The Ambaca railway in Angola: history of a failed public-private partnership (1885-1914 and briefly onwards)*

● Hugo Silveira Pereira
CIUHCT – Interuniversity Research Centre for the History of Science and Technology (University NOVA of Lisbon) and Institute of Railway Studies (University of York)

Introduction: aims and scope

The Ambaca railway was one of Portugal's first undertakings in its colonial territories in Africa. To build and operate it, the Portuguese government relied on a public-private partnership with British investors, similarly to other lines operated on the mainland. The deal should have benefitted the parties involved, but it soon became a source of problems for all. In this paper, I will analyse this railway line as a case study of the relationship between state and private initiatives in the specific context of the colonization of Africa.

The inception of the Ambaca line can be traced back to the early 1850s, when Portugal initiated an ambitious public works programme, based on the Saint-Simonianist ideas of circulation, industrialisation and progress, where railways played a decisive role.[1] From the late 1870s onwards, that agenda was transferred to the Portuguese overseas colonies in Africa and Asia.[2] The Ambaca railway was one of the first Portuguese investments in Africa.

The line's history is well known, since the seminal article of Guimarães and especially since the doctoral dissertation of Navarro. Both provide the bulk of qualitative information about the Ambaca line mentioned in this paper. The railway project had been thought about since the 1840s, as a tool to exploit the resources of the Angolan hinterland and to ascertain Portuguese

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1. Saraiva (2007), pp. 264-266.
2. Alexandre and Dias (1998), pp. 156-159.

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presence in Angola. Up until the 1870s some proposals for its construction presented by different entrepreneurs were accepted with no practical consequences. In 1885, the Portuguese minister of *Marinha e Ultramar* [Colonies], Mr Pinheiro Chagas, pressured by the outcomings of the Berlin Conference (which to a large extent were unfavourable to the Portuguese presence in Africa), hired Portuguese businessman Alexandre Peres to build and operate the line between Luanda and Ambaca. The contract stipulated that a private company founded by Mr Peres could operate the line for 99 years, benefiting from a guarantee of yield of 6% from the state. In 1886, Mr Peres and his associates created the *Companhia Real dos Caminhos de Ferro Através de África* [Royal Company of Railways Across Africa], and found financial support in Portugal, the Netherlands, and mainly in Britain,[3] and began the construction. The deadline was four years, but it took almost thirteen before the railway could be inaugurated in its full extension in 1899. The construction cost more than anticipated, and operation revenues fell far short of expectations. Consequently, the company struggled with financial difficulties. The spectre of default and British investors foreclosing on the line (thus depriving Portugal of a crucial empire-building tool in a highly disputed region) was constantly present. To prevent this, successive Portuguese governments (encompassing three different regimes: monarchy until 1910, republic until 1926, and then dictatorship) granted different kinds of support to the company, which blamed the government for its dire financial situation. Conflict escalated until the company was nationalized and liquidated in 1938. In Angola, the impact of the railway on the economy was barely relevant.[4]

In this paper, I build upon this knowledge and add quantitative data (operational statistics, financing, state aid, and debt) to the history of the Ambaca railway. I also consider the evolution of the Portuguese financial system and the diplomatic context of the European presence in Africa. I focus on the period between 1886 and 1914, when the Royal Company created a financial situation that became unsustainable with the war and the currency devaluation of the 1920s. Also, for this period, sources are available and abundant, but they become scarcer and discontinuous from the war years onwards.

I will illustrate the evolution of the partnership, and how the state was called upon to cover the losses of private initiative. It is not my intention to conduct an historical trial to determine who in this process was right and who was wrong; my goal is to understand more clearly the contours of the public-private partnership of Ambaca from a business history perspective, and to

3. Biblioteca do Banco de Portugal, *Relatório do Conselho d'Administração e Parecer do Conselho Fiscal da Companhia dos Caminhos de Ferro Atravez d'Africa* [henceforth, Royal Company Annual Report], 1918-1919, p. 45.

4. Guimarães (1983). Navarro (2018), pp. 257-313.

add to the debate about the relationship between government and private enterprise in the specific context of the scramble for Africa and the New Imperialism of the late nineteenth and early twentieth centuries.[5]

Overview of public-private partnerships in the railway sector in Europe and Portugal in the second half of the nineteenth century

Different nations of Continental Europe (France, Belgium, Spain, Sweden, Denmark, Norway) followed the Saint-Simonianist belief that the state, advised by a technocratic elite, should play a substantial role in the construction and operation of capital-intensive infrastructures, like railway networks.[6] From the very first moment, statesmen from those countries understood that governmental intervention/regulation at different levels was indispensable to amending the limitations and disadvantages of natural monopolies, such as those in the railway sector.[7]

When it came to the construction and operation of railways, state intervention could take on two forms: direct administration (the state was more intrusive and its engineers took the responsibility of laying down and managing the lines); or strategic partnerships with private companies that built and/or operated the railroads, under a set of guidelines and benefiting from a diversified array of incentives (more in line with the liberal ideology of the epoch, private enterprises took the leading role).[8]

In the latter case, an *intuitu personae* (literally, "because of the person") concession contract was usually signed. By this agreement, the state granted a private firm, during a predetermined period, an infrastructure that belonged to public domain.[9] The private entity could operate that infrastructure seeking profit. Additionally, it could benefit from a public contribution if it was considered that the net revenues were not enough to pay the investment.[10] Usually, that contribution took the form of a guarantee of yield, which could be highly beneficial or highly damaging to the Treasury, depending on the net

5. The period of colonial expansion during the late nineteenth and early twentieth centuries, characterized by heavy investment in science and technology and the self-imposition of civilizing missions in Africa and Asia. Headrick (1981). Pakenham (2003).

6. Gramlich (1994), p. 1177.

7. Through contracts, taxes, fares, financial intervention (raising capital through state loans or taxes), supervision or operational support (sundry allowances, fiscal exemptions, guarantees of yield). See: Andersson-Skog (2000), pp. 30, 34-35 and 37. Cuéllar (2018), p. 557. Ortúñez (2015), p. 130.

8. Justino (2016), p. 32. Ortúñez (2009), pp. 142-143. Ortúñez (2014), p. 109. Ortúñez (2015), pp. 134-135.

9. Barjot (2011), p. 784.

10. Baldwin and Cave (1999), pp. 165-166. Numa (2009), pp. 107, 121 and 125. Ortúñez (2014), p. 108. Ortúñez (2016a), p. 89.

profit of the operation.[11] Often, this association between private and public interests was sealed with the inclusion of distinguished politicians on the boards of the leasing companies.[12]

These partnerships aimed to harmonize the social function (public service) of railway transportation with the remuneration of private equities.[13] Many considered them to be more efficient in economic terms, as they promoted the long-term vision of capitalist enterprise rather than the short-term vision of political and partisan disputes, and they allowed states with limited resources to build large technical systems at a lower price.[14] Supposedly, the long term of the concessions (usually 99 years) gave several advantages to the enterprise: (1) lessees could raise the capital more easily and they could plan the work more thoroughly; (2) risk was more equitably divided; (3) the final cost was lower; (4) there were broader stimuli to innovation and to fulfil the terms of the contract more rapidly, and (5) the overall service was more competitive and efficient. Additionally, the state, as owner of the infrastructure, defined a set of guidelines that favoured the quality of the service, managerial transparency and macroeconomic equilibrium.[15] However, the interests and agendas of private and public partners seldom are convergent. Furthermore, it is virtually impossible to anticipate every contingency that might compel one of the parties to fail the terms of the arrangement. In summary, often the symbiotic relationship provided, in theory, by public-private partnerships escalates to severe conflicts between the parties involved.[16]

Portuguese technocrats, engaged with Saint-Simonianist ideals since the 1820s, also favoured state intervention in the railway sector. Similarly to what happened in Europe, in Portugal such involvement took the form of public-private partnerships, as the state lacked the financial resources to build and operate railways. State engineers at the ministry of *Obras Públicas* [Public Works] surveyed the territory, seeking the best railway route; they assessed the proposals presented by investors interested in building railways in Portuguese territories; they presided over the public tenders and wrote the terms of the concession contracts; during construction, they supervised the work of the contractors, making sure they followed the specifications of the concession contracts, a task

11. Numa (2009), pp. 110-112.
12. Cuéllar (2018), pp. 530 and 538.
13. Barjot (2011), pp. 782 and 784-785. Bel (2011), p. 694. Numa (2009), p. 105. Ortúñez (2015), p. 130.
14. Public-private partnerships of the 1990s shared the same expectations. See Riess (2005), p. 11 and Marques (2018), p. 212.
15. Baldwin and Cave (1999), pp. 34-62 and 257-285. Barjot (2009), pp. 21 and 24. Marques (2018), pp. 211-212. Numa (2009), pp. 107, 114, 119, 121, 123 and 125. Ortúñez (2015), p. 136. Riess (2005), pp. 12 and 14.
16. Baldwin and Cave (1999), pp. 34-62 and 257-285. Marques (2018), p. 212. Numa (2009), p. 106. Ortúñez (2015), pp. 130 and 139. Ortúñez (2016a), p. 96.

that was resumed during the operation of the lines; some took executive roles in the boards of private companies.[17]

Intimately associated with the ministry of Public Works, was the ministry of *Fazenda* [Finance] that often allocated its resources (either directly through taxes or indirectly through loans) to support private railway companies (with subsidies to construction, guarantees of yield or by taking part of share capital). Until the late 1870s, different governments preferred to subsidize construction (through allowances that roughly covered half the costs), which left companies financially vulnerable during operation, especially in areas of low traffic. From 1881 onwards, entrepreneurs demanded guarantees of yield to build and operate railways in the Portuguese territories. Before Ambaca, the Treasury guaranteed a yield to the companies operating the Western, Beira Baixa, Tua, and Viseu lines (on the mainland), and the Mormugão railway (in Goa, India).[18]

The general railway law of 31 December 1864 assured that the railway was considered public domain and could not be sold or foreclosed to any private entity. Usually, this guarantee was also included in the concession contract.[19]

Gradually, the idea that there should also be a public railway sector (built by the state or nationalized from private companies) gathered supporters. It was understood that a state railway sector would promote public service rather than profit; therefore, it could defend the national interest more efficiently. In the late 1860s, the Portuguese government nationalized the southern and south-eastern lines in the province of Alentejo from its British concessionaire, the South Eastern of Portugal Railway Company. A few years later, the government decided to build two additional lines in the northern provinces (the Minho and Douro railroads). Both sectors (state-owned and private with significant intervention of the state) coexisted until the end of the nineteenth century and into the first decades of the twentieth century.[20]

The Ambaca line was also the subject of a public-private partnership, within the model described previously. Considering the anticipated costs, construction by the state was unadvisable. On the other hand, the involvement of the state was required to attract investors through a guarantee of yield and given the specific nature of the line: a colonial railway, a tool of empire and territorial appropriation, traversing a disputed territory in Angola, in the aftermath of the Berlin Conference. Purportedly, state and the Royal Company engaged in a symbiotic partnership: the government guaranteed the firm remuneration on its investment and in return equipped the colony of An-

17. Pinheiro (2008), pp. 161-180.
18. Alegria (1990), pp. 310-326. Kerr and Pereira (2012), pp. 176-177.
19. Pereira (2018a), p. 210.
20. Pinheiro (2008), pp. 125-126.

gola with a powerful tool for development, modernity and political legitimation. The engagement was clinched with the inclusion of members of the ruling *Partido Regenerador* [Regeneration Party] in the administration of the Royal Company.

