

The Gotthard railway and international capital — overview and summary

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When a Zurich bank today arranges a syndicated loan for a foreign infrastructure project, when a Swiss law firm drafts an intercreditor agreement for lenders from three jurisdictions or when a federal fund finances a base tunnel under the Alps, the participants work within patterns that were first tried out on a large scale between 1863 and 1882. In those two decades a private joint-stock company seated in Lucerne, chaired and steered from Zurich, built a railway across the central Alps with money raised in Berlin, Milan, Turin, Frankfurt, Basel and Zurich, supported by subsidies that three sovereign states had fixed in an international treaty. The Gotthard railway was the most ambitious Swiss transport project of the nineteenth century and the first transaction in which the Zurich financial community organised capital on a genuinely international scale. It also produced the first great international financial crisis in which Zurich bankers, Swiss federal politicians and foreign governments had to renegotiate a failing project together.

This chapter reads the Gotthard project as a finance transaction. It begins with the long rivalry between competing Alpine routes, in which the Lukmanier, the Splügen and the Gotthard each had their champions, and with the diplomatic work that brought Italy and the German states to commit public money to a railway on Swiss territory. It then describes the treaty of 15 October 1869 and the accession of the German Empire in 1871, the foundation of the Gotthardbahn-Gesellschaft in December 1871 and the capital structure that combined state subsidies, share capital and bonds placed through a three-nation banking consortium. The construction of the tunnel under Louis Favre's contract of 1872, the human cost of the works and the strike at Göschenen in 1875 form the next part. The central sections deal with the cost overrun disclosed in 1876, the refinancing negotiated at the Lucerne conference of 1877 and in the supplementary treaty of 1878, and the fall of Alfred Escher. The chapter closes with the

opening of 1882, the profitable decades of private operation, the nationalisation of 1909 and the controversy over the Gotthard treaty of that year, and a brief comparison with the Gotthard base tunnel opened in 2016.

The historian sees in the Gotthard a story of vision, overconfidence and rescue, in which the most powerful Swiss businessman of his age lost his position because the engineers' figures had been wrong. The lawyer sees a pioneering structure: an international treaty that fixed subsidies, set maximum tariffs and reserved Swiss neutrality, layered on top of a private company whose financing depended on that treaty. The practitioner recognises something older than the vocabulary used to describe it. The Gotthard was a project finance transaction *avant la lettre*, with sponsors, public grantors, a construction contractor bound by penalty clauses, a lenders' syndicate and a completion risk that nobody had priced correctly. Zurich learnt from it how to assemble such transactions and how painful it is when they fail.

1 Conclusion

The Gotthard railway was Zurich's first large international finance transaction. It was prepared by a decade of regional rivalry and diplomatic negotiation, in which Escher's switch from the Lukmanier to the Gotthard and the support of Italy and the German states proved decisive. The treaty of 15 October 1869, to which Germany acceded in 1871, fixed subsidies of 85 million francs and created a system of international supervision and tariff control. The Gotthardbahn-Gesellschaft, founded in Lucerne in December 1871 and led by Escher, raised a further 102 million francs through a consortium of German, Italian and Swiss banks in which the Kreditanstalt led the Swiss group.

The construction of the summit tunnel under Favre's fixed-price contract exposed the weaknesses of the structure. Unexpected geology, the redesign of the ramps and optimistic estimates led to an overrun of about 102 million francs, revealed in 1876. The strike of Göschenen in 1875 and the deaths of at least 177 workers in the tunnel showed the human cost of the pressure that the financing placed on the works. The refinancing agreed at the Lucerne conference of 1877 and in the supplementary treaty of 1878 combined 28 million francs of additional subsidies with 12 million francs of private money and a reduction of the programme. The federal subsidy of 4.5 million francs, approved by the people in 1879, marked the first step of the Confederation into railway finance. Escher paid for the crisis with his position and, for a long time, with his reputation.

The line that opened in 1882 was a commercial success. It paid dividends of around 7 per cent, reshaped the economic geography of Switzerland and connected Zurich with Milan. Its nationalisation in 1909 and the Gotthard treaty of the same year showed that the public subsidies of 1869 had created foreign claims that outlived the private company and had to be bought out with tariff concessions. The ensuing controversy led to the treaty referendum of 1921, which is still part of the Swiss constitution. The comparison with the base tunnel of 2016, financed through a public fund approved by the people, shows how Switzerland has learnt to absorb the risks of Alpine tunnelling without the crises of the 1870s.

For the financial centre, the Gotthard remains a founding story. It taught Zurich how to organise international syndicates, how to negotiate with foreign governments and banks, and how to restructure a failing project. It also taught the limits of personal power in finance and the importance of political legitimacy for transactions involving public money. These lessons remain relevant for the Zurich banks, law firms and advisers who arrange international infrastructure financings today.

2 In five sentences

1. The Gotthard railway, promoted by Alfred Escher after Zurich abandoned the Lukmanier project in the early 1860s, was financed through the treaty of 15 October 1869, which fixed subsidies of 85 million francs from Italy, Germany and Switzerland, and through 102 million francs of private capital raised by a German, Italian and Swiss banking consortium in which the Kreditanstalt led the Swiss group.
2. The construction of the 15-kilometre summit tunnel under Louis Favre's fixed-price contract of 1872 cost at least 177 lives, provoked the strike of Göschenen in 1875 and ended in the bankruptcy of the contractor's family after his death in 1879.
3. The overrun of about 102 million francs revealed in 1876 forced a refinancing at the Lucerne conference of 1877 and in the supplementary treaty of 1878, with 28 million francs of additional state subsidies, 12 million francs of private money and a reduced building programme. The crisis cost Escher his presidency of the company in 1878.
4. The line was a commercial success after its opening in 1882. Its nationalisation in 1909 required a new Gotthard treaty whose tariff concessions to Germany and Italy provoked a national controversy and led to the treaty referendum of 1921.

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5. As Zurich's first large international finance transaction, the Gotthard taught the financial centre the techniques of syndication, restructuring and public-private risk sharing that still underlie modern infrastructure finance, a lesson that the entirely publicly financed base tunnel of 2016 confirms from the opposite side.

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