's capital was raised from 50 to 80 million Lire. By that time total Swiss investment in the company constituted a majority holding and amounted to 50.3 million Lire.²³ The other Swiss companies with shares included:

Electrobank

Société Franco-Suisse pour l'Energie Electrique

Société Financière Italo-Suisse

These four companies, together with *Motor*, also held important shares in a number of other Italian electrical industries including:

Società Generale per l'Illuminazione.

Società per l'Applicazione dell'Energia Elettrica a Torre Annunziata.

Société des Chemins de Fer Circumvesuviens.

Compagnie Napolitaine d'Eclairage et de Chauffage par le Gaz.

Società Italiana Elettrochimica di Roma.

The activities of the *Motor* trust and a number of other Swiss companies illustrate two important features of Swiss investment in Italy in this period: a high level of concentration in particular industries and in a relatively circumscribed geographical area. As Himmel noted Naples was one of the strongest foreign footholds for Swiss investors and entrepreneurs, and the fact that 25 million of the 30 million lire raised to increase the capital of the *Società Meridionale di Elettricità* from 50 to 80 millions²⁴ was subscribed from Switzerland illustrated that Swiss investors were determined to preserve their dominant position in certain sectors.

Geographical and sectoral concentration were the twin fea-

²³ *Ibid.*, p. 76.

²⁴ *ibid.*, p. 78.

tures of Swiss investment in Italy in this period, and it is possible to identify three geographical 'poles':

- the area around Naples;
- Upper Italy (Anza, Maira, Cairasca, Orobia) and Milan;
- the Genoese Riviera and Liguria.

In more general terms, the activities of the *Motor* trust and the BBC illustrate that Swiss investment strategy was dictated by the desire to penetrate and exploit Italian markets that seemed to be expanding fast.

It was also in the 1890s that the development of Swiss holding companies with foreign subsidiaries began to take on a new importance.²⁵ Stauffacher's study of 49 finance companies with foreign investments confirms the importance of the hydro-electric industry,²⁶ and there was no comparable concentration in other sectors. Except for 'classic' sectors like gas and transportation, majority and minority share-holdings were spread more widely, and included, for example, investments in the timber industry and a Bauxite Trust (*Società Anonima per lo scavo e l'Industria di Minerali d'Alluminio, Trieste*).

In these other sectors the motives for direct investment were also different. Whereas the Swiss adventurers who operated in Italy in the earlier period had been drawn by tariff advantages and lower production costs, in the second period it was the opportunities offered by the prospects of an expanding national market that drew Swiss financiers and industrialists to make infrastructural investments in Italy.

Virtually nothing is known, however, when it comes to the scale of indirect investment by Swiss citizens in Italy in this period, and the lack of data down to the present makes it impossible to make any accurate estimates of their size. In order to give some impression of the nature and scale of these investments, however, Table 2 lists the Italian government stock and

²⁵ J. TOGGWEILER, *Die Holding Company in der Schweiz* Bern 1926.

²⁶ W. STAUFFACHER, *Der schweizer Kapitalexpert* Glaris, 1929.

Table 2
 ITALIAN LOANS AND SHARES ISSUED ON THE SWISS MARKET (1901-1928)
 (in millions of Lire at constant 1913 price levels)

	Transport		Banks		Industry		Public Loans		Electricity and Gas		Total	
	a	b	a	b	a	b	a	b	a	b	a	b
1901-1905	2	235	4	74	1	10	1	189	—	—	8	508
1906-1910	1	4	3	69	1	3	—	—	4	18	9	94
1911-1915	—	—	1	26	1	5	—	—	2	8	4	39
1916-1920	—	—	10	134	7	9	—	—	3	8	20	151
1921-1925	2	29	6	107	7	84	1	182	8	80	24	482
1926-1928	—	—	—	—	—	—	—	—	3	28	3	28
Total	5	268	24	410	17	111	2	371	20	142	68	1302

a: number of issues; b: amount (millions of Lire - 1913).

Source: STAUFFACHER W. *op. cit.*, p. 245 (27).

company shares issued in Switzerland between 1901 and 1928:

These figures must be treated with great care, since these issues were not necessarily all taken up only in Switzerland. Certain patterns do emerge quite clearly, however, and the investments in banking and in the electrical industry are particularly notable, while it would appear that private Swiss indirect investment in Italy reached its peak between 1921 and 1925.

c) Aggregate Swiss Investment in Italy

The final section of this paper will be devoted to a quantitative estimate of direct and indirect Swiss investment in Italy. There are no available estimates on which to base this calculation, and we have attempted only a very general estimate. There are also major problems surrounding the estimates of total Swiss foreign investment. The most recent calculations are those of P. Bairoch,²⁸ who has used two sets of data: industrial investment abroad and receipts from capital abroad remitted back to Switzerland. This produces a figure of between 11 and 17 milliard Swiss Francs placed abroad in 1913-14, which in turn represents the highest per capita level of foreign investment in the whole of Europe at this time:

Table 3
FOREIGN INVESTMENT PER CAPITA (\$) IN 1913

Switzerland	(700) ²⁹	France	230
UK	440	Sweden	180
Netherlands	320	Germany	70
Belgium	(250) ²⁹	USA	40

At the same time Swiss overseas investment was in absolute terms still quite modest.