Financing construction

The guarantee of yield provided by the state was calculated over an estimate of the construction cost, set at 19.99 contos/km.[21]To bring budgets down, engineers suggested the use of narrow gauge, a technical solution to build railways economically.[22] The calculation of the guarantee of yield took into consideration three additional clauses, including gross revenue and expenses (in contos/km):

- if: gross revenue ≤ 2 => expenses = 1.2
- if: 2 < gross revenue ≤ 2.5 => expenses = 60% × gross revenue (max. 1.375)
- if: gross revenue > 2.5 => expenses = 55% × gross revenue

Additionally, the government also agreed to cover net losses, as claimed by the Royal Company, so that (values in contos/km):

- if: net profit < 6% × => guarantee = 6% × 19.99 – net profit
- if: gross revenue < expenditure => guarantee = expenditure – gross revenue[23]

In short, the Portuguese state granted the firm two different subsidies, a complement of net profit and a complement of gross revenue. In theory, the company would enjoy an unburdened life: the government covered any losses and guaranteed a 6% net profit. In return, the state was entitled to an array of regulatory powers that assured that the public interest was not neglected: state engineers supervised construction and operations (including the

21. According to Mata (1993), 1 conto (1,000,000 réis) equals £222.222. Until 1890, this exchange rate was stable due to the inclusion of the Portuguese financial system in the gold standard. In 1891, a severe economic and financial crisis led to the exclusion of Portuguese currency from the gold standard and to its devaluation. See Mata (1991). Santos (2001). Exchange rates from 1891 onwards are available at the *Banco de Portugal* [Bank of Portugal] website: www.bportugal.pt/EstatisticasWeb (table 3, appendix).

22. On the mainland, broad-gauge lines cost between 30 and 64 contos/km, whereas narrow-gauge tracks costed between 17 and 22 contos/km. Surveys in Angola estimated a cost of between 14 and 16 contos/km. The final estimate for the Ambaca railway met those figures halfway. See Pereira (2012), p. 109 and annexes 18 and 21. Pereira and Navarro (2018), pp. 357-359.

23. The original contract may be found in Portugal (1908), vol. 1, pp. 129-146.

number of trains per day and their minimum and maximum speeds); the company and the Treasury shared net profits over 8%; the company supplied services to state departments free of charge or at reduced prices; the government set maximum prices for fares.[24]

To raise capital the company issued stocks and mainly bonds.[25] Share capital was divided into 40,000 titles of £20 each, or a grand total of £800,000 (3,600 contos). However, only 77% of the shares (totalling £616,000 or 2,772 contos, see table 6, appendix) were subscribed, through a subsidiary firm of the Royal Company, the *Sociedade Construtora do Caminho de Ferro de Ambaca* [Building Society of the Ambaca Railway].

Debenture capital had no nominal limit, but debt service could not exceed £266.53/km (1.199 contos/km).[26] Overall, the company issued loan stock worth £1,890,000 (8,505 contos), divided into 94,500 titles of £20 each and an interest rate of 5%, or a debt service of £259.61/km (1.168 contos/km). To issue the bonds, the Royal Company hired the services of Tadeusz Oksza-Orzechowski, the self-styled 'Count' Oksza,[27] who signed a trustee contract with a British group (led by Gabriel Goldney, a British banker and politician),[28] who was responsible for liberating the money and charging the 5% interest. By 1899, the company had issued 94,500 bonds at 73% of its face value, in Amsterdam, Lisbon and Porto, but mostly in London.[29]

In short, the Royal Company had 8,930.25 contos to build the line: 2,721.6 from share capital and 6,208.65 from debenture capital, or 24.53 contos/km.

The terms of the loan were not uncommon. However, there was one detail in the trustee agreement that could raise serious legal and diplomatic disputes: the contract stipulated that the railway itself would serve as collateral in case of default. This was common procedure for British railway companies (mortgage bonds), but completely illegal according to the Portuguese law that, besides not recognising the figure of mortgage bonds,[30] considered railways as part of the public domain that could not be alienated by the govern-

24. On the importance of railway fares as a regulating instrument, see: Ortúñez (2009), p. 145.

25. A common practice in European railway companies. Considering that bondholders could not vote in the general assemblies, the promoters could finance the enterprise without losing control of the company. However, in the long term, the company was more liable to financial problems. See Caron (1997-2005), vol. 2, p. 37. Nadal (1982), pp. 39-41. Ortúñez (2014), p. 108. Ortúñez (2016a), p. 92. Pereira (2012), p. 372.

26. The equivalent to the value guaranteed by the state (6% of 19.99 contos), for a total extension of 364 km.

27. Born in 1838 in Busha (Ukraine), 'Count' Oksza was a medical doctor by training and a diplomat by heart, with contacts all over Europe (from the Sublime Port to Portugal, including Austria, Poland, Rome, Spain and France). According to one of his contacts, "He led one of those mysterious lives that were better left in the shade than to be brought to the light of day". He died, almost completely ruined, in 1902. Kieniewicz (1979).

28. *The Railway Times* (henceforth RT), 52-24-2605 (10 December 1887), p. 770.

29. *Royal Company Annual Report*, 1918-1919, p. 45.

30. Portugal (1899), pp. 12-20. Portugal (1912a), pp. 69-73. Portugal (1913), p. 23.

ment under any circumstance. In other words, by this condition the company would give as a warranty a property it did not own. Nonetheless, the contract was signed and sanctioned by the Portuguese consul in London, Mr Anselmo Ferreira Pinto Basto.

If the company paid the interests due to the bondholders, there would be no cause for concern, and apparently the guarantee of yield granted by the state was enough: annually, it was equal to 6% of 19.99 contos/km; if the extension of the line was 364 km, the guarantee would come to 436.58 contos/year, enough to cover the interest due to the bondholders (5% of 8,505 contos or 425.5 contos/year). The stockholders, that is, the Building Society, would barely receive any dividend (11.33 contos or 0.41% return rate). In any case, the Building Society's profit lay elsewhere, in the construction itself, and its mission was just to function as a subsidiary of the Royal Company.

In summary, it all depended on the construction costs and operational expenses. If the cost of construction was under 24.53 contos/km and expenses fell within the intervals determined in the leasing contract (see above), the guarantee of yield would be enough. If net profit exceeded 6%, the stockholders could even gain.

The dark contours of a public-private partnership, or Murphy's law applied

Considering the abovementioned circumstances, the success of the partnership seemed probable. However, all the things that could go wrong in the Ambaca railway did go wrong: construction cost was greater than anticipated and operational revenues fell far short of expectations, a very common situation in public works and public-private partnerships.[31] Furthermore, the exchange rate of the Portuguese currency dropped after the 1891 financial crisis, which meant that the guarantee of yield (paid in réis) gradually covered a smaller percentage of the interest due (paid to the bondholders in pounds sterling). The perfect storm that was brought about by these events tested the limits of the relationship between state and private interests in the railway sector.

Higher construction costs

Despite the willingness of the government to aid the construction process (by rapidly approving the construction projects, extending several legal deadlines, protecting the construction site from attacks from native peoples, or paying the guarantee of yield in advance, against the better judgement of the

31. Broder (2012), p. 35. Pereira (2012), p. 279-297. Riess (2005), p. 29.

general-director of the colonies),[32] the works proceeded very sluggishly, due to the natural obstacles of the terrain (thick vegetation, tropical climate), difficulties in hiring workers and transporting them (and the building materials) to the construction sites, and a lack of water and food in some disease-ridden areas. Additionally, a legal dispute between the Building Society and its subcontractor led to the termination of the construction agreement in 1890. Two years after works began, only 45 km of track were laid down; in 1891, when the line should have been inaugurated, its mileage was only half of what was contracted; in 1899, eight years after the deadline, the full extension of the line to Ambaca was finally inaugurated (Table 1). Besides the delay, the quality of the tracklaying was also poor, which had future consequences on the operation.

TABLE 1 ▪ *Stations on the Ambaca and Malange lines. Grey areas show stations in the Cazengo region*

Station	Altitude (m above sea level)	Distances (km)		Opening
		From km 0	Between stations	
Luanda	3.2	0.0	–	1 January 1889
Cidade Alta	36.9	3.7	3.7	
Cacuaco	3.8	20.2	16.6	
Quifandongo	6.4	28.3	8.0	
Funda	11.2	45.8	17.5	
km 60	16.4	60.0	14.2	
Cabiri	19.3	69.5	9.5	1 February 1890
Catete	41.5	95.8	26.3	
km 100	15.4	100.0	4.2	
Cunga	17.0	117.0	17.0	28 December 1890
Cassoneca	42.5	140.0	23.0	
Barraca	153.5	158.7	18.7	18 April 1891
Calunguembo	129.0	180.0	21.3	

(Continued on next page)

32. Some of the projects presented by the company's engineers were considered very incomplete by the advisory board of the ministry of Public Works, which did not prevent the government from approving them. Arquivo Histórico da Economia, Conselho de Obras Públicas e Minas, boxes 32 (1887), 33 (1887), 34 (1888), 36 (1891), 37 (1891-1892), 40 (1893-1894), and 43 (1895), several reports.

Station	Altitude (m above sea level)	Distances (km)		Opening
		From km 0	Between stations	
Zenza do Itombe	69.4	190.0	10.0	17 April 1892
Cassoalala	34.9	219.7	29.7	
Oeiras	41.8	228.1	8.4	25 June 1893
km 240	138.6	240.0	11.9	
Tala Quizanga	329.7	253.3	13.3	23 November 1893
km 260	231.5	260.0	6.7	
Luinha	209.3	261.4	1.4	29 July 1894
km 280	284.5	280.0	18.6	
Canhoca	321.5	287.2	7.2	28 September 1894
Queta	489.0	299.6	12.4	9 June 1895
km 308	–	308.0	8.5	7 June 1896
N'dale Tanda	–	321.0	13.0	18 November 1898
Camoma	–	337.0	16.0	23 January 1899
km 340	–	340.0	3.0	
Ambaca	–	354.0	15.0	8 June 1899
km 360	–	360.0	5.0	27 July 1899
Lucala	690.5	364.0	4.0	8 September 1899
Quizenga	802.6	394.9	36.7	8 September 1907
Cacuso	1,064.2	431.6	16.7	
Matete	1,087.1	448.3	31.3	
Lombe	1,088.6	479.6	23.8	1 September 1908
Malange	1,162.5	503.4	–	

Source: Arquivo Histórico Ultramarino (henceforth AHU), items 299-1H, 301-1H, 927-1N, 2564-1B, 2565-1B, 2756-1B.

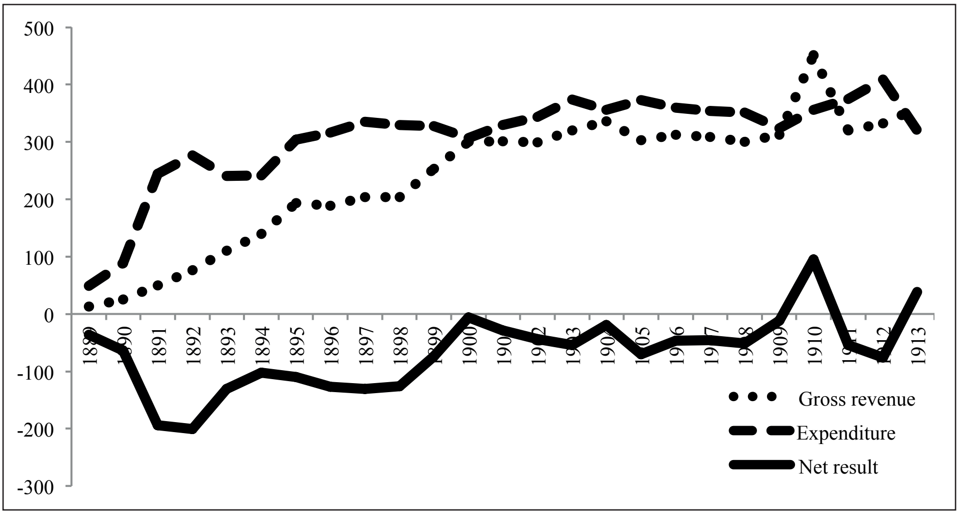
Construction costs rose to 12,733 contos, but were officially set at 12,459 contos or 34.23 contos/km (total length, 354 km), a figure far superior to the very optimistic 19.99 contos/km estimated during the surveys.[33] The company also received more than anticipated, due to the devaluation of the Portuguese currency (debenture capital for construction was transferred in pounds, but payments to workers and contractors were made in réis). In total, the company received 9,441.14 contos.

33. *Royal Company Annual Report*, several years.

Depressing performance during operation

Operation figures were disastrous, since its very beginning in 1888. Until 1910, the company accumulated losses; in that year operation paid 95 contos or 0.261 contos/km (Figure 1). Freight was the main source of revenue, especially after 1892 (Figures 2 and 3). In any case, the figures of transport were low, even when compared to other mainland lines with less traffic.[34] Consequently, throughout the years, the collection of rolling stock remained the same, with 21-23 locomotives, 29-33 coaches, and 208-212 wagons.[35] The line traversed barren and unpopulated regions over most of its reach and suffered from competition with a more efficient and cheaper alternative: the steamer operating on the Kwanza River. Many expected coffee to become one of the most valuable commodities, but the drop in its international price hampered production and exportation from Angola. Others suggested that the performance of the line would improve when it tapped into the Cazengo region. The railway arrived in Cazengo between 1892 and 1898 (Table 1), but the impact on the figures of operation was minimal. Angola was not the wealthy *Eldorado* that Portuguese technocrats on the mainland had imagined.

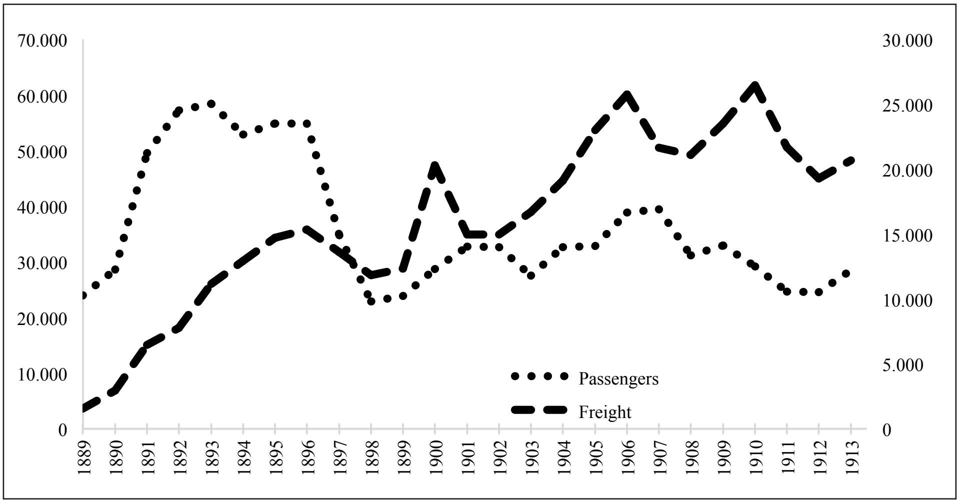
FIGURE 1 ▪ *Gross revenue, expenditure and net operational result (contos)*



Source: AHU, items 299-1H, 2756-1B.

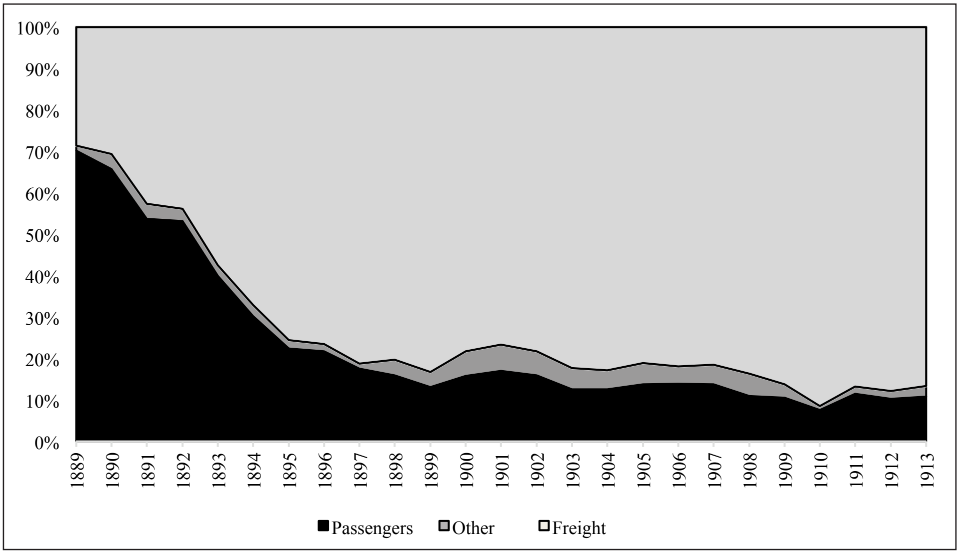
34. Cf. Portugal (1912b).
35. AHU, items 2463-1B, 2507-1B, 2599-1B, 2701-1B, 3034-2-1A.

FIGURE 2 ▪ *Passenger (left axle) and freight transport (right axle, in t)*



Source: AHU, items 299-1H, 2756-1B.

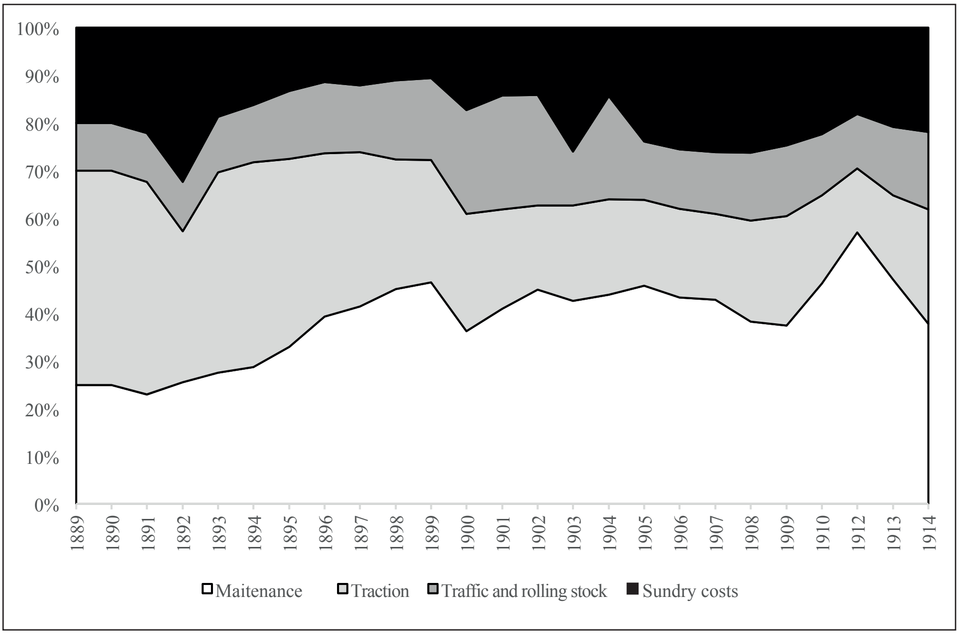
FIGURE 3 ▪ *Revenue components*



Source: AHU, items 299-1H, 2756-1B.

As for expenditure, locomotives were the main expense until 1895. The engines (manufactured in Europe by Henschel & Sohn) broke down often, as they were manoeuvred by rookie engine drivers and they used coal and water of poor quality. Therefore, they required intensive and expensive maintenance.[36] From 1896 onwards, when the railway extended across 308 km of the Angolan landscape, track maintenance became the largest component of expenditure (Figure 4). The same obstacles that had hampered construction (rainy/tropical climate, thick vegetation) contributed to the erosion of the track. Moreover, the track had been laid down very poorly from the start. Consequently, accidents (particularly derailments) became frequent (Table 2) and the service became irregular, extremely sluggish (average speeds of 19 km/h), and therefore unreliable.

FIGURE 4 ▪ *Expenditure components*



Source: AHU, items 490-1F, 575-1F, 576-1F, 927-1N, 2463-1B, 2507-1B, 2516-1B, 2559-1B, 2701-1B.

36. AHU, items 352-1D, 358-1D, 2598-1B, reports 7 July 1890, 28 March 1892 and 13 February 1900.

TABLE 2 ▪ *Accidents and victims during operation*

Years	Accidents			Victims		
	Derailments	Other	Total	Deceased	Injured	Total
1893	80	52	**134**	5	5	**10**
1894	72	46	**118**	4	2	**6**
1895	115	108	**223**	0	1	**1**
1896	61	142	**203**	4	5	**9**
1897	68	298	**366**	3	3	**6**
1898	108	125	**233**	4	5	**9**
1900	88	130	**218**	2	2	**4**
1901	106	66	**172**	5	3	**8**
1904	49	122	**171**	0	1	**1**
1905	59	9	**68**	0	2	**2**
1906	53	–	**53**	4	4	**8**
1907	72	–	**72**	1	5	**6**
1908	51	29	**80**	0	1	**1**
1909	50	–	**50**	0	1	**1**
1910	57	1	**58**	0	2	**2**

Source: AHU, items 2463-1B, 2507-1B, 2559-1B, 2701-1B.

Reaction of the state and the Royal Company

What did all this mean to the Royal Company and its partnership with the Portuguese state? Since construction had cost more than anticipated, the guarantee of yield provided by the state soon became insufficient to cover the debt service (Tables 4 to 6, Appendix). To make matters worse, with the escalation of the financial crisis in Portugal, a gradual depreciation of the exchange rate was noted (Table 3, Appendix).[37] The interest had to be paid in pounds sterling, which meant that each passing year in the 1890s and after World War I, the amount of resources the company had to allocate was gradually higher.

Therefore, the state had to intervene in the company to prevent its default. Gradually, as often happens in public-private partnerships, the symbiotic relationship between state and private initiative escalated to a conflict-

37. Mata (1991). A similar situation was affecting Spain at the same time. Cuéllar (2018), pp. 541-543. Ortúñez (2016b), p. 234.

ual relationship, with less transparent contours surrounding a disastrous contract.[38]

The state started aiding the company from 1888 as warrantor in different financial operations. From 1891 onwards, the state's support was more assertive, by lending money (guaranteed by sundry debt titles possessed by the company) and by paying the guarantee of yield in advance.[39] In that year, without state support, the company would not have had enough capital to pay its debts (Table 6, Appendix). Indeed, as soon as 1890, there were some difficulties in paying suppliers, which apparently led to the untimely termination of the agreement with the contractor hired by the Building Society.

As these allowances were not enough, the state signed an addendum to the original contract, on 20 October 1894. By this new agreement, the state extended the deadline for the company to pay its debt and agreed to pay the subsidies monthly. Additionally, it lent a sum equivalent to the anticipated devaluation of the Portuguese currency. In return, from 1 January 1895 onwards, there was a deduction of 0.3 contos/km in the guarantee of yield (used to pay the firm's debt to the government); furthermore, the formula to calculate the subsidy was altered:

- if: gross revenue ≤ 2 => expenses = 0.9
- if: 2 < gross revenue ≤ 2.5 => expenses = 45% × gross revenue (max 1.075)
- if: gross revenue > 2.5 => expenses = 43% × gross revenue[40]

Again, this new deal failed to solve the financial predicaments faced by the company. Therefore, in the following years until the turn of the century, the state was forced to provide further assistance, including sundry loans and advances, covering the currency devaluation (until 1908)[41] and in some years the devolution of the 0.3 contos/km charged under the 1894 contract (Tables 5 and 6), some of which was lacking the necessary parliamentary authorization.[42]

Still, the company was in a dire situation. As the state could hardly continue to inject more public funds, it decided to engage in a strategy of providing other sorts of help, like improving accessibility to the line (the construc-

38. Marques (2018), p. 211-212. The Royal Company also took private loans, less substantial, which were eventually redeemed.

39. In the Spanish railway system, this solution also became frequent. Ortúñez (2009), p. 146. Pascual (2000), p. 16.

40. The original contract may be found in: Portugal (1908), vol. 2, pp. 801-814.

41. Portugal (1913), p. 14.

42. Arquivo Histórico-Diplomático (henceforth AHD), S12-E14-P2-N75456-P32-107-163, letter 25 June 1902. AHU, 3034-1-1A, report 25 February 1898. Portugal (1908), p. 982 and 988-989. Portugal (1912a), pp. 20-31.

tion of roads and the purchase of a road locomotive).[43] In 1896, the company's board proposed a rise in fares to increase its revenues. This measure countered the potential of the line to promote the colonization and commercial exploitation of Angola and overall public interest. Local coffee producers protested, in a context of low prices for coffee,[44] and the state did all it could to postpone its application.

Eventually, the rise was accepted by the government, by a contract signed on 11 March 1897 and approved by the parliament on 19 September 1897. However, the government did not give in to all the company's demands. To placate the coffee producers, the increase in coffee fares was limited. Fares were indexed to the evolution of the price of coffee in the international markets. The result was that the company only received about 70% of what it expected (between 1901 and 1908 the loss amounted to 560 contos, Table 7).

Moreover, it was stipulated that the extra revenue should be applied exclusively to cover the company's debt service (including the currency devaluation), and to build the extension of the Ambaca line to the rubber-producing region of Malange, where settlers had demanded a railway link at least since 1888.[45] The Royal Company was also compelled to keep up double accounting, registering its revenues by the new and the old fares, which allowed me to calculate its profit at 1,508 contos (Table 8).

TABLE 7 ▪ *Coffee fares (contos)*

Year	Revenue	Revenue expected by the company
1901	18.57	22.77
1902	44.27	59.84
1903	60.55	83.12
1904	63.32	82.78
1905	56.54	77.64
1906	66.33	92.75
1907	53.25	76.26
1908	47.02	67.63
Total	**409.85**	**562.79**

Source: AHU, item 2676-1B.

43. Portugal (1899), pp. 20-31. Portugal (1908), pp. 801-814, 984, 1071-1072 and 1146.
44. Portugal (1909b), pp. 52-53.
45. RT, 54-19-2653 (10 November 1888), p. 632.

TABLE 8 ▪ *Comparison between revenues from the Ambaca line (old fares vs new fares)*

Years	Revenues – old fares	Revenues – new fares	Difference
1897	133.27	159.64	26.37
1898	96.11	157.22	61.11
1899	123.17	205.72	82.55
1900	158.07	253.19	95.13
1901	141.75	225.62	83.87
1902	148.95	229.84	80.89
1903	166.95	258.00	91.05
1904	n/a	n/a	n/a
1905	167.14	243.46	76.32
1906	181.34	252.54	71.20
1907	158.22	237.60	79.38
1908	156.26	246.23	89.98
1909	176.93	273.59	96.66
1910	239.08	406.30	167.21
1911	173.18	271.95	98.77
1912	167.87	285.86	117.99
1913	178.97	302.52	123.56
1914	167.97	234.38	66.41
		Total	1,508.44

Source: AHU, items 490-1F, 575-1F, 576-1F, 927-1N, 2463-1B, 2507-1B, 2516-1B, 2559-1B, 2701-1B.

However, this capital was totally absorbed by the debt service and it was only used to extend the line to Lucala (Table 1). Consequently, in 1902, the government decided to alter the 1897 contract and build that line using its own experts and resources to promote the colonization of the Malange and Lunda districts and contribute to increasing the revenues of the Royal Company (alleviating its debt service). The Malange line became another stage of the partnership with the Royal Company. The fares were not reduced, but the surplus over the original tariffs were considered a state revenue, lent to the company.

The Malange extension

Works on the Malange extension began in May 1903. Six years later, the line was ready (after a two-and-a-half-year delay). State engineers were responsible for the project for the entire line (the surveys made by the company in 1889 and 1901 were ignored).[46] During construction, Portuguese staff and navvies faced the usual difficulties encountered in laying rails in Africa, plus the bureaucratic nuisances imposed by the state administration. When the work was done, the total cost was calculated at 2,245 contos or 16.08 contos/km (Table 9), half the cost of the Ambaca railway, and around 66% of the 1901 budget provided by the Royal Company.

Operation began in September 1907 and was entrusted to the Royal Company, which received a payment of 1.05 contos/km/year.[47] Many engineers and colonial administrators recommended that the state handle the operation, charging low fares and favouring commerce and the colonization of the territory. Others suggested the extension of the line to the shores of the Kwango and Cassai rivers (on the north-eastern and eastern borders with the Congo Free State), including a couple of smaller branches, to exploit the rubber fields between those two rivers, connect Luanda with the copper mine of Katanga, and promote the Portuguese presence in the area. Surveys were ordered, and construction was approved but never began. The state preferred

TABLE 9 ▪ *Construction costs, Malange line (contos)*

Years	Staff	Material	Transportation	Storage	Total
1902-1903	17.34	23.62	4.34	0	**45.30**
1903-1904	57.75	137.58	15.33	2.63	**213.29**
1904-1905	63.62	311.91	64.10	16.56	**456.19**
1905-1906	64.00	220.89	63.02	10.79	**358.70**
1906-1907	65.02	383.16	76.34	10.75	**535.27**
1907-1908	53.42	211.57	36.54	2.32	**303.86**
1908-1909	66.86	212.56	49.40	3.90	**332.71**
				Total	**2,245.33**
				Total/km (139.6 km)	**16.08**

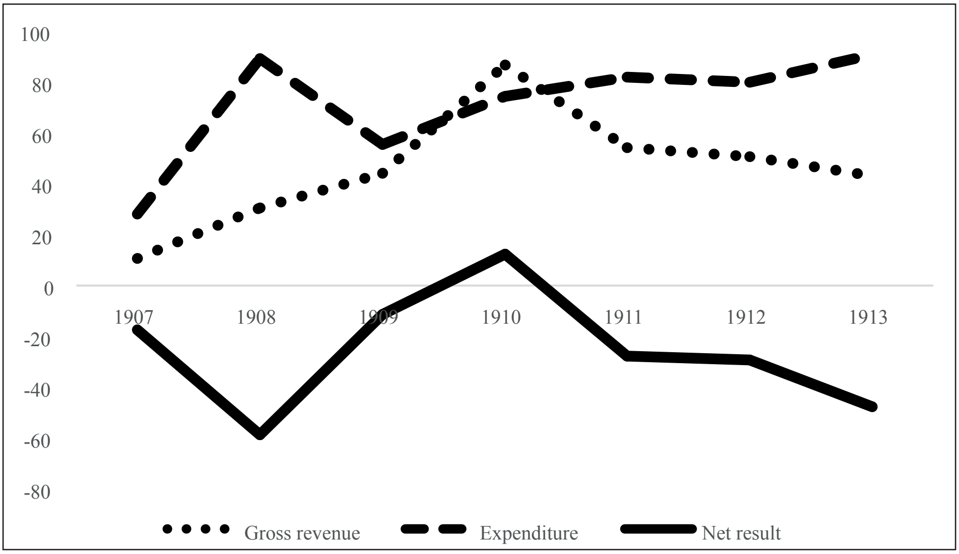
Source: AHU, item 2526-1B.

46. AHU, item 461-1F, report 18 July 1901.
47. AHU, item 2564-1B, letters 28 June 1907, and 25 and 29 January 1908. Portugal (1909b).

to keep the operation under one single entity.[48] Nevertheless, in February 1909, the company refused to resume operation and handed it back to the government, during a period where the relationship between the company and the state was already conflictual. An abnormal situation emerged, with a continuous line being operated by two different entities. Additionally, the company refused to arrange an agreement for through-traffic. Goods and passengers had to change trains when they arrived at Ambaca. The Malange line became a railway island in the Angolan wilderness.

Operation figures were unimpressive, and the net revenue was almost constantly negative until 1914 (Figures 5 and 6). It comes with no surprise that the impact of the Malange line on the Ambaca railway was very limited (Figures 1 and 2).

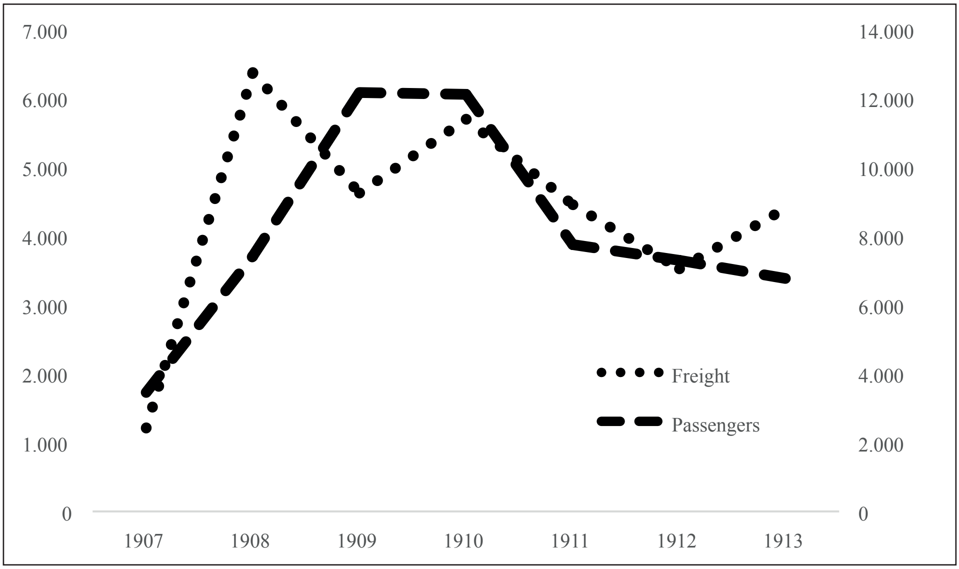
FIGURE 5 ▪ *Gross revenue, expenditure and net result of the Malange line (contos)*



Source: AHU, items 301-1H, 927-1N, 2564-1B, 2565-1B, 2756-1B.

48. AHU, item 497-1F, report 5 March 1911; 2564-1B, report 16 March 1907; 2665-1B, report 12 April 1912; 3024-1A, several reports. Portugal (1912a), pp. 18-25 e 45-49.

FIGURE 6 ▪ *Evolution of the transportation of passengers (right axle) and freight (left axle, in t)*



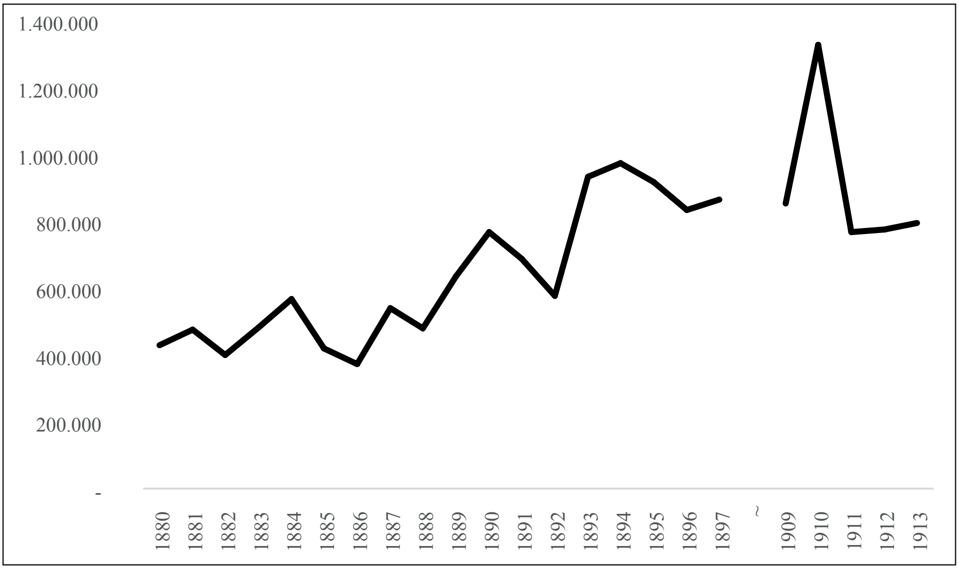
Source: AHU, items 301-1H, 927-1N, 2564-1B, 2565-1B, 2756-1B.

Assessment of the impact of the Ambaca railway in the region

One of the goals of the public investment in the Ambaca and Malange railways was to promote the colonization and exploitation of the resources of the Angolan hinterland. Such a goal could be compatible with the dire financial overview I have described thus far. Often, investments can be beneficial to the general public (in this case, I mean the Portuguese settlers and colonial authorities living and working in the region between Luanda and Malange), albeit unprofitable for their investors. It is not easy to determine and quantify the influence of both railways on the Angolan colonial economy. The grandiose expectations of the Portuguese technocrats were not met, although trade, local production, and the settlement of Europeans in Angola were favoured.

The records of the custom house of Luanda clearly illustrate an increase in both imports and exports, which coincides with the openings of the railways. Yearly averages of imports and exports rose from £462,000/year before 1889 to £836,000/year after that year. The evolution illustrated in Figure 7 is very similar to the evolution of freight portrayed previously in Figure 2. It is impossible to account for all the factors that contributed to the increase of commercial movement in Luanda's custom house, but it is highly likely that the main reason was indeed the railway.

FIGURE 7 ▪ *Evolution of imports and exports registered in Luanda custom house (pounds converted from contos)*



Source: Diario da Camara dos Deputados, 1 June 1898, p. 1395; Mesquita (1918).

A necessarily short analysis of freight indicates the main goods transported on the Ambaca and Malange lines (Tables 10 and 11). A large part of the items transported were directly associated with the construction of the track itself (railway and telegraph material, food for workers, grass cut from the track bed), but there were some flows of colonial products and goods usually associated with the colonization effort. As for the former, Table 10 hints at the development of coffee production. Rubber also became an important commodity, even if we bear in mind that the railway only arrived at the rubber-producing zone of Malange in the early 1900s. Items which were crucial for the establishment of European settlers in Africa (building materials, housing items, salt, brandy and wine) have a strong presence in the sources, suggesting that the railway was an important tool for the colonization of Angola. Finally, Figure 8 suggests the promotion of cattle raising activities (93,000 heads transported between 1889 and 1914).

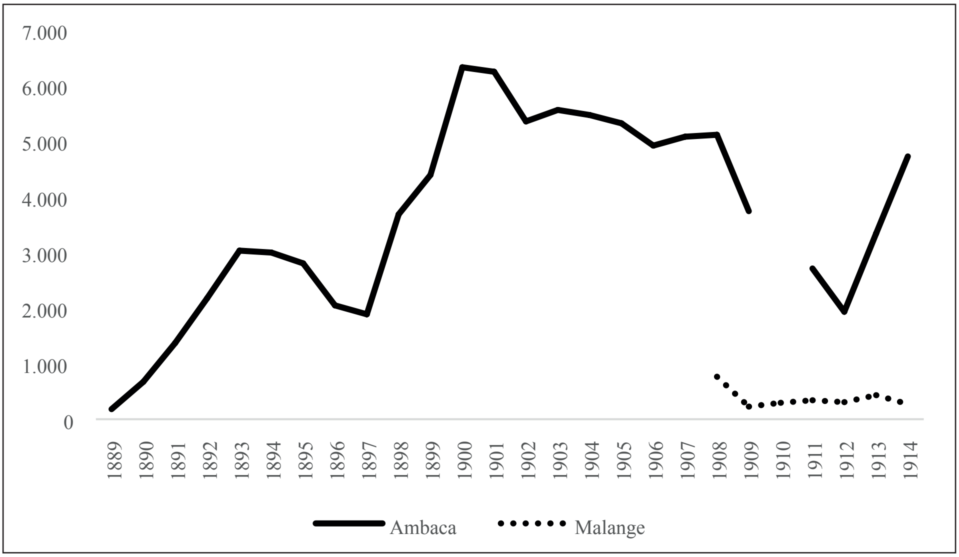
TABLE 10 ▪ *Main goods transported by the railway between Luanda, Ambaca and Malange, 1892-1897, 1899, 1904-1914*

Goods	Weight (t)
Coffee	52,088
Building material	50,957
Grass	38,282
Railway and telegraph material	31,703
Food for workers	20,013
Housing and colonization items	16,696
Wine and brandy	16,490
Flour	12,569
Grain, fruit and vegetables	12,224
Salt	11,966
Rubber	9,173
Coal, fuel and lubricants	7,046
Sundry seeds	4,078
Sundry goods	3,800
Oils	2,525
Cotton	1,648
Animals and animal products	1,560
Weaponry	915
Sugar	852
Assorted drugs and chemical items	836
Tobacco	427

Source: AHU, items 301-1H, 2463-1B, 2507-1B, 2559-1B, 2564-1B, 2676-1B, 2701-1B, 2756-1B.