²⁷ *Credit Suisse* guide to the Zürich-Basle-Geneva stock exchanges: *Société de Banque Suisse* "leading Swiss stock-Market quotations."

²⁸ P. BAIROCH, *Commerce Extérieur et Développement Economique de l'Europe au XIXe siècle* 1976, p. 101.

²⁹ "Highly approximative figures": see P. BAIROCH, *op. cit.*, p. 278.

Table 4
GROSS FOREIGN INVESTMENT IN 1913
(in milliards of dollars, current prices)

UK	20.3
France	9
Germany	4.7
Netherlands	1.2
Switzerland	-3.3
Europe	40
USA	3.5
World	44

Source: P. BAIROCH, *Commerce Extérieur et Développement Economique de l'Europe au XIXe siècle*, Mouton 1976, p. 101.

How important were Swiss investments in Italy in this wider context? On the basis of the available sources we shall attempt to make an estimate for 1913, but it is worth first considering the partial estimate made by Himmel:

Table 5
ESTIMATES OF TOTAL SWISS INVESTMENTS IN ITALY
(in milliards of Swiss Francs)

	1912	1913	1914
Machine-building	1,400	1,500	2,000
Electrotechnical	3,700	3,900	3,400
Chemical	—	—	300
Silk	4,900	4,900	4,900
Chocolate	2,000	2,000	2,300
Hotels and building	19,600	19,600	20,000
Others	900	900	900
Total	23,800	24,100	33,800
Electrical Trusts	106,600	126,800	134,300
Total 2	130,400	150,900	168,100

Source: HIMMEL, *op. cit.*, pp. 116 ff.

Himmel's results have to be adjusted, however, since they were drawn from a very small sample, and considerably underestimate³⁰ the total Swiss industrial investment which we would put at 177 million Swiss Francs. Investment in the textile industry must also be added to that figure. Taking the number of spindles employed in cotton-spinning as a base³¹ Swiss investment should have been about 120 million Swiss Francs, suggesting a total investment in the sector of about 150 million.³² Total Swiss industrial investment in Italy would have then amounted to about 327 million Swiss Francs. Industrial investments in Europe at this time generally averaged between 7% and 12% of total investment,³³ but given Switzerland's situation as a 'small economy' it is likely that its industrial investments in Italy were around or above the higher percentage.³⁴ This would give a bracket of 1.6 to 2.7 milliards of Swiss Francs as a rough estimate of the total Swiss capital invested in Italy in 1913. If Switzerland's total gross capital stock abroad was 14 milliard Swiss Francs, then gross capital investment in Italy represented between 11% and 19% of total Swiss foreign investment.

This is obviously a highly approximative estimate and one that must be used cautiously. It does indicate, however, that Swiss investment in Italy in the 1870s and 1880s was considerable. The reasons for this lay in the combination of improved

³⁰ We have increased Himmel's estimates by 50%, following P. BAIROCH's example (*op. cit.* p. 278), except in the case of the electrical trusts where his estimates seem accurate (for triennial averages).

³¹ We have worked from an average investment of 70 Swiss Francs per spindle, and a total of 1,760,000 spindles. See P. BAIROCH, *op. cit.*, p. 278.

³² F. BECK (*op. cit.*) estimated that 150 million Lire (or 300 million Swiss Francs) were invested in cotton in 1922.

³³ P. BAIROCH, *op. cit.*, p. 108.

³⁴ We have calculated industrial investment as a minimum of 12% and a maximum of 20% of total investment in Italy.

Other sources not cited:

J.-F. BERGIER, *Naissance et Croissance de la Suisse Industrielle*, Berne 1974.

J. HEER, *Reflet du Monde 1866-1966: Presence de Nestlé*, Lausanne 1966.

E. KELLENBERGER, *Kapital Export und Zahlungsbilanz*, Berne, 1931.

communications (the San Gothard line was opened in 1882), the expectations of expansion placed in the Italian market, the lower costs of the factors of production in Italy, the benefits of 'on site' production after the introduction of tariff protection in Italy, as well as the particular constraints that faced a 'small economy' like the Swiss. All these encouraged Swiss investors to look to their closest neighbours for investment opportunities, and hence to Italy. The scale of the investments seems to have reflected real opportunities, and in this sense Italy acted as a valuable partner for the Swiss economy.

Geneve, 1984