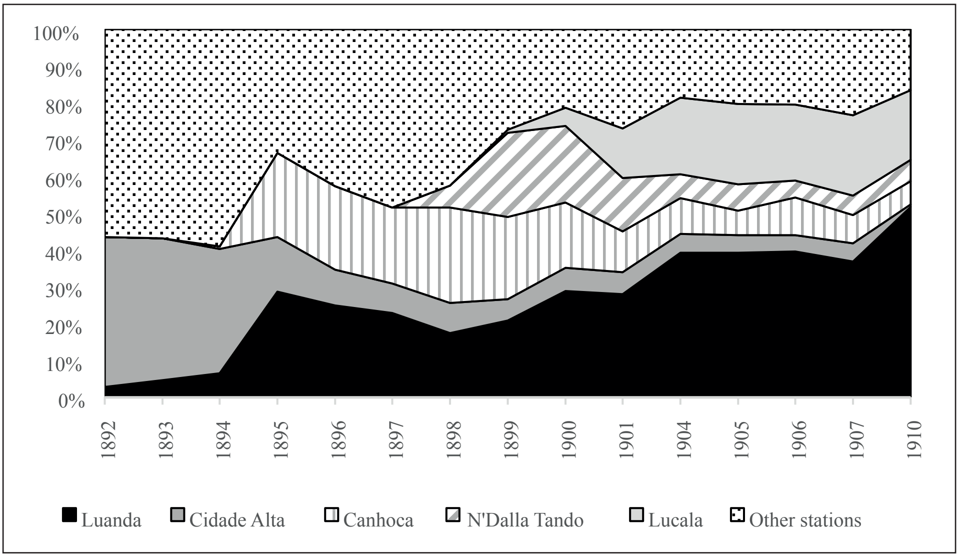
The performance of the stations (Figure 9) suggests an increase in the economic activity of the hinterland served by the Ambaca/Malange line. By 1910, Luanda was undoubtedly the most important station on the line, but Lucala, deep in the Angolan countryside at the limits of the rubber-region of Malange was turning into the second most important station.

FIGURE 8 ▪ *Cattle transported in the Ambaca and Malange lines (heads)*



Source: AHU, items 301-1H, 490-1F, 575-1F, 576-1F, 927-1N, 2463-1B, 2507-1B, 2516-1B, 2559-1B, 2564-1B, 2565-1B, 2701-1B, 2756-1B.

FIGURE 9 ▪ *Evolution of the stations revenues (contos)*



Note: stations with total revenues over 250 contos for the entire period.

Source: AHU, items 2463 1B, 2507 1B, 2559 1B, 2701 1B.

The Malange section provides interesting, albeit narrow, data about who were the users of the rail service: state or private sector agents (Table 11). Private sector was predominant in the expedition of cargo and, from 1911 onwards, in the transport of passengers as well. Even though the railway was used by the state to extend its influence, it was mostly used by private entrepreneurs.

TABLE 11 ▪ *Users of the Malange railway*

Year	Passengers		Freight (t)	
	State	Private sector	State	Private sector
1909	7,765	4,389	200.03	4,348.09
1910	7,049	5,064	162.73	5,409.75
1911	2,449	5,298	83.65	4,238.58
1912	1,271	6,024	137.94	4,381.55
1913	1,810	4,946	201.34	4,044.60
1914	2,962	5,497	142.56	4,153.40

Source: AHU, items 2564-1B, 2565-1B.

Figures regarding passengers are interesting and somewhat revealing. Around 1,000,000 people rode the trains between 1889 and 1914 (average of 38,000 passengers/year), a very modest number. One could argue that the railway was important to populate the Angolan hinterland, unfortunately statistics do not discriminate the travel direction (upward/downward).

Regardless, although the lines did increase economic activity in the area, the outputs of the colonization effort provided by the railways were timid, especially when compared with the cost the state sustained for an enterprise that for all due effects was private, and that by 1913 totalled almost 19,000 contos or an average of 52 contos for each km of the Ambaca line (Table 12).

TABLE 12 ▪ *Public investment in the Ambaca railway*

Year	Guarantee of yield and other allowances	Fares	Survey	Malange line			Total	
				Construction	Operation (Royal Company)	Operation (state)	Contos	Pounds
1889	131.25	–	43.14	–	–	–	174.39	38,753
1890	214.90	–	11.57	–	–	–	226.47	50,327
1891	1,823.04	–	18.12	–	–	–	1,841.16	378,217
1892	1,614.89	–	17.70	–	–	–	1,632.59	284,522
1893	648.99	–	6.89	–	–	–	655.87	117,036
1894	738.84	–	–	–	–	–	738.84	127,496
1895	424.24	–	–	–	–	–	424.24	74,441
1896	445.36	–	–	–	–	–	445.36	76,026
1897	469.47	–	–	–	–	–	469.47	71,381
1898	496.17	–	–	–	–	–	496.17	69,220
1899	587.28	–	–	–	–	–	587.28	91,462
1900	581.63	–	–	–	–	–	581.63	91,972
1901	573.58	–	–	–	–	–	573.58	89,846
1902	569.43	–	–	45.30	–	–	614.73	107,395
1903	555.59	91.05	–	213.29	–	–	859.93	154,054
1904	545.26	–	–	456.19	–	–	1,001.45	184,906
1905	556.44	76.32	–	358.70	–	–	991.46	206,683
1906	542.02	71.20	–	535.27	–	–	1,148.49	250,543
1907	563.24	79.38	–	303.86	48.86	–	995.34	214,144
1908	556.20	89.98	–	332.71	146.58	–	1,125.47	216,104
1909	563.26	96.66	–	–	24.43	–	684.35	131,809
1910	496.94	167.21	–	–	–	–12.35	664.15	135,596
1911	561.72	98.77	–	–	–	27.73	660.49	135,070
1912	567.33	117.99	–	–	–	29.36	685.32	137,725
1913	548.11	123.56	–	–	–	47.79	671.67	127,986
					Total		**18,949.91**	**3,562,715**
					Total/km (364 km)		**52.06**	**9,788**

Source: previous tables.

The final years of the Ambaca problem until nationalization

By 1914, the details surrounding the Ambaca deal were scandalous. World War I brought further disarray to the operation in Angola and the financial situation of the Portuguese exchequer. In the 1920s the devaluation of the Portuguese currency was drastic. Neither the Royal Company nor the state could pay the interest in pounds (in 1924, annual interest surpassed 12,000 contos). Payments ceased in 1919, after the Portuguese government took compulsorily possession of the operation of the line. Details of this process are again provided by Guimarães and Navarro (Note 4).

Both parties blamed each other for the situation of the company. The deadlock in finding an equitable solution accentuated frustrations and entangled the situation even further, as often happens in situation of discordance.[49]

The official rhetoric of the state vehemently criticized the company, seeking the support of public opinion.[50] State representatives highlighted the high cost of construction, the shady contours of financing, and its feeble impact on the development of Angola. Criticism was particularly sharp from the republican governments (since 1910), determined to succeed where the monarchic regime had failed so enormously.

The Royal Company blamed the government for the financial crises of the 1890s, currency devaluation, unilateral termination of an agreement signed in 1891,[51] and the alteration of the 1894 contract, some technical details required by the contract, payment for sundry transport services provided to state officials, lands neighbouring the track that were never delivered, and the absence of supporting infrastructures (like roads) in Angola. From 1900, it demanded an arbitrage that settled the dispute, a demand that was always refused by the state. Often, this rhetoric evolved to retaliatory measures, like cuts in the operation, keeping coffee fares at maximum levels, or refusing through-traffic arrangements at the junction with the Malange line.

Both parties refused the accusations and the demands they made upon each other were very different. By 1909, the state claimed the company owed a debt of 5,881 contos, whereas the company demanded a compensation of 10,548 contos. Three years later, those demands evolved to 5,329 and 12,041 contos, respectively.

Several solutions were suggested to put an end to the conflict. The most moderate included giving over large areas of land in Malange and Lunda, augmenting fares, increasing the company's equity or giving equity to the state, renegotiating the trustee agreement, or leasing the operation to the state.

49. Goncalves (2008), pp. 66-70. Rothman (1997), pp. 5-6.
50. For the importance of acquiring the support of public opinion, see Ortúñez (2009), p. 152.
51. That granted the company a monthly allowance of 135 contos.

An arbitration in 1911 just entangled the issue even further. A bill to authorize the government to lease the operation of the line was never discussed in parliament. Direct negotiations with the trustees also led to nothing.[52]

More extreme measures included nationalization, debated at least since 1898.[53] Since railways were considered part of the public domain, nationalization actually meant the transfer of the management of the line to public authorities.[54] Usually, this operation could be done in several ways, which were also at the disposal of the Portuguese authorities: purchasing the concession back from the company, early termination of the concession (including the payment of an annual compensation according to its original terms), or waiting for the bankruptcy of the company.[55]

Normally, nationalization processes are motivated by economic, financial, or technical reasoning, and not by ideological motives.[56] Historically, however, nationalization was also connoted with a strong presence of the state in the economy and an answer to the predicaments caused by foreign investments in public services. Therefore, it was a popular decision, albeit a difficult one to implement, for financial and bureaucratic reasons.[57] As mentioned before, in the Portuguese mainland railway system, the creation of a state railway sector and the debate about nationalization of the entire system dates to the 1860s. In the colonial context, public control of railways had the additional attraction of contributing to the colonization effort and shunning away foreign influences.

In 1914, the government determined the compulsory appropriation of the company's revenues, claiming that the company failed to keep the track in perfect working order, as stated in the concession contract. The breakout of World War I postponed its application. After the war, the process was resumed. By decree of 13 July 1918, the state forcefully took over the operation of the line and offered a compensation of 488 contos/year to the stockholders (61,655 pounds, about two thirds the annuity due in that year). The company refused the compensation and always considered the decision a nefari-

52. AHD, S12-E14-P2-N75456-P32-107-163, letters 19 June 1902 and 2 December 1912, and report 30 November 1912. AHU, item 2564-1B, reports 16 March 1907 and 25 January 1908; 3034-1-1A, minute 16 August 1899. RT, 76-18-3225 (28 October 1898), p. 564. Portugal (1909b). Portugal (1912a), pp. 31-33, 40-49 e 77-78. Portugal (1913), pp. 15-22.

53. RT, 74-12-3167 (17 September 1898), p. 385.

54. Barjot (2009), p. 20.

55. Barjot (2011), p. 784.

56. Andersson-Skog (2000), pp. 34-37.. Barjot (2009), pp. 15 and 25. Crompton (1999), p. 141. Ortúñez (2009), p. 143.

57. Barjot (2009), pp. 14-17 and 24. In the Ambaca case, not only the state did not have resources to nationalize the line, but also the Royal Company disagreed on the value of the compensation. Additionally, nationalizing the company could have diplomatic ramifications, as it could threaten the financial interests of the bondholders and the colonial agenda of Britain.

ous extorsion. Payments to the company were suspended in January 1919. The firm kept registering these figures, as sums that were owed by the state.

The matter was taken to court but remained undecided for years. A sentence in favour of the company ordering the state to pay 5,451 contos was not abided by. The trustees applied for help from the British Foreign Office.[58] In 1921, negotiations for a settlement began, with no practical result.[59] To make matters worse, the company saw its name involved with Alves Reis, the perpetrator of the Bank of Portugal scandal of 1925. No agreement was reached before a new coup d'état instituted a right-wing dictatorship in Portugal, in 1926. By 1928, the year of the last available annual report, the company claimed a debt of 116,000 contos, a sum that even the board considered to be of moral rather than a practical value.[60] In 1933, the government proposed the transformation of the company's debt to the state in equity, providing that the company redeemed all its bonds. The plan did not work. Five years later, the government decided to issue debt titles to buy the company, redeem its bonds, liquidate it, and take full possession of the line.

Conclusion

When the public-private partnership between the Portuguese government and the Royal Company was established in 1885, most believed it would benefit both entities: it would pay the company's investment and it would contribute to the colonizing mission of Portugal in Angola. Borrowing the expression of Cuéllar, there was no clear distinction between private interests and public wellbeing.[61] However, soon the facts contradicted those expectations. Construction cost more, and operation paid less than anticipated. The state had the right to supervise both stages, but in practical terms, the lack of staff for the task restricted that prerogative.

In theory, the state could just let the company default and take possession of the line. Nevertheless, the contours of its financing rendered that option impracticable. The company had become too big to fail, and the state was forced to intervene, in theory to protect public interest, in practice to defend private interests.

The problem had two distinct faces. Firstly, if the company defaulted, it would erode the credit of Portugal in the financial markets and trigger a diplomatic dispute similar to that faced by Portugal in the late 1860s with two

58. Royal Company Annual Report, 1918-1919, p.45.
59. Royal Company Annual Report, 1919-1920, pp. 55-77.
60. Royal Company Annual Report, 1927-1928, p. 9.
61. Cuéllar (2018), pp. 524.

mainland companies,[62] and in the 1890s after the confiscation of the Delagoa Bay Railway in the south of Mozambique.[63] Secondly, the line was given as collateral to the trustees representing the bondholders. Albeit illegal, the trustees could claim possession of the railway in case of non-payment.[64] The Portuguese government could argue in a court of law that the mortgage was illegal, and therefore the bondholders had no claim over the line, but if this happened, the company's creditors would certainly appeal to the British Foreign Office and the London Stock Exchange to stop trading Portuguese debt titles – as had happened so many times in the past.[65] Considering that Portugal financed its annual deficit with state securities issued abroad, this could have disastrous consequences for the national economy. In the event of Portugal being forced to forfeit the line,[66] it would lose control of a powerful tool of the empire and colonial appropriation that could jeopardize its very sovereignty over the northern regions of Angola. It comes with no surprise that colonial authorities of the time considered the trusteeship a terrible, menacing and dangerous deal that loomed over an important technical and political instrument. All things considered, the government had little choice but to help the company, preventing its default, and to keep any intervention of the British trustees at bay.

What does this all mean or add to the debate about the relationship between the state and private enterprise through the establishment of public-private partnerships? The case of the Ambaca railway replicates similar situations in Portugal and other European countries, specifically Spain and France, the two nations that influenced the Portuguese railway policy the most. However, it innovates as it includes the complexities of the colonial setting and the strains between two imperial nations (Portugal and Britain).

In Portugal, in previous public-private agreements, the state gave further assistance to other railway companies in need, both on the mainland and in the colonies, either by buying back the firms' equity and debt or by creating new taxes to grant additional subsidies to pay the bondholders (and to a lesser extent the stockholders).[67] The company of the Ambaca railway was just another name on that list, even though the size of the assistance provided was far more extensive. Different Spanish governments were also forced to provide additional aid to railway companies (particularly during the crises of the

62. Pereira (2016), pp. 258-264. Vieira (1988).
63. Telo (1991), pp. 86-87, 117-119 and 149-153.
64. The Royal Company also played this card, suggesting that if the government did not meet its demands it would convince the shareholders to sell their equity to foreign investors. AHU, item 2452-1B, minutes 3 December 1908 and 27 March 1909. Portugal (1912a), pp. 25-27 e 29-31.
65. Pereira (2016), pp. 258-264. Vieira (1988).
66. The bondholders had little use for the line. However, they could take it and sell it to other companies with colonial interests in Angola. In Britain, the press considered this solution a certainty. RT, 63-7-2876 (18 February 1893), p. 236.
67. Vieira (1988). Kerr and Pereira (2012), p. 190.

1860s, 1890s and 1910s) to prevent their failure and to pay the investors.[68] A similar situation occurred in France where the state established public-private partnerships with sundry firms and later was called to help them on different occasions (for instance, the convention of 1859, renegotiated in 1863, 1868, and 1875, or when the government decided to pay the interest on railway bonds in 1883).[69]

Similarly to what happened in Spain and France (and previously in Portugal as well), the strained relationship between state and private enterprise in the Ambaca process motivated a growing discomfort of Portuguese authorities with private enterprise in the railway sector. Since the late 1890s, many stressed the need for state control of railways (both colonial and mainland) to put them at the service of the public interest and the national economy. In the early 1900s this was more rhetorical than practical (take as an example the case of the Benguela railway, also in Angola, hired to a Scottish entrepreneur, Robert Williams, in 1902).[70] However, it was the inception of a stronger position towards the end of public-private partnerships and a sturdier presence of the state in the railway sector that took a clearer form after World War I. The Ambaca railway was a cause and a consequence of this new understanding.

To conclude, the Ambaca railway is another example of a private investment at public risk,[71] and how a "project failure and the concessionaires' bankruptcy have resulted in the government having to assume heavy financial obligations, which have ultimately been absorbed by taxpayers and users".[72] Indeed, the only winners in this process were the bondholders,[73] who duly received their annual instalments for 35 years in a row (and resumed their income from 1933 onwards). It reinforces the assumption that in these cases, the companies become more dependent on the state rather than on the market, which does not incentivize the concessionaires to build or to operate more efficiently, quite the contrary.[74]

68. Cuéllar (2018), p. 557. Ortúñez (2009), p. 142.
69. Caron (1997-2005), vol. 1, pp. 235-242. Ortúñez (2014), p. 109.
70. Navarro (2018), p. 488-489.
71. Thorner (1950), pp. 168-182. This author analyses the guaranteed railways of British India to provide another good example of failed public-private partnerships.
72. Marques (2018), p. 213.
73. Guimarães (1983), p. 121.
74. Numa (2009), p. 120.

Appendix

TABLE 3 ▪ *Exchange rate (1 conto = £x)*

Year	Rate	Year	Rate	Year	Rate	Year	Rate
1891	205.4	1898	139.5	1905	208.5	1912	201.0
1892	174.3	1899	155.7	1906	218.2	1913	190.5
1893	178.4	1900	158.1	1907	215.1	1914	174.9
1894	172.6	1901	156.6	1908	192.0	1915	148.6
1895	175.5	1902	174.7	1909	192.6	1916	142.5
1896	170.7	1903	179.1	1910	204.2	1917	130.0
1897	152.0	1904	184.6	1911	204.5	1918	126.3

Source: See note 21.

TABLE 4 ▪ *Evolution of the Royal Company's debt (pounds and contos)*

Year	Issued bonds (1)	Capital raised (73% facial value)	Bonds redeemed (2)	Total debt (1) – (2)	Interest due (5%)	
					Pounds	Contos
1887	1,351,480	986,580	1,200	1,350,280	67,514	303.81
1888	1,351,720	986,756	2,100	1,349,620	67,481	303.66
1889	1,452,100	1,060,033	3,100	1,449,000	72,450	326.02
1890	1,452,340	1,060,208	4,100	1,448,240	72,412	325.85
1891	1,452,460	1,060,296	5,100	1,447,360	72,368	352.29
1892	1,452,720	1,060,486	6,200	1,446,520	72,326	415.01
1893	1,528,260	1,115,630	7,400	1,520,860	76,043	426.14
1894	1,638,040	1,195,769	8,600	1,629,440	81,472	472.13
1895	1,747,680	1,275,806	9,800	1,737,880	86,894	495.21
1896	1,747,740	1,275,850	11,200	1,736,540	86,827	508.63
1897	1,747,760	1,275,865	12,600	1,735,160	86,758	570.61
1898	1,747,820	1,275,909	14,100	1,733,720	86,686	621.37
1899	1,890,000	1,379,700	15,700	1,874,300	93,715	601.74
1900	1,890,000	1,379,700	17,300	1,872,700	93,635	592.15
1901	1,890,000	1,379,700	19,000	1,871,000	93,550	597.22
1902	1,890,000	1,379,700	20,800	1,869,200	93,460	534.97
1903	1,890,000	1,379,700	22,700	1,867,300	93,365	521.16

(Continued on next page)

Year	Issued bonds (1)	Capital raised (73% facial value)	Bonds redeemed (2)	Total debt (1) – (2)	Interest due (5%)	
					Pounds	Contos
1904	1,890,000	1,379,700	24,700	1,865,300	93,265	505.12
1905	1,890,000	1,379,700	26,800	1,863,200	93,160	446.89
1906	1,890,000	1,379,700	29,000	1,861,000	93,050	426.54
1907	1,890,000	1,379,700	31,300	1,858,700	92,935	431.96
1908	1,890,000	1,379,700	33,700	1,856,300	92,815	483.38
1909	1,890,000	1,379,700	36,300	1,853,700	92,685	481.22
1910	1,890,000	1,379,700	38,900	1,851,100	92,555	453.33
1911	1,890,000	1,379,700	41,700	1,848,300	92,415	451.91
1912	1,890,000	1,379,700	44,700	1,845,300	92,265	459.11
1913	1,890,000	1,379,700	47,800	1,842,200	92,110	483.39
1914	1,890,000	1,379,700	51,100	1,838,900	91,945	525.65
1915	1,890,000	1,379,700	54,500	1,835,500	91,775	617.55
1916	1,890,000	1,379,700	58,100	1,831,900	91,595	642.81
1917	1,890,000	1,379,700	61,900	1,828,100	91,405	703.09
1918	1,890,000	1,379,700	65,900	1,824,100	91,205	721.89
1919	1,923,000	1,403,790	70,000	1,853,000	92,650	778.07
1920	1,923,000	1,403,790	74,400	1,848,600	92,430	1,842.50
1921	1,923,000	1,403,790	79,000	1,844,000	92,200	3,696.30
1922	1,923,000	1,403,790	84,700	1,838,300	91,915	6,367.23
1923	1,923,000	1,403,790	90,000	1,833,000	91,650	10,058.31
1924	1,923,000	1,403,790	95,540	1,827,460	91,373	12,239.50
1925	1,923,000	1,403,790	101,280	1,821,720	91,086	8,870.32
1926	1,923,000	1,403,790	107,460	1,815,540	90,777	8,602.94
1927	1,923,000	1,403,790	113,900	1,809,100	90,455	8,570.70

Notes: Payment of annuities ceased in 1919. Values from this year onwards are merely indicative. In 1919, the company decided to issue more bonds, arguing that since the line to Ambaca was just 354 km long, debt service was below 1.199 contos/km.

Source: Converted to pounds from Royal Company Annual Reports. Annuities and its conversion to contos are my calculations.

TABLE 5 ▪ *Guarantee of yield and other subsidies granted by the state to the Royal Company (contos)*

Year	Gross revenue /km (1)	Expenditure /km (2)	Guarantee of yield /km (3)	km in operation (4)	Coverage of losses [(2) – (1)] × (4)	Guarantee of yield (3) × (4)*	State aid	Total
1889	0.213	1.2	1.2	60	59.25	72.00	–	131.25
1890	0.251	1.2	1.2	100	94.91	119.99	–	214.90
1891	0.299	1.2	1.2	168	151.45	201.59	1,470.00	1,823.04
1892	0.364	1.2	1.2	209	174.67	250.79	1,189.43	1,614.89
1893	0.468	1.2	1.2	236	172.84	283.19	192.96	648.99
1894	0.516	1.2	1.2	270	184.71	323.98	230.15	738.84
1895	0.658	0.9	1.2	294	71.21	264.42	88.60	424.24
1896	0.620	0.9	1.2	305	85.38	274.48	85.50	445.36
1897	0.662	0.9	1.2	308	73.19	277.18	119.10	469.47
1898	0.660	0.9	1.2	309	74.16	278.08	143.93	496.17
1899	0.724	0.9	1.2	350	61.74	314.98	210.56	587.28
1900	0.826	0.9	1.2	364	27.04	327.58	227.01	581.63
1901	0.827	0.9	1.2	364	26.62	327.58	219.38	573.58
1902	0.822	0.9	1.2	364	28.46	327.58	213.39	569.43
1903	0.879	0.9	1.2	364	7.79	327.58	220.22	555.59
1904	0.924	0.9	1.2	364	0.00	327.58	217.68	545.26
1905	0.832	0.9	1.2	364	24.80	327.58	204.06	556.44
1906	0.859	0.9	1.2	364	14.82	327.58	199.63	542.02
1907	0.847	0.9	1.2	364	19.17	327.58	216.50	563.24
1908	0.824	0.9	1.2	364	27.84	327.58	200.78	556.20
1909	0.857	0.9	1.2	364	15.63	327.58	220.06	563.26
1910	1.240	0.9	1.2	364	0.00	327.58	169.36	496.94
1911	0.880	0.9	1.2	364	7.37	327.58	226.77	561.72
1912	0.914	0.9	1.2	364	–	327.58	239.76	567.33
1913	0.985	0.9	1.2	364	–	327.58	220.53	548.11

Notes: From 1895 onwards, 0.3 contos/km were deducted from the guarantee of yield; in the original sources the coverage of losses also includes the sums in the column 'state aid'. Guarantee of yield is my calculation.

Source: AHU, items 299-1H, 2756-1B.

TABLE 6 ▪ *Revenues and incomes of the Royal Company (contos)*

Year	Credit						Debit		Difference
	Stock capital	Bond capital	Guarantee of yield	Additional state aid			Construction cost	Interest	
				Allowances	Tariffs	Malange line			
1887	1,800.00	4,439.61	0.00	0.00	0.00	0.00	0.00	303.81	5,935.80
1888	0.00	0.79	0.00	0.00	0.00	0.00	1,970.56	303.66	3,662.36
1889	0.00	329.75	131.25	0.00	0.00	0.00	1,073.71	326.02	2,723.63
1890	931.05	0.79	214.90	0.00	0.00	0.00	2,147.41	325.85	1,397.10
1891	0.00	0.43	353.04	1,470.00	0.00	0.00	2,125.93	352.29	742.35
1892	0.00	1.09	425.46	1,189.43	0.00	0.00	851.16	415.01	1,092.16
1893	0.00	309.03	456.03	192.96	0.00	0.00	562.81	426.14	1,061.22
1894	2.70	464.41	508.69	230.15	0.00	0.00	389.34	472.13	1,405.70
1895	38.25	456.13	335.64	88.60	0.00	0.00	403.28	495.21	1,425.84
1896	0.00	0.26	359.86	85.50	0.00	0.00	299.75	508.63	1,063.08
1897	0.00	0.10	350.37	119.10	26.37	0.00	310.30	570.61	678.10
1898	0.00	0.31	352.24	143.93	61.11	0.00	1,798.24	621.37	-1,183.91
1899	0.00	666.44	376.72	210.56	82.55	0.00	701.54	601.74	-1,150.92
1900	0.00	0.00	354.62	227.01	95.13	0.00	0.00	592.15	-1,066.31
1901	0.00	0.00	354.20	219.38	83.87	0.00	0.00	597.22	-1,006.08
1902	0.00	0.00	356.04	213.39	80.89	0.00	98.56	534.97	-989.29
1903	0.00	0.00	335.37	220.22	91.05	0.00	0.00	521.16	-863.82
1904	0.00	0.00	327.58	217.68	0.00	0.00	0.00	505.12	-823.68
1905	0.00	0.00	352.37	204.06	76.32	0.00	0.00	446.89	-637.80

(Continued on next page)

Year	Credit						Debit		Difference
	Stock capital	Bond capital	Guarantee of yield	Additional state aid			Construction cost	Interest	
				Allowances	Tariffs	Malange line			
1906	0.00	0.00	342.40	199.63	71.20	0.00	-273.23	426.54	-177.89
1907	0.00	0.00	346.75	216.50	79.38	48.86	0.00	431.96	81.63
1908	0.00	0.00	355.42	200.78	89.98	146.58	0.00	483.38	391.01
1909	0.00	0.00	343.20	220.06	96.66	24.43	0.00	481.22	594.13
1910	0.00	0.00	327.58	169.36	167.21	0.00	0.00	453.33	804.95
1911	0.00	0.00	334.95	226.77	98.77	0.00	0.00	451.91	1,013.53
1912	0.00	0.00	327.58	239.76	117.99	0.00	0.00	459.11	1,239.75
1913	0.00	0.00	327.58	220.53	123.56	0.00	0.00	483.39	1,428.02
1914	0.00	0.00	0.00	0.00	66.41	0.00	0.00	525.65	968.78
1915	0.00	0.00	0.00	0.00	0.00	0.00	0.00	617.55	351.23
1916	0.00	0.00	0.00	0.00	0.00	0.00	0.00	642.81	-291.58
1917	0.00	0.00	0.00	0.00	0.00	0.00	0.00	703.09	-994.67
1918	0.00	0.00	0.00	0.00	0.00	0.00	0.00	721.89	-1,716.56
1919	0.00	108.41	0.00	0.00	0.00	0.00	0.00	778.07	-2,386.23
1920	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,842.50	-4,228.73
1921	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,696.30	-7,925.03
1922	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6,367.23	-14,292.25
1923	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10,058.31	-24,350.57
1924	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12,239.50	-36,590.07
1925	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,870.32	-45,460.39
1926	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,602.94	-54,063.33
1927	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,570.70	-62,634.03

Source: Royal Company Annual Reports. Interest and its conversion to contos are my calculations; Portugal (1908), vol. 2, pp. 801-814. Data from the previous tables and table 7 above.

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The Ambaca railway in Angola: history of a failed public-private partnership (1885-1914 and briefly onwards)

Abstract

In 1886, the Portuguese government signed a public-private partnership with a private company to build and operate a railway between Luanda and Ambaca in its overseas colony of Angola. It was expected that the partnership would benefit both parties: it would provide Angola with a powerful tool of economic development and political appropriation, and it would pay the private investment (stockholders and bondholders). However, the enterprise soon became a financial disaster with soaring construction costs and feeble operational revenues, which forced the Portuguese state to intervene. In this paper, I will analyse the evolution of the Ambaca public-private partnership from a quantitative perspective, examining the figures of its financing, operation and state aid. I will add to the debate about the relationship between state and private initiatives, through public-private partnerships in the specific context of the scramble for Africa and New Imperialism of the late nineteenth and early twentieth centuries.

Keywords: Angola, railway, colonialism, public enterprise

JEL codes: F54, L32, L92, M21

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El ferrocarril de Ambaca en Angola: historia de un consorcio público-privado fallido (1885-1914 y brevemente, en adelante)

Resumen

En 1886, el gobierno portugués estableció un consorcio público-privado con una empresa privada para construir y operar un ferrocarril entre Luanda y Ambaca en su colonia ultramarina de Angola. Se esperaba que la asociación beneficiara a ambas partes: proporcionaría a Angola una poderosa herramienta de desarrollo económico y apropiación política y pagaría la inversión privada (accionistas y tenedores de bonos). Sin embargo, pronto la empresa se convirtió en un desastre financiero con altos costos de construcción e ingresos operacionales débiles, lo que obligó al Estado portugués a intervenir. En este documento, analizaré la evolución del consorcio público-privado de Ambaca desde una perspectiva cuantitativa, examinando las cifras de su financiamiento, operación y ayuda estatal. Me sumaré al debate sobre la relación entre el Estado y la iniciativa privada, a través de asociaciones público-privadas en el contexto específico del «scramble for Africa» y del Nuevo Imperialismo de finales del siglo XIX y principios del XX.

Palabras clave: Angola, ferrocarril, colonialismo, empresa pública

Códigos JEL: F54, L32, L92, M